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36 Years

# Project Python
# 222 CitiGate Drive

## Transportation Impact Assessment

# Project Python

# 222 CitiGate Drive

# Transportation Impact Assessment

Prepared By:

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Submitted: April 9, 2020
Revised: June 3, 2020
Revised: June 25, 2020

Novatech File: 120025
Ref: R-2020-043

NOVATECH
Engineers, Planners & Landscape Architects

June 25, 2020

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Ottawa, Ontario K1P 1J1

**Attention: Mr. Mike Giampa**
**Sr. Engineer,**
**Infrastructure Applications**

Ministry of Transportation
Eastern Region Engineering Office
1355 John Counter Blvd.
Kingston, ON K7L 5A3

**Attention: Mr. Stephen Kapusta**
**Corridor Mgmt Planner**
**Eastern Region**

Dear Sirs:

**Reference: Project Python, 222 CitiGate Drive**
**Revised Transportation Impact Assessment Report**
**Novatech File No. 120025**

---

We are pleased to submit the following Revised Transportation Impact Assessment report in support of a Site Plan Control application for the above address. The structure and format of this report is in accordance with the Ministry of Transportation of Ontario (MTO) Traffic Impact Study Guidelines (2009) and the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

A TIA was submitted to the City of Ottawa and the MTO in April 2020 in support of a Site Plan Control application. A revised TIA was submitted to the MTO in early June in order to address comments received from the MTO in May 2020. This revised TIA has been prepared to respond to comments received from the City in May 2020, and to address any changes to the site plan.

If you have any questions or comments regarding this report, please feel free to contact Jennifer Luong, or the undersigned.

Yours truly,

**NOVATECH**

Rochelle Fortier, B.Eng.
E.I.T. | Transportation/Traffic



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## TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

**CERTIFICATION**

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering ☑ or transportation planning ☐.

[1,2] **License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.**

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Dated at Ottawa (City) this 25 day of June, 2020.

Name: Jennifer Luong, P.Eng. (Please Print)

Professional Title: Senior Project Manager, Transportation/Traffic

J. Luong

Signature of Individual certifier that s/he meets the above four criteria

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## EXECUTIVE SUMMARY

This revised Transportation Impact Assessment (TIA) report has been prepared in support of a Site Plan Control application for 222 CitiGate Drive, located within the CitiGate Business Park.

The proposed development consists of a new prestige office and light industrial building, providing approximately 2,728,000 square feet (253,000 square metres) of GFA. Approximately 2,065 vehicular parking spaces and approximately 50 loading docks are proposed. Access to the proposed development will be from the extensions of CrossKeys Place, Systemhouse Street and CitiGate Drive, with two all movement accesses from CrossKeys Place and two all movement accesses from CitiGate Drive.

The proposed development is anticipated to be completed in one phase, with full occupancy by the year 2021. A second phase could be part of a future Site Plan Application and would include an office building on the northern portion of the site. It will not be included as part of the scope of this report.

This site is expected to operate with two shifts with approximately 750 employees on site during each shift during the off-peak season and approximately 1040 employees on site during each shift during the peak season. The peak season for this site is anticipated to occur from October to January, and the off-peak season from February to September. For the purpose of this report, the total traffic analysis will include the site traffic for the peak season.

Person trip generation for the proposed development, consisting of a new prestige office and light industrial building with approximately 2,728,000 square feet of GFA, was determined using first principles. The owner provided typical hourly volumes for both employees and truck movements to and from a building of this size and nature. Shift arrivals and departures are spread over a two-hour period. The peak hour for the site generated traffic occurs between 6:00AM to 7:00AM and 5:30PM to 6:30PM.

The proposed site is expected to generate approximately 24-35 trucks per hour (two-way) between 6:00AM to 8:00PM during the peak season. Truck volume is expected to reach a high of 30-46 two-way trucks per hour between 8:00PM to 3:00AM and drop to approximately 16-21 two-way trucks per hour between 3:00 AM to 6:00 AM.

A Community Transportation Study (CTS) prepared by Novatech, dated November 2012, was completed for the CitiGate development lands. The ultimate CitiGate development lands includes the subject site, and the traffic generated the subject site was estimated using the Office Park land use and assuming 110 employees per hectare and 350 square foot per employee. The proposed development is anticipated to generate less overall person trips than the CTS concept, however the person trip estimate is higher for trips exiting the site during the AM peak and trips entering the site during the PM peak hour. This is a result of day and night shifts that were not anticipated as part of the 2012 CTS.

The main conclusions and recommendations of this TIA can be summarized as follows:

<u>Development Design & Parking</u>

- Pedestrian facilities will be provided between the building entrances and the parking lot. New pedestrian walkways will be constructed, providing connectivity to the existing pedestrian facilities along CrossKeys Place and CitiGate Drive. Spine walkways through the

parking lots are provided, with raised crosswalks along the main east/west and north/south drive aisles, as shown on the site plan. A multi-use pathway is provided, connecting to the existing facility at the CitiGate Drive/CrossKeys Place roundabout.

- It is anticipated that bus service will be extended via CrossKeys Place, CitiGate Drive, and Systemhouse Street. Stops will be added at the two intersections, CrossKeys Place/CitiGate Drive and Systemhouse Street/CitiGate Drive.
- Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in section 6.2. Bike racks will be located to the north of the building's front entrance. A total of 12 covered bicycle parking spaces are proposed. A bicycle repair station is also proposed adjacent to the bike racks. In addition to the MUP connection at the roundabout, a bike path is proposed which will connect the bike rack area to the CrossKeys Place extension at the southerly CrossKeys Place access, as shown on the site plan.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- The approximately 2,065 proposed vehicular parking spaces meet the minimum requirement of the ZBL.

Boundary Street Design

- The planned CitiGate Drive extension meets the target PLOS, TkLOS and Auto LOS, however it does not meet the target BLOS.
- Along the east side of CitiGate Drive there is a planned multi-use pathway which earns a BLOS of A. The west side of CitiGate Drive will offer mixed traffic for cyclists, which earns a BLOS of F with an operating speed of 60km/h. This is considered a reasonable trade-off as cyclists will have the option of using the MUP along the east side of CitiGate Drive.

Access Intersection Design

- The proposed development will be served by two accesses along the CitiGate Drive extension and two accesses along the private CrossKeys Place extension. All accesses will be stop controlled.
- The northerly CitiGate Drive access is approximately 8.2m in width, measured at the property line. The CrossKeys Place extension and the southern CitiGate Drive access, which serve trucks, are approximately 11m in width.
- The proposed accesses meet all requirements of the City's *Private Approach By-Law,* and the TAC criteria for corner clearance and clear throat.

Transportation Demand Management

- To encourage the use of sustainable modes, the following TDM measures are being considered:
    - Designate an internal coordinator, or contract with an external coordinator;
    - Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress;
    - Display local area maps with walking/cycling access routes and key destinations at major entrances;
    - Offer on-site cycling courses for commuters, or subsidize off-site courses;
    - Offer secure valet bike parking for visitors when demand exceeds fixed supply;
    - Display relevant transit schedules and route maps at entrances;
    - Provide online links to OC Transpo and STO information;
    - Provide real-time arrival information display at entrances;

- Provide a dedicated ridematching portal at OttawaRideMatch.com;
- Contract with provider to install on-site bikeshare station for use by commuters and visitors;
- Contract with provider to install on-site carshare vehicles and promote their use by tenants;
- Include a multimodal travel option in invitations or advertising that attract visitors or customers;
- Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes; and
- Provide on-site amenities/services to minimize mid-day or mid-commute errands.

Neighbourhood Traffic Management

- The majority of traffic being generated by the proposed development is anticipated to arrive/depart the study area via the arterial roadways (Strandherd Drive and Fallowfield Road) and Highway 416.
- Hélène Campbell Road, Maravista Drive, and Kennevale Drive will operate with v/c ratios less than 0.60 (LOS A) under 2026 total traffic conditions. The added traffic generated by the proposed development is not anticipated to have a significant impact on the existing vehicular operations along the neighbourhood collector roadways (Hélène Campbell Road, Maravista Drive, and Kennevale Drive).

Transit

- The proposed development is anticipated to generate an additional 238 transit trips (117 in, 121 out) during the weekday AM peak hour and 311 transit trips (154 in, 157 out) during the weekday PM peak hour.

Intersection MMLOS Analysis

- A Complete Streets Design has been completed for Strandherd Drive. The City of Ottawa has completed its analysis and review of the “trade-offs” when developing this Complete Streets design and have already considered MMLOS factors in the development of its concept. It is anticipated that the site will have no major impacts on non-auto MMLOS results.

Existing Intersection Operations

- Under existing traffic conditions, all study area intersections are operating with a LOS D or better.
- The westbound queue at Strandherd Drive/CitiGate Drive/Fallowfield Road is approximately 240m in the AM peak with north-south pedestrian actuation. Without north-south pedestrian actuation, this queue length improves to approximately 140m. With pedestrian actuation, the westbound queue extends past the Strandherd Drive/CrossKeys Place/Hélène Campbell Road intersection (located approximately 205m east of Strandherd Drive/CitiGate Drive/Fallowfield Road, measured from nearest edge to nearest edge) during the AM peak and is a result of heavy through volumes and limited capacity along Strandherd Drive.

2021 Background Intersection Operations

- Under 2021 background traffic conditions, all study area intersections are anticipated to operate with a LOS D or better.
- With background growth and the addition of other study area development traffic, minor increases in queue lengths are anticipated.

2026 Background Intersection Operations

- The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.87 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.82, achieving the MTO's target v/c ratio of 0.85.
- With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 0.94 (LOS E) in the AM peak. Without north-south pedestrian actuation, this v/c ratio improves to 0.89.

2031 Background Intersection Operations

- Under 2031 background traffic, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.92 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.84, achieving the MTO's target v/c ratio of 0.85. The maximum queue length on the off-ramp is anticipated to be 75m in the AM peak and 140m in the PM peak, improving to 120m in the PM peak with the adjusted signal timing identified above.
- Under 2031 background traffic conditions, the maximum queue length on the Northbound Off-Ramp is anticipated to be 60m in the AM peak and 40m in the PM peak.

2021 Total Intersection Operation

- With the addition of site generated traffic, minor increases in queue lengths are anticipated at all study area intersections.
- The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio of 0.91 for the southbound left movement in the PM peak with the addition of site traffic. This is increased from 0.83 based on the 2021 background traffic. With adjusted signal timing (re-assigning 15 seconds from the east-west phase to the southbound phase) and the existing cycle length of 120 seconds, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.82 in the PM peak. The maximum queue length anticipated on the southbound ramp is approximately 140m, an increase of approximately 40m compared to the 2021 background traffic. This maximum queue length improves to 115m (an increase of 15m compared to the 2021 background traffic) with the adjusted signal timing identified above.
- The impact of site traffic is incremental and will not adversely affect the operation of Highway 416.
- The Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c of 0.94 for the westbound through movement in the AM peak when the north-south pedestrian crossing is actuated. Without north-south pedestrian actuation, this v/c ratio is anticipated to improve to 0.84 in the AM peak.

2026 Total Intersection Operations

- With an increased cycle length to 130 seconds, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio 0.98 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 15 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.84, achieving the MTO's target v/c ratio of 0.85. The maximum queue length on the off-ramp is anticipated to

be 75m in the AM peak and 175m in the PM peak, improving to 130m in the PM peak with the adjusted signal timing identified above.

- With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 1.31 (LOS F) in the AM peak. Without north-south pedestrian actuation, this v/c ratio improves to 0.98 in the AM peak. With an increased cycle length to 130 seconds, the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c of 0.95 for the eastbound left movement in the AM peak without pedestrian actuation. In order to achieve a LOS D with an increased cycle length, a reduction of 75 westbound through vehicles would be required in the AM peak. As the network is co-ordinated, increasing the cycle length at this intersection would require an increased cycle length at all study area intersections. For a cycle length of 130 seconds in the AM peak, all other study area intersections are anticipated to operate with a LOS D or better.
- Additional through capacity is required on Strandherd Drive at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection. This is consistent with the recommendations of the approved 2012 CTS for the CitiGate lands, and the 1991 Strandherd Drive ESR to protect for a six-lane cross section between Highway 416 and Jockvale Road. The footings for the rail overpass have been designed for a bridge expansion to six lanes. This additional capacity could be provided via general travel lanes or an extension of the planned Chapman Mills bus rapid transit (BRT) corridor west of Borrisokane. This is identified for the City's consideration as funding becomes available. Alternatively, the Barnsdale Road/Highway 416 interchange is identified in the City's TMP as a 2031 Network Concept, to serve growing Barrhaven/Nepean South. The need for additional through lane capacity on Strandherd Drive and Fallowfield Road will ultimately be addressed with the construction of the planned interchange.
- The CitiGate Drive/Systemhouse Street/Site Access intersection is anticipated to operate with delays of 9 seconds under 2026 total traffic conditions, with stop control at the site access. When CitiGate Drive is extended further south, a roundabout control is recommended at this intersection through future site plan applications for lands to the south.
- A review of left turn warrants was conducted at the northern CitiGate Drive site access. Based on advancing and opposing volumes, no northbound left turn lane is required at this access under 2026 total traffic conditions.

<u>2031 Total Intersection Operations</u>

- The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 1.07 for the southbound left movement in the PM peak. With adjusted signal timing (reassigning 11 seconds from the eastbound/westbound movements to the southbound movement), this v/c ratio improves to a 0.90. With an increased cycle length to 130 seconds in the PM peak, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio of 0.89 for the southbound left movement. In order to achieve the target v/c of 0.85 with an increased cycle length, a reduction of 105 westbound through vehicles would be required in the PM peak.
- The maximum queueing length anticipated on the southbound ramp is approximately 200m. This improves to 155m with adjusted signal timing and 160m with an increased cycle length to 130 seconds. The approximate length of the ramp is 500m and the queue will not extend to Highway 416.

- The Fallowfield Road/Highway 416 Northbound Off-Ramp is anticipated to operate with a v/c of 0.88 for the eastbound through movement in the PM peak. With adjusted signal timing (reassigning 11 from the northbound movement to the eastbound/westbound movements), this v/c ratio improves to a 0.86. With an increased cycle length to 130 seconds in the PM peak, a v/c ratio of 0.85 for the eastbound through movement is anticipated.
- The maximum queueing length anticipated on the northbound ramp is approximately 70m. The approximate length of the ramp is 500m and the queue will not extend to Highway 416.
- The total analysis demonstrates that additional through lane capacity is required on Fallowfield Road at the Highway 416 off-ramps. Alternatively, the planned Barnsdale Road/Highway 416 interchange will alleviate congestion and free up capacity on Fallowfield Road at Highway 416.

Background Traffic Sensitivity Analysis

- The 2026 sensitivity analysis demonstrates that the need for more lane capacity on Strandherd Drive in 2026 is required with or without site traffic, depending on the time of day. The need for more capacity or the future Barnsdale Road interchange is not development related.
- The 2031 sensitivity analysis demonstrates that the need for more lane capacity at the 416 ramps is required with or without the site traffic, depending on the time of day. The need for more capacity or the future Barnsdale Road interchange is not development related.

## 1.0 INTRODUCTION

This revised Transportation Impact Assessment (TIA) report has been prepared in support of a Site Plan Control application for 222 CitiGate Drive, located within the CitiGate Business Park. The subject site is currently vacant. The subject site is surrounded by the following:

- Fallowfield Road to the north;
- Future CitiGate Drive and commercial/office to the east;
- Highway 416 to the west; and
- Vacant land to be developed as business park to the south

A view of the subject site is provided in **Figure 1**.

**Figure 1: View of the Subject Site**




A Community Transportation Study (CTS) prepared by Novatech, dated November 2012, was completed for the CitiGate development lands. The ultimate CitiGate development lands includes the subject site, and the traffic generated the subject site was estimated using the Office Park land use and assuming 110 employees per hectare and 350 square foot per employee. A portion of the City's Strandherd Drive Widening Project was recently constructed between Fallowfield Road and Maravista Drive, with the remainder between Maravista Drive and Jockvale Road to be constructed in 2020-2022.

## 2.0 PROPOSED DEVELOPMENT

The subject site is designated as 'Urban Employment Area' on Schedule 'B' of the City of Ottawa's Official Plan. It is currently zoned Business Park Industrial Zone – IP[2045]H(45). The proposed development is located in the CitiGate business park, and as such, must adhere to the CitiGate Design Guidelines.

The proposed development consists of a new prestige office and light industrial building, providing approximately 2,728,000 square feet (253,000 square metres) of GFA. Approximately 2,065 vehicular parking spaces and approximately 50 loading docks are proposed. Access to the proposed development will be from the extensions of CrossKeys Place, Systemhouse Street and CitiGate Drive, with two all movement accesses from CrossKeys Place and two all movement accesses from CitiGate Drive.

The proposed development is anticipated to be completed in one phase, with full occupancy by the year 2021. A second phase could be part of a future Site Plan Application and would include an office building on the northern portion of the site. It will not be included as part of the scope of this report.

A copy of the preliminary site plan is included in **Appendix A**.

## 3.0 SCREENING

The City's 2017 TIA Guidelines identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form.

The proposed development satisfies the Trip Generation and Safety triggers for completing a TIA. A copy of the TIA screening form is included in **Appendix B**.

## 4.0 SCOPING

### 4.1 Existing Conditions

This section provides a review of existing conditions in the vicinity of the subject site including: roadways, intersections, driveways, pedestrian and cycling facilities, transit, area traffic management measures, traffic volumes, and collision records.

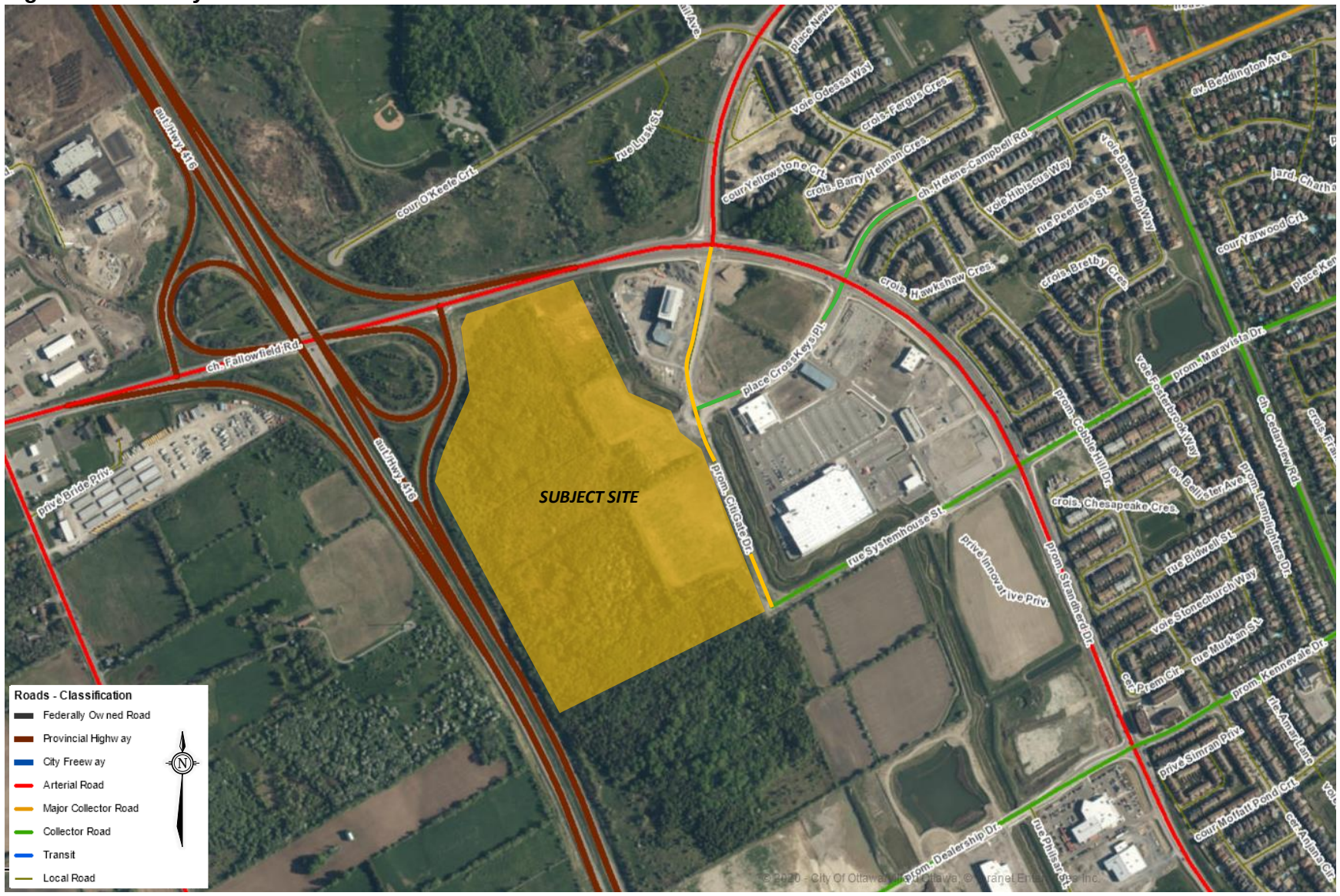
#### 4.1.1 Roadways

The roadway network of the greater area surrounding the subject site is illustrated in **Figure 2**.

Highway 416 falls under the jurisdiction of the Ministry of Transportation of Ontario (MTO). All other study area roadways fall under the jurisdiction of the City of Ottawa.

Highway 416 is a four-lane rural divided freeway. It has a north-south alignment extending from Highway 417 to the north to Highway 401 in the south. The posted speed is 100km/h.

**Figure 2: Roadway Network**



Strandherd Drive is a major arterial road in Barrhaven that generally runs east-west, with a curvilinear alignment. North of Maravista Drive, it has a four lane urban cross section, narrowing to a two lane rural cross section south of Maravista Drive. Within the study area it has a posted speed limit of 80km/h. Strandherd Drive is a designated truck route. The Official Plan identifies a right-of-way (ROW) protection requirement of 44.5 metres for Strandherd Drive between Fallowfield Road and Crestway Drive. A widening is not required as part of this application. For ease of reference, given the curvilinear alignment of the subject section of Strandherd Drive, the following cardinal directions have been adopted for this analysis:

- Strandherd Drive from Fallowfield Road to Hélène Campbell Road/CrossKeys Place is considered east/west, and cross streets are considered north/south, and

- Strandherd Drive from Maravista Drive/Systemhouse Street to Kennevale Drive/Dealership Drive is considered north/south, and cross streets are considered east/west.

Fallowfield Road is an arterial roadway with a two lane rural cross section east/north of Strandherd Drive and a four lane rural cross section west of Strandherd Drive to Moodie Drive. It runs on an east-west alignment north of Barrhaven, extending between Dwyer Hill Road in the west and Prince of Wales Drive in the east. Fallowfield Road is a designated truck route with a posted speed of 80 km/h west of Strandherd Drive and a posted speed of 60km/h east/north of Strandherd Drive.

O'Keefe Court and Cobble Hill Drive are local roadways with a two-lane cross section and a regulatory speed limit of 50km/h. O'Keefe Court has a rural cross section while Cobble Hill Drive has an urban cross section with curbs and sidewalks along both sides of the street.

CitiGate Drive (formerly Nortel Drive) runs on a north-south alignment between Strandherd Drive/Fallowfield Road and CrossKeys Place. It is classified as a major collector road, with a two lane, undivided urban cross section and a regulatory speed limit of 50km/h. It is planned to extend south to McKenna Casey Drive.

CrossKeys Place runs on a north-south alignment between Strandherd Drive and CitiGate Drive. It is classified as a collector, with a two lane, undivided urban cross section and a regulatory speed limit of 50km/h.

Hélène Campbell Road (formerly Jockvale Road) is a collector roadway with a two-lane urban cross section, extending easterly from Strandherd Drive to Cedarview Road. The posted speed on Hélène Campbell Road is 50km/h. To the east of Cedarview Road, Hélène Campbell Road becomes Jockvale Road.

Systemhouse Street and Dealership Drive are collector roadways with two-lane urban cross sections that extend westerly from Strandherd Drive. Both roadways have regulatory speed limits of 50km/h.

Maravista Drive and Kennevale Drive are collector roadways with a two-lane urban cross section that extend easterly from Strandherd Drive. Both roadways have posted speed limits of 40km/h.

### 4.1.2 Intersections

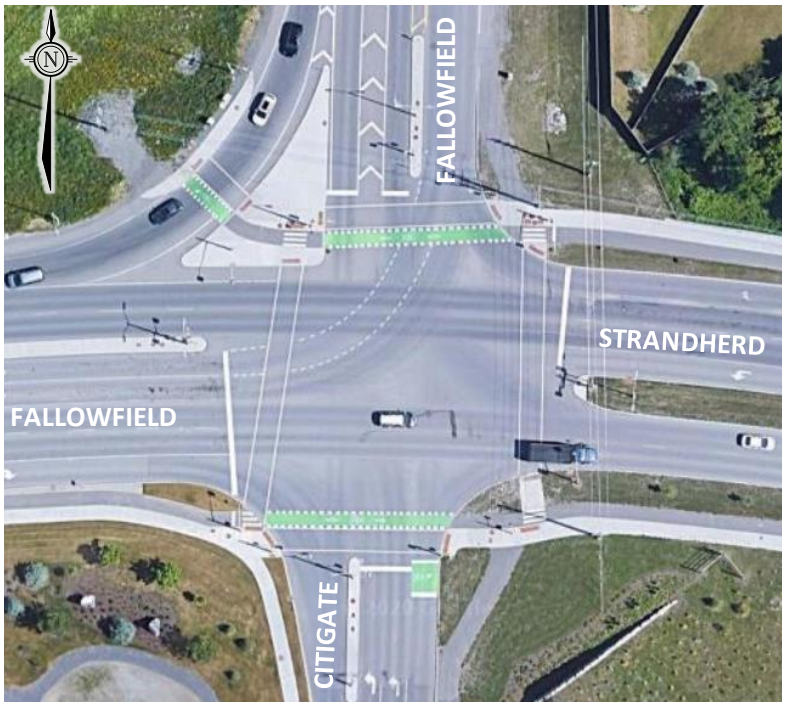
*Fallowfield Road/Highway 416*

- Partial cloverleaf interchange
- East/West: two through lanes. All on-ramps are channelized right turn lanes
- 416 Northbound off-ramp: signalized intersection. Designated left and right turn lanes are provided
- 416 Southbound off-ramp: signalized intersection. Two designated left turn lanes and one right turn lane are provided.



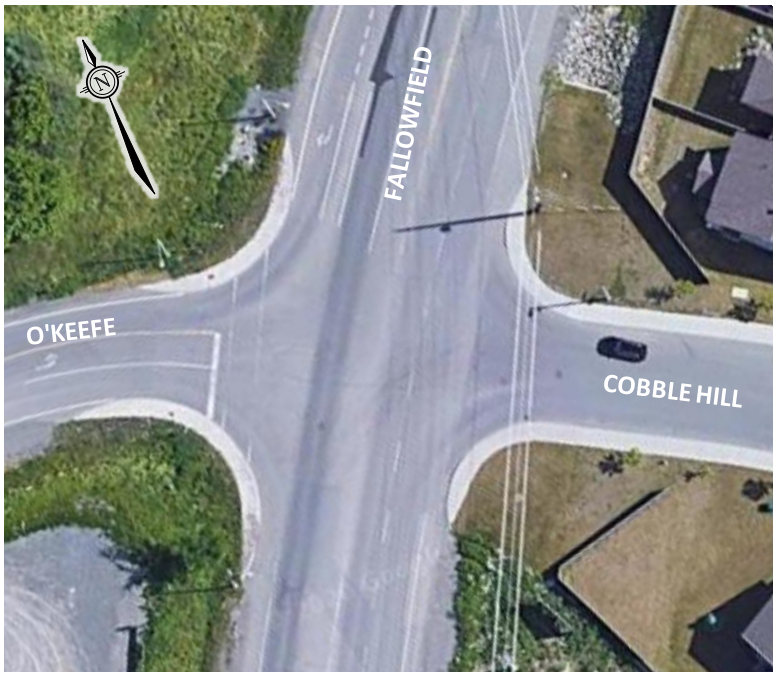

*Strandherd Drive/Fallowfield Road/CitiGate Drive*

- Signalized intersection
- Northbound: two left turn lanes, one shared through/right turn lane
- Southbound: one left turn lane, one through lane, one channelized right turn lane
- Eastbound: two left turn lanes, two through lanes, one right turn lane
- Westbound: one left turn lane, two through lanes, one right turn lane. U-turns are prohibited
- Standard crosswalks are provided on all legs of the intersection
- Cycle tracks are provided with cross rides along Strandherd Drive. A two-stage bike box is provided to turn left onto Fallowfield Road



*Fallowfield Road/O'Keefe Court/Cobble Hill Drive*

- Unsignalized intersection, with stop control on O'Keefe Court/Cobble Hill Drive and free flow on Fallowfield Road
- Northbound: one left turn lane, one through lane, one right turn lane
- Southbound: one left turn lane, one through lane, one pocket bike lane, one right turn lane
- Eastbound: one left turn lane, one shared through/right turn lane
- Westbound: one shared left turn/through/right turn lane



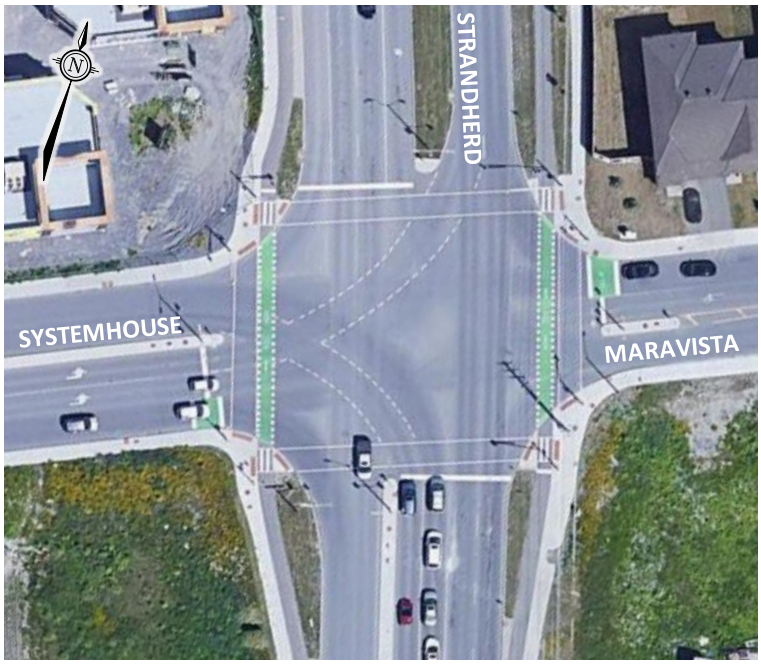

*Strandherd Drive/CrossKeys Place/ Hélène Campbell Road*

- Signalized intersection
- Northbound/Southbound: one left turn lane, one through lane, one bike lane, one right turn lane
- Eastbound: one right turn lane, two through lanes, one left turn lane
- Westbound: one right turn lane, two through lanes, two left turn lanes
- Standard crosswalks are provided on all legs of the intersection
- Cycle tracks are provided with cross rides along Strandherd Drive. Two-stage bike boxes are provided to turn left onto Hélène Campbell Road and onto CrossKeys Place



*Strandherd Drive/Systemhouse Street/Maravista Drive*

- Signalized intersection
- Northbound: two left turn lanes, one through lane, one shared through/right turn lane
- Southbound: one left turn lane, two through lanes, one right turn lane
- Eastbound: two left turn lanes, one shared through/right turn lane
- Westbound: one left turn lane, one shared through/right turn lane
- Standard crosswalks are provided on all legs of the intersection
- Cycle tracks are provided with cross rides along Strandherd Drive. Two-stage bike boxes are provided to turn left onto Systemhouse Street and onto Maravista Drive



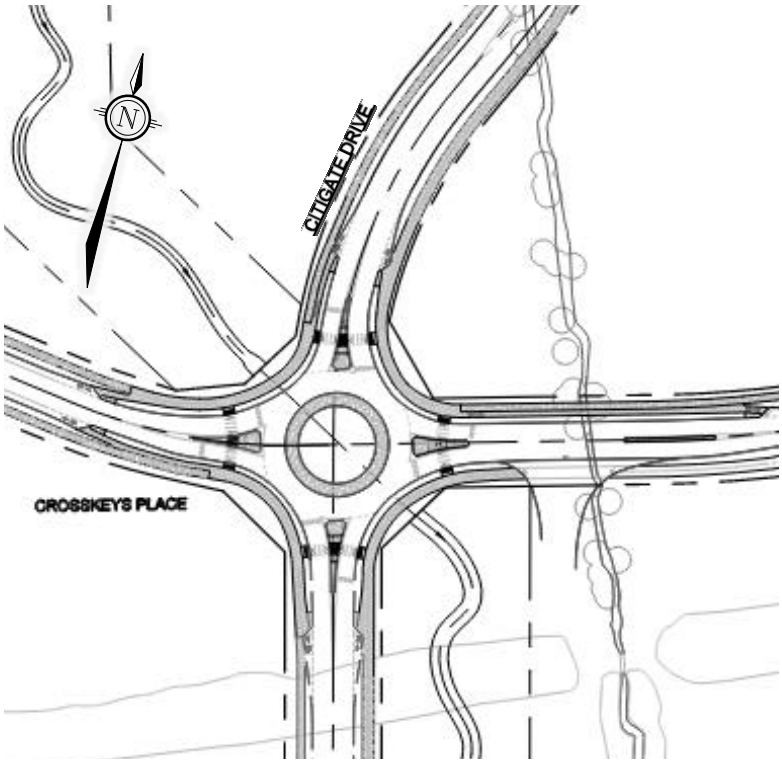

*Strandherd Drive/Dealership Drive/Kennevale Drive*

- Signalized intersection
- Northbound/Southbound: one left turn lane, one through lane, one pocket bike lane, one right turn lane
- Eastbound: one left turn lane, one through lane, one right turn lane
- Westbound: one left turn lane, one shared through/right turn lane
- Standard crosswalks are provided on all legs of the intersection
- Trucks are banned on Kennevale Drive



*CitiGate Drive/CrossKeys Place*

- Two-legged roundabout (north and east legs have been built)
- One lane approach on both legs
- Splitter islands on both approaches




### 4.1.3 Driveways

In accordance with the City's 2017 TIA guidelines, a review of adjacent driveways along the boundary roads are provided as follows:

CrossKeys Place, east side: two driveways to the retail plaza situated at 4235 and 4225 Strandherd Drive.

CitiGate Drive, west side: two driveways to Tomlinson Corporate Headquarters located at 100 CitiGate Drive. One future access to a hotel at 101 CitiGate Drive will be located immediately opposite the Tomlinson main access.

### 4.1.4 Pedestrian and Cycling Facilities

Sidewalks are provided along both sides of Strandherd Drive, CrossKeys Place, Systemhouse Street, Dealership Drive, Kennevale Drive, Maravista Drive, Hélène Campbell Road, Cobble Hill Drive, and along the west side of CitiGate Drive. On the east side of CitiGate Drive, a multi-use pathway is planned, but not yet constructed. This path will extend south along the CitiGate Drive extension, east along Systemhouse Street and south along the O'Keefe Drain, connecting to the rail corridor/McKenna Casey Drive. Bike lanes are provided along CrossKeys Place and Hélène Campbell Road.

Strandherd Drive is identified as a spine cycling route with a major pathway in the City's Cycling Network. There are currently cycle tracks along Strandherd Drive, north of Maravista Drive, with

two-stage bike boxes at intersections. A paved shoulder is provided south of Maravista Drive. Pocket bike lanes are provided on Strandherd Drive at the Kennevale Drive/Dealership Drive intersection.

Fallowfield Road is classified as a spine cycling route in the City's Ultimate Cycling Network. Paved shoulders are provided alongside Fallowfield Road, north of Strandherd Drive, in the vicinity of the subject site. An existing multi-use pathway is provided on the north side of Fallowfield Road from Cedarview Road which continues along O'Keefe Road to Lytle Park then north to Lytle Avenue.

### 4.1.5 Transit

The nearest bus stops to the subject site are summarized in **Table 1**. An aerial view of the bus stops in the vicinity of the subject site can be found in **Figure 3**. OC Transpo Route information is included in **Appendix C**.

**Table 1: OC Transpo Bus Stops**

| OC Transpo Bus Stop | Location | Route(s) Serviced |
|---|---|---|
| #4811 | West side of Costco retail plaza drive aisle, south of CrossKeys Place | 170, 179 |
| #4810 | East side of Costco retail plaza drive aisle, south of CrossKeys Place | 170, 179 |
| #8204 | East side of Costco retail plaza drive aisle, north of Systemhouse Street | 170, 179 |
| #8205 | West side of Costco retail plaza drive aisle, north of Systemhouse Street | 170 |
| #1214 | South side of Maravista Street at Cobble Hill Drive | 170 |
| #1788 | East side of Cobble Hill Drive at Maravista Street | 272 |
| #5373 | West side of Cobble Hill Drive at Maravista Street | 272 |
| #5372 | West side of Cobble Hill Drive at Hélène Campbell Road | 272 |
| #5371 | East side of Cobble Hill Drive at Hélène Campbell Road | 272 |

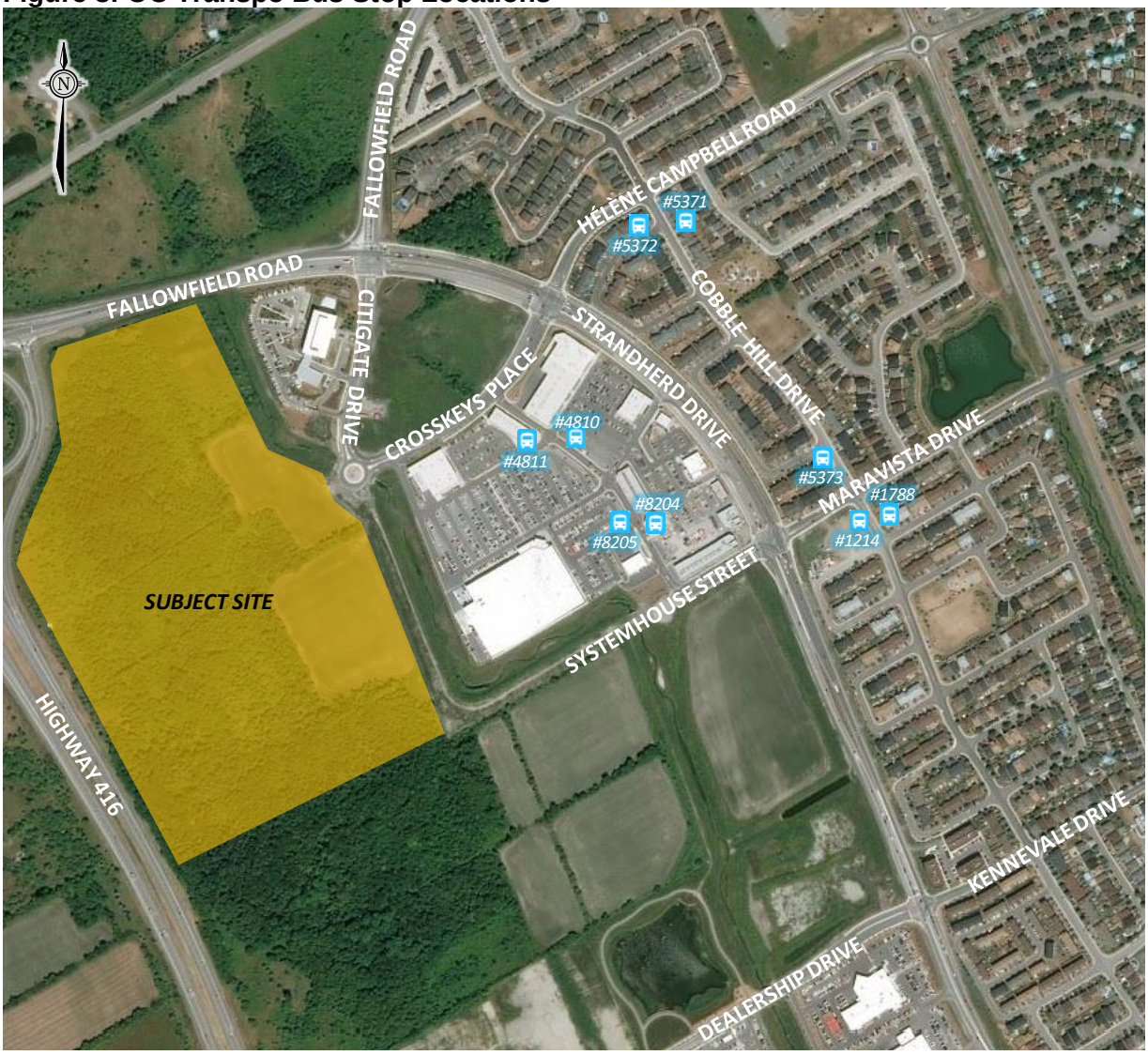
OC Transpo Route 179 travels from Fallowfield Transit Station to CitiGate. It operates Monday to Friday, with peak period service. The 179 to CitiGate offers morning service, and the 179 to Fallowfield Station operates in the evening.

OC Transpo Route 170 travels from Barrhaven Town Center Transit Station to Fallowfield Transit Station. It operates seven days a week, with all day service.

OC Transpo Route 272 travels from Tunney's Pasture Transit Station to Cobble Hill Drive. It operates Monday to Friday, with peak period service. The 272 to Tunney's Pasture Station offers morning service, and the 272 to Cobble Hill Drive operates in the evening.

It is anticipated that bus service will be extended into the CitiGate lands via CrossKeys Place, CitiGate Drive, and Systemhouse Street. New bus stops will be added at the CitiGate Drive/CrossKeys Place and CitiGate Drive/Systemhouse Street intersections.

**Figure 3: OC Transpo Bus Stop Locations**




### 4.1.6 Existing Area Traffic Management Measures

Flex posts and pavement markings indicating the posted speed are provided at the following locations:

- Along Maravista Drive, east of Cobble Hill Drive
- Along Kennevale Drive, east of Cobble Hill Drive
- Along Cobble Hill Drive, between Chesapeake Crescent and Copperfield Crescent

Signs stating “Traffic Calmed Neighbourhood” are also provided at the above locations.

Currently, there are no other existing Area Traffic Management (ATM) measures within the study area, apart from the prohibition of trucks on Kennevale Drive noted in Section 4.1.2.

### 4.1.7 Existing Traffic Volumes

Traffic counts were completed at the study area intersections to determine the existing pedestrian, cyclist and vehicular traffic volumes.

Weekday traffic counts were obtained from the City of Ottawa at the Strandherd Drive/Hélène Campbell Road/CrossKeys Place, Strandherd Drive/Fallowfield Road/CitiGate Drive, Strandherd Drive/Kennevale Drive/Dealership Drive, Strandherd Drive/Maravista Drive/Systemhouse Street, and Fallowfield Road/O'Keefe Court/Cobble Hill Drive intersections.

A weekday traffic count was completed by Novatech at the at the CitiGate Drive/CrossKeys Place intersection and the Fallowfield Road/Highway 416 Northbound and Southbound Off-Ramps.

The traffic counts were completed on the following dates:

- Strandherd Drive/Hélène Campbell Road/CrossKeys Place — May 30, 2018
- Strandherd Drive/Fallowfield Road/CitiGate Drive — March 8, 2018
- Strandherd Drive/Kennevale Drive/Dealership Drive — January 18, 2018
- Strandherd Drive/Maravista Drive/Systemhouse Street — January 18, 2018
- Fallowfield Road/O'Keefe Court/Cobble Hill Drive — June 5, 2018
- CitiGate Drive/CrossKeys Place — August 23, 2018
- Fallowfield Road/Highway 416 Northbound Ramps — March 4, 2020
- Fallowfield Road/ Highway 416 Southbound Ramps — March 4, 2020

The 8-hour weekday traffic counts from the City of Ottawa include the hours of 7:00AM-10:00AM, 11:30AM-1:30PM, and 3:00PM-6:00PM. The 10-hour weekday counts completed by Novatech at the Fallowfield Road/Highway 416 Northbound and Southbound Off-Ramps include the hours of 6:00AM-10:00AM, 11:30AM-1:30PM, and 3:00PM-7:00PM. As further discussed in Section 4.3.2, the peak hours of site generated traffic occur from 6:00AM-7:00AM and from 5:30PM-6:30PM. The weekday peak hours of adjacent street traffic along Strandherd Drive, based on the latest traffic counts, occur from 7:45AM-8:45AM and from 4:00PM-5:00PM.

A review of traffic in the study area suggests that traffic at 7:00AM-8:00AM and 5:00PM-6:00PM is approximately 90% of the peak hour traffic at the study area intersections. It was found that at the two Highway 416 ramp terminals where longer counts were conducted, traffic at the peak hour of the site is approximately 65% of the peak hour of adjacent street traffic.

For the purpose of this report, the traffic observed at 7:00AM-8:00AM and 5:00PM-6:00PM has been reduced by 20% and used for analysis to further the site's peak hour. At the 416 ramps, the observed traffic at 6:00AM-7:00AM and 5:30PM-6:30PM has been used directly.

Existing traffic volumes along the study area roadways are shown in **Figure 4**. A further discussion on time periods is provided in Section 4.3.2. Summary sheets of the above traffic counts are included in **Appendix D**.

**Figure 4: Existing Traffic Volumes**



### 4.1.8 Collision Records

Historical collision data from the last five years was obtained from the City's Public Works and Service Department for the study area intersections. Copies of the collision summary reports are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns. **Table 2** summarizes the number of collisions at each intersection from January 1, 2014 to December 31, 2018.

**Table 2: Reported Collisions**

| Intersection | Impact Types | | | | | Total Number of Collisions |
|---|---|---|---|---|---|---|
| | Angle | Sideswipe | Rear End | Turning Movement | SMV/ Other | |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 1 | 0 | 0 | 0 | 0 | **1** |
| Fallowfield Road/Highway 416 Southbound | 0 | 0 | 7 | 0 | 0 | **7** |
| Fallowfield Road/Highway 416 Northbound | 8 | 0 | 5 | 0 | 0 | **13** |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 3 | 3 | 6 | 0 | 1 | **13** |
| Strandherd Drive/Systemhouse Street/Maravista Drive | 4 | 2 | 9 | 1 | 2 | **18** |
| Fallowfield Road/Strandherd Drive/CitiGate Drive | 4 | 5 | 22 | 1 | 3 | **35** |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 2 | 0 | 22 | 8 | 4 | **36** |

*Fallowfield Road/O'Keefe Court/Cobble Hill Drive*
One collision was reported at this intersection over the last five years, an angle impact involving an eastbound through vehicle and a southbound through travelling vehicle. No injuries were reported.

*Fallowfield Road/Highway 416 Southbound*
A total of seven rear end collisions were reported at this intersection over the last five years, of which two occurred on the southbound approach, two on the westbound approach, and three on the eastbound approach. One collision caused injuries, but none caused fatalities.

*Fallowfield Road/Highway 416 Northbound*
A total of thirteen collisions were reported at this intersection over the last five years, of which there were five rear end impacts and eight angle impacts. Four of the collisions caused injuries,

but none caused fatalities. It is important to note that this intersection has only been signalized since mid-2016, and that prior to signalization, there were lengthy delays and queues for northbound vehicles.

Of the eight angle impacts, four occurred pre-signalization of the intersection, and four occurred post-signalization.

Of the five rear end impacts, three occurred on the eastbound approach, one occurred on the westbound approach, and one occurred on the northbound approach.

*Strandherd Drive/Hélène Campbell Road/CrossKeys Place*
A total of thirteen collisions were reported at this intersection over the last five years, of which there were six rear end impacts, three sideswipes, three angle impacts, and one single vehicle collision. One of the collisions caused an injury, but none caused fatalities.

Of the six rear end collisions, three occurred on the westbound approach, and one occurred on each of the northbound, southbound and eastbound approaches.

*Strandherd Drive/Systemhouse Street/Maravista Drive*
A total of 18 collisions were reported at this intersection over the last five years, of which there were nine rear end impacts, four angle impacts, two sideswipes, two single vehicle/other impacts, and one turning movement impact. Four of the collisions caused injuries, but none caused fatalities.

Of the nine rear end impacts, four occurred on the eastbound approach, three on the northbound approach, and two on the southbound approach.

*Strandherd Drive/Fallowfield Road/CitiGate Drive*
A total of 35 collisions were reported at this intersection over the last five years, of which there were 22 rear end collisions, five sideswipes, four angle impacts, three single vehicle/other impacts, and one turning movement impact. A total of nine collisions caused injuries, but none caused fatalities. One of the collisions involved a pedestrian.

Of the 22 rear end impacts, eleven occurred on the westbound approach, seven on the southbound approach (all southbound right turning vehicles), and five on the eastbound approach. The high frequency of rear end impacts on the westbound and southbound approaches is likely a result of heavy volume.

*Strandherd Drive/Dealership Drive/Kennevale Drive*
A total of 36 collisions were reported at this intersection over the last five years, of which there were 22 rear end impacts, eight turning movement impacts, four single vehicle/other impacts, and two angle impacts. Six of the collisions caused injuries, but none caused fatalities.

Of the 22 rear end impacts, eight occurred on the southbound approach, seven on the westbound approach, four on the eastbound approach, and three on the northbound approach. The rear end impacts on the southbound approach is likely a result of heavy volume in the single through lane.

## 4.2 Planned Conditions

The City of Ottawa's 2013 Transportation Master Plan (TMP) identifies the widening of Strandherd Drive from two to four lanes between Fallowfield Road and Jockvale Road as part of the Affordable Network Plan. A section of this has been completed, between Fallowfield Road and Maravista Drive. The remainder of the Strandherd Drive widening is anticipated to be completed from 2020-2022. The design currently includes cycle tracks and sidewalks on both sides of Strandherd Drive, with a divided four lane cross section.

The TMP identifies the extension of Chapman Mills Drive as a new 4-lane road between Longfields Drive and Strandherd Drive in the Affordable Network Plan. The Chapman Mills Environmental Assessment (EA) was completed in 2016 and identified new eastbound/westbound travel lanes, parking lanes, median bus rapid transit (BRT) lanes, sidewalks and cycle tracks between Longfields Drive and a new collector road connecting to Strandherd Drive at Frasier Fields Way. West of the new collector road, an exclusive BRT corridor and multi-use pathway (MUP) was identified extending to Borrisokane Road. The new collector road to Strandherd Drive was identified as a two-lane undivided road with sidewalks and cycle tracks. The new collector road will be built as part of Minto's Harmony development described in subsequent sections of this report.

The TMP identifies the widening of Barnsdale Road from two to four lanes between Highway 416 and Prince of Wales Drive, requiring a new Highway 416 interchange to serve growing Barrhaven/Nepean South. This project was not included in the Affordable Network Plan but is included in the Network Concept.

The City of Ottawa is advancing the design of the realignment and extension of McKenna Casey Drive to Dealership Drive to 2020, including closure of McKenna Casey at the rail crossing.

The City's Transportation Master Plan also notes a potential need for Fallowfield Road to be widened from two to four lanes between Strandherd Drive and Greenbank Road to support growth in Barrhaven. However, this project is not currently on the TMP Affordable Network Plan.

Other study area developments that are likely to occur within this study's horizon year include:

- Phase 1 of the residential development (Caivan Communities) at 3285 Borrisokane Road;
- The residential development (Glenview Homes) at 3387 Borrisokane Road;
- The mixed-use residential development (Minto Harmony) at 4025 Strandherd Drive;
- The mixed-use residential development (Half Moon Bay West) at 3345 Borrisokane Road;
- The proposed hotel located at 101 CitiGate Drive;
- The mixed-used development (automobile dealership, office, and hotel) located at 4149 Strandherd Drive;
- The proposed hotel located at 4401 Fallowfield Road; and
- Build-out of the CitiGate lands.

Traffic generated by these developments will be considered in the forecasting section of this report.

## 4.3 Study Area and Time Periods

### 4.3.1 Study Area

The study area intersections include the proposed accesses, the roundabout at CitiGate Drive/CrossKeys Place, the signalized intersections of Strandherd Drive/Fallowfield Road/CitiGate Drive, Strandherd Drive/CrossKeys Place/Hélène Campbell Road, Strandherd Drive/Systemhouse Street/Maravista Drive, Strandherd Drive/Dealership Drive/Kennevale Drive, the Fallowfield Road/Highway 416 northbound and southbound off-ramps, and the unsignalized intersection of Fallowfield Road/O'Keefe Court/Cobble Hill Drive.

### 4.3.2 Time Periods

The peak hours of site generated traffic occur from 6:00AM-7:00AM and 5:30PM-6:30PM, seven days a week.

Typically, 8-hour weekday traffic counts from the City of Ottawa include the hours of 7:00AM-10:00AM, 11:30AM-1:30PM, and 3:00PM-6:00PM. The weekday peak hours of adjacent street traffic along Strandherd Drive, based on the latest traffic counts, occur from 7:45AM-8:45AM and from 4:00PM-5:00PM.

The peak hour of adjacent street traffic along Strandherd Drive on a Saturday occurs from 1:00PM-2:00PM. Site generated traffic during this time period is anticipated to be in the order of 30 vehicles per hour. As such, the Saturday peak period will be excluded from the analysis.

The peak hour of site traffic will be considered, at 6:00AM-7:00AM and 5:30PM-6:30PM. Analysis will be completed for the build-out year (2021) and 5-year horizon (2026) per the City's TIA guidelines. Analysis of the 10-year horizon (2031) will be completed for the 416 Northbound/Southbound ramp terminals per the MTO's TIS guidelines.

## 4.4 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 3**.

**Table 3: TIA Exemptions**

| Module | Element | Exemption Criteria | Exemption Applies |
|---|---|---|---|
| **Design Review Component** | | | |
| **4.1** Development Design | *4.1.2* Circulation and Access | • Only required for site plans | Not Exempt |
| | *4.1.3* New Street Networks | • Only required for plans of subdivision | Exempt |
| **4.2** Parking | *4.2.1* Parking Supply | • Only required for site plans | Not Exempt |
| | *4.2.2* Spillover Parking | • Only required for site plans where parking supply is 15% below unconstrained demand | Exempt |
| **Network Impact Component** | | | |
| **4.5** Transportation Demand Management | *All elements* | • Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time | Not Exempt |
| **4.6** Neighbourhood Traffic Management | *4.6.1* Adjacent Neighbourhoods | • Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds | Not Exempt |
| **4.8** Network Concept | *All elements* | • Only required when the proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning | Exempt |

## 5.0 FORECASTING

### 5.1 Development-Generated Traffic

#### 5.1.1 Trip Generation

This site is expected to operate with two shifts with approximately 750 employees on site during each shift during the off-peak season and approximately 1040 employees on site during each shift during the peak season. The peak season for this site is anticipated to occur from October to January, and the off-peak season from February to September. For the purpose of this report, the total traffic analysis will include the site traffic for the peak season.

Person trip generation for the proposed development, consisting of a new prestige office and light industrial building with approximately 2,728,000 square feet of GFA, was determined using first principles. The owner provided typical hourly volumes for both employees and truck movements to and from a building of this size and nature. Shift arrivals and departures are spread over a two-hour period. The peak hour for the site generated traffic occurs between 6:00AM to 7:00AM and 5:30PM to 6:30PM. Person Trips generated by the proposed development are summarized in **Table 4**.

**Table 4: Person Trip Generation**

| Land Use | AM Peak (PPH) | | | PM Peak (PPH) | | |
|---|---|---|---|---|---|---|
| | IN | OUT | TOT | IN | OUT | TOT |
| Proposed Site (Employees) | 508 | 527 | 1035 | 669 | 681 | 1350 |
| Proposed Site (Heavy Vehicles) | 11 | 11 | 22 | 10 | 10 | 20 |
| **Proposed Site (Total)** | **519** | **538** | **1057** | **679** | **691** | **1370** |

The proposed site is expected to generate approximately 24-35 trucks per hour (two-way) between 6:00AM to 8:00PM during the peak season. Truck volume is expected to reach a high of 30-46 two-way trucks per hour between 8:00PM to 3:00AM and drop to approximately 16-21 two-way trucks per hour between 3:00 AM to 6:00 AM.

The ultimate CitiGate Business Park development considered in the 2012 CTS includes the subject site. The traffic generated by the subject site was estimated using the Office Park land use and assuming 110 employees per hectare and 350 square foot per employee. This resulted in 2012 total person trips (1791 in, 221 out) in the AM peak, and 1772 total person trips (248 in, 1524 out) in the PM peak hour. A comparison of person trip generation between the assumed 2012 CTS concept and the proposed development can be found in **Table 5**. Note that negative values indicate that estimated trip generation from the 2012 CTS is higher than the proposed site.

**Table 5: Comparison of Person Trips - 2012 CTS vs Proposed Development**

| Land Use | AM Peak (PPH) | | | PM Peak (PPH) | | |
|---|---|---|---|---|---|---|
| | IN | OUT | TOT | IN | OUT | TOT |
| 2012 CTS – Block 13 Trips | 1791 | 221 | 2012 | 248 | 1524 | 1772 |
| Proposed Development | 519 | 538 | 1057 | 679 | 691 | 1370 |
| **Difference** | **-1272** | **317** | **-955** | **431** | **-833** | **-402** |

As indicated in the previous table, the proposed development is anticipated to generate less overall person trips than the CTS concept, however the person trip estimate is higher for trips exiting the site during the AM peak and trips entering the site during the PM peak hour. This is a result of day and night shifts that were not anticipated as part of the 2012 CTS.

The modal shares from the 2012 CTS have been applied to the employee portion of site generated person trips. This modal share is similar to travel data from the City of Ottawa's 2011 TRANS O-

D Survey which indicates that 45-55% of persons trips in the South Nepean area were driver trips. A full breakdown of the projected person trips by modal share are shown in **Table 6**.

**Table 6: Person Trips by Modal Share**

| Travel Mode | Modal Share | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | IN | OUT | TOT | IN | OUT | TOT |
| ***Employees*** | | | | | | | |
| Person Trips | | 508 | 527 | 1035 | 669 | 681 | 1350 |
| Auto Driver | 56% | 284 | 295 | 579 | 375 | 381 | 756 |
| Auto Passenger | 13.5% | 69 | 71 | 140 | 90 | 92 | 182 |
| Transit | 23% | 117 | 121 | 238 | 154 | 157 | 311 |
| Non-Auto | 7.5% | 38 | 40 | 78 | 50 | 51 | 101 |
| ***Heavy Vehicles*** | | | | | | | |
| Person Trips | | 11 | 11 | 22 | 10 | 10 | 20 |
| Heavy Vehicles | 100% | 11 | 11 | 22 | 10 | 10 | 20 |

From the previous table, the proposed development is projected to generate 579 auto vehicle trips during the AM peak hour and 756 auto vehicle trips during the PM peak hour.

### 5.1.2 Trip Distribution

The trip distribution for the employees is based off population centres within a 50km radius and logical routing assumptions. Working population was tallied for all TRANS O-D Survey districts in the National Capital Region as well as the surrounding communities of Arnprior, Mississippi Mills, Carleton Place, Beckwith, Montague, Smiths Falls, Merrickville-Wolford, North Grenville, North Dundas, and Russell.

The employee trip distribution for the proposed development is as follows:

- 55% to/from the north via Highway 416
- 17% to/from the east via Fallowfield Road
- 5% to/from the south and east via Strandherd Drive
- 10% to/from the south via Highway 416
- 10% to/from the west via Fallowfield Road
- 3% to/from the east via Hélène Campbell Road, Maravista Drive, and Kennevale Drive

Of the trips arriving from or departing to the north and south via Highway 416 or the west via Fallowfield Road, 55% have been assigned to CitiGate Drive, 12% to CrossKeys Place, and 33% to Systemhouse Street. This has been assumed in light of the site's parking configuration and proximity to the nearby streets. Of the trips arriving from the east via Fallowfield Road, half have been assigned to CitiGate Drive and half to CrossKeys Place. This is assumed in light of the fully protected southbound left turn phase and the likelihood of motorists to choose the advanced left if they arrive while the light is red for that approach. All trips departing to the east via Fallowfield Road have been assigned to CitiGate Drive. All trips arriving from or departing to the east via

Hélène Campbell Road have been assigned to CrossKeys Place. All trips arriving from and departing to the south and east via Strandherd Drive, Maravista Drive or Kennevale Drive have been assigned to Systemhouse Street.

All heavy vehicles accessing the site will use Fallowfield Road to access Highway 416. It is anticipated that 50% of heavy vehicles will travel to/from the north towards Highway 417 with the balance, 50% travelling to/from the south towards Highway 401.

Of the employee trips assigned to CitiGate Drive north of the roundabout, one third will access the site via the northerly CrossKeys Drive entrance, one third will access the site via the southerly CrossKeys Drive entrance, and one third will access the site via the northerly CitiGate Drive entrance. Of the employee trips assigned to CrossKeys Drive east of the roundabout, half have been assigned to the southerly CrossKeys Drive entrance and half to the northerly CitiGate Drive entrance. Of the employee trips assigned to Systemhouse Street, half have been assigned to the northerly CitiGate Drive extension entrance, and half have been assigned to the southerly CitiGate Drive extension entrance. Half of the trucks have been assigned to the northerly truck access on CrossKeys Place and half to the southerly CitiGate Drive extension access.

Site generated traffic volumes are shown in **Figure 5**.

## 5.2 Background Traffic

### 5.2.1 General Background Growth Rate

A review of other recent transportation studies in the vicinity of the subject site was conducted in order to establish a base background growth rate.

The CitiGate CTS completed by Novatech in 2012 assumed a background growth rate of 1% as a significant portion of adjacent development traffic was accounted for separately. This approach was consistent with the 4401 Fallowfield Road CTS published by IBI Group in 2015, the CitiGate Retail Development TIS published by Parsons in 2015, and the CitiGate Hotel TIA by Novatech in 2018.

The CitiGate Block 4 TIA completed by Novatech in 2019 and revised in February 2020 assumed a background growth rate of 2% along Strandherd Drive, as requested by the City.

A 1% background growth factor is assumed for the Highway 416 ramps, as discussed with the Ministry of Transportation (MTO). A 2% background growth factor is assumed for Strandherd Drive and Fallowfield Road. Other study area developments will be accounted for separately.

No growth rate was applied to Hélène Campbell Road, Cobble Hill Drive, O'Keefe Court, Maravista Drive, or Kennevale Drive as the background growth rate is intended to account for growth in regional traffic which is not anticipated on lower class roads. The background growth rate was not applied to CitiGate Drive, CrossKeys Place, Systemhouse Street, or Dealership Drive, as growth on these roads is highly development-driven and has been accounted for separately.

Background growth within the study area for the 2021 build-out, 2026 and 2031 horizon years is shown in **Figures 6**, **7** and **8**.

### 5.2.2 Other Area Development

Other study area developments that are likely to occur within this study's horizon year include:

- Phase 1 of the residential development (Caivan Communities) at 3285 Borrisokane Road. 200 residential units are proposed, with a mixture of single detached units and townhouse units. A TIA Report was prepared by Parsons in February 2018 in support of the proposed development. The estimated date of occupancy is 2020. Traffic generated by the Caivan Communities development has been added to the background traffic for the 2021 build-out and 2026/2031 horizon years. Relevant excerpts from the 3285 Borrisokane Road study are included in **Appendix F**.

- The residential development (Glenview Homes) at 3387 Borrisokane Road. A total of 208 residential dwellings, consisting of 116 single family and 92 townhomes, as well as a 5.93-acre school block are proposed. A CTS/TIS was prepared by Stantec, with the latest Addendum in May 2017 in support of the proposed development. The estimated date of occupancy is 2022. Traffic generated by the Glenview Homes development has been added to the background traffic for the 2026/2031 horizon years. Relevant excerpts from the 3387 Borrisokane Road study are included in **Appendix F**.

- The full build out of the mixed-use residential development (Minto Harmony) at 4025 Strandherd Drive. Stage 1 included 146 single family units, 274 townhouses, 24 condominiums, a shopping center and a school. Stage 2 will include 132 townhouses and 25 single family homes. Stage 2 is expected to be complete by 2025. A CTS/TIS was prepared by Parsons, with the latest revision in July 2017 in support of the proposed development, and an Addendum in November 2017. Traffic generated by the Minto Communities development has been added to the background traffic for the 2026/2031 horizon years. Relevant excerpts from the 4025 Strandherd Drive study are included in **Appendix F**.

- The development (Half Moon Bay West) at 3345 Borrisokane Road. The proposed development includes 1016 residential homes, consisting of 552 single family homes and 464 townhomes, as well as 5.3 acres of commercial lands. A CTS was prepared by Stantec in November 2016 in support of the proposed development. The development build-out year was 2024. Traffic generated by the Half Moon Bay West development has been added to the background traffic for the 2026/2031 horizon years. Relevant excerpts from the 3345 Borrisokane Road study are included in **Appendix F**.

- The proposed hotel (102 rooms) located at 4401 Fallowfield Road. A TIA Report was prepared by IBI Group in June 2018 in support of the proposed development. The estimated date of occupancy was 2019, however the development is still under construction. Traffic generated by the development has been added to the background traffic for the 2021 build-out and 2026/2031 horizon years. Relevant excerpts from the 4401 Fallowfield Road hotel study are included in **Appendix F**.

- The interim development of the CitiGate campus. The 2012 CTS suggested development would start construction in 2014 and identified two stages of development, the 2019 interim development year and a 2029 ultimate buildout horizon. It was also noted that the

buildout will be dependent on market demands and may require a period of 15 years or more to achieve. Relevant excerpts from the CitiGate study are included in **Appendix F**. For the purpose of this analysis, the interim development will include:

- The proposed hotel (99 rooms) located at 101 CitiGate Drive. A TIA Report was prepared in 2018 and revised in March 2019 in support of this development. The estimated date of occupancy is 2020. Traffic generated by the development has been added to the background traffic for the 2021 build out and 2026/2031 horizon years. Relevant excerpts from the CitiGate Hotel study are included in **Appendix F**.
- The build out of the proposed auto dealerships along Dealership Drive. Traffic generated by the Ford dealership (555 Dealership Drive) which has a March 2020 opening and by the proposed dealership at 540 Dealership Drive will be added to the background traffic for the 2021 build out and 2026/2031 horizon years. Traffic generated by the Hyundai, Honda, and Toyota Dealerships will have been captured in the 2018 traffic counts as these dealerships were constructed at the time.
- The build out of Block 4. A TIA Report was prepared by Novatech in 2019 and revised in February 2020 in support of the development of Block 4. Phase 1 will include a 38,600 square foot auto dealership, Phase 2 will include an 84,300 square foot office, and Phase 3 may include a hotel with up to 120 rooms. The estimated date of occupancy is 2020 for Phase 1, 2021 for Phase 2, and 2024 for Phase 3. Traffic generated by Phases 1 and 2 of the development has been added to the background traffic for the 2021 build out and 2026/2031 horizon years. Traffic generated by Phase 3 of the development has been added to the background traffic for the 2026/2031 horizon years. Relevant excerpts from the CitiGate Block 4 study are included in **Appendix F**.
- The build out of Block 3. Consistent with the CTS, Block 3 will be estimated using the rates for Office Park with 110 employees per hectare and 350 square feet per employee for a total of 182,105 $ft^2$ of Prestige Business Park. Traffic generated by Block 3 will be added to the background traffic for the 2026/2031 horizon years.

- The future build-out of the CitiGate campus. In addition to the interim scenario, full buildout would add an additional 1,163,145 $ft^2$ of Prestige Business Park and an additional 711,700 $ft^2$ of Business Park. Traffic generated by these uses has been estimated using the methods outlined in the CTS study and has been added to background traffic for the 2031 horizon year.

Trips generated by the above developments have been assigned to the road network in a manner consistent with their respective traffic studies. Trips generated by the new dealerships that did not have a traffic study were estimated using the ITE *Trip Generation Manual*, 10th Edition and distributed to the road network using the assumptions outlined for the dealership in the Block 4 TIA.

Trips generated by future Prestige Business Park or Business Park have been estimated using the rates for Office Park and Business Park in the ITE *Trip Generation Manual*, 9th Edition (many of the surveys in the 9th Edition were removed from the dataset for these land use codes in the 10th Edition as the data pre-dated 1980, however the 9th Edition still remains statistically valid). All trips estimated were converted to person trips using an ITE Trip to Person Trip adjustment factor of 1.28, consistent with the TIA Guidelines. The Person Trips were then converted to vehicle trips using a 56% auto driver share, consistent with the CitiGate CTS.

A full breakdown of the AM and PM peak hour Auto Driver trips generated by future developments in the study area is shown in **Table 7**.

**Table 7: Other Area Development Auto Driver Trips**

| Development | | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | IN | OUT | TOT | IN | OUT | TOT |
| Caivan Communities (3285 Borrisokane Road) | | 41 | 88 | 129 | 86 | 60 | 146 |
| Glenview Homes (3387 Borrisokane Road) | | 61 | 139 | 200 | 129 | 74 | 203 |
| Minto Harmony (4025 Strandherd Drive) | | 183 | 330 | 513 | 285 | 189 | 474 |
| Half Moon Bay West (3345 Borrisokane Road) | | 114 | 326 | 441 | 372 | 237 | 610 |
| 4401 Fallowfield Hotel (4401 Fallowfield Road) | | 33 | 23 | 56 | 33 | 31 | 64 |
| CitiGate Interim | CitiGate Hotel (101 CitiGate Drive) | 29 | 20 | 48 | 27 | 26 | 53 |
| | Block 4 Auto Dealership (4149 Strandherd Drive) | 53 | 19 | 72 | 37 | 56 | 93 |
| | Block 4 Office (4149 Strandherd Drive) | 75 | 12 | 87 | 13 | 68 | 81 |
| | Block 4 Hotel (4149 Strandherd Drive) | 35 | 25 | 60 | 36 | 34 | 70 |
| | Prestige Business Park (Block 3) | 239 | 30 | 269 | 32 | 196 | 228 |
| | Remaining Auto Dealerships | 85 | 32 | 117 | 60 | 92 | 152 |
| CitiGate Buildout | Prestige Business Park | 1016 | 126 | 1142 | 142 | 875 | 1017 |
| | Business Park | 607 | 107 | 714 | 167 | 476 | 643 |

A review of traffic in the study area suggests that traffic at 7:00AM-8:00AM and 5:00PM-6:00PM is approximately 90% of the peak hour traffic at the study area intersections. As the traffic counts for the Fallowfield Road/Highway 416 Southbound Off-Ramp and Fallowfield Road/416 Northbound Off-Ramp intersections included longer hours (beginning at 6:00AM and ending at 7:00PM), these two intersections were also reviewed to compare the peak traffic during the actual projected shift change (6:00AM-7:00AM and 5:30PM-6:30PM) and the peak hour of adjacent street traffic. It was found that at the two Highway 416 ramp terminals, the traffic during the peak hour of the site is approximately 65% of the peak hour of adjacent street traffic. For the purpose of this analysis, the traffic generated by other area developments in the AM and PM peak hours has been reduced by 20% in order to better reflect the peak hour of the site.

Trips generated by future developments for the 2021 build-out, 2026 horizon and 2031 horizon year are shown in **Figures 9**, **10** and **11**. Background traffic volumes for the 2021 build out, 2026 horizon and 2031 horizon year are shown in **Figures 12**, **13** and **14**, respectively. Total traffic volumes are shown in **Figures 15**, **16** and **17**.

**Figure 5: Site Generated Traffic Volumes**

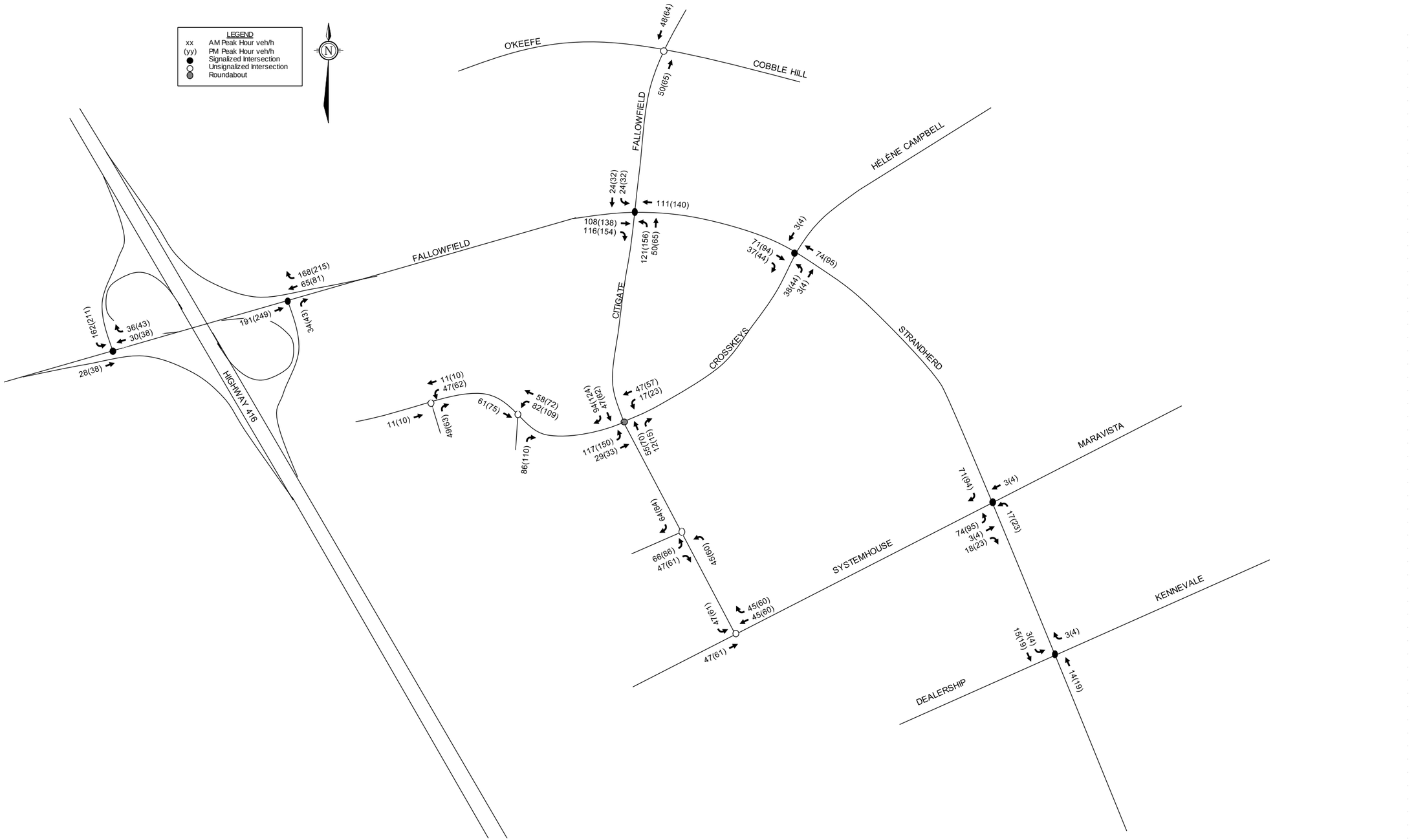


**Figure 6: 2021 Background Growth**

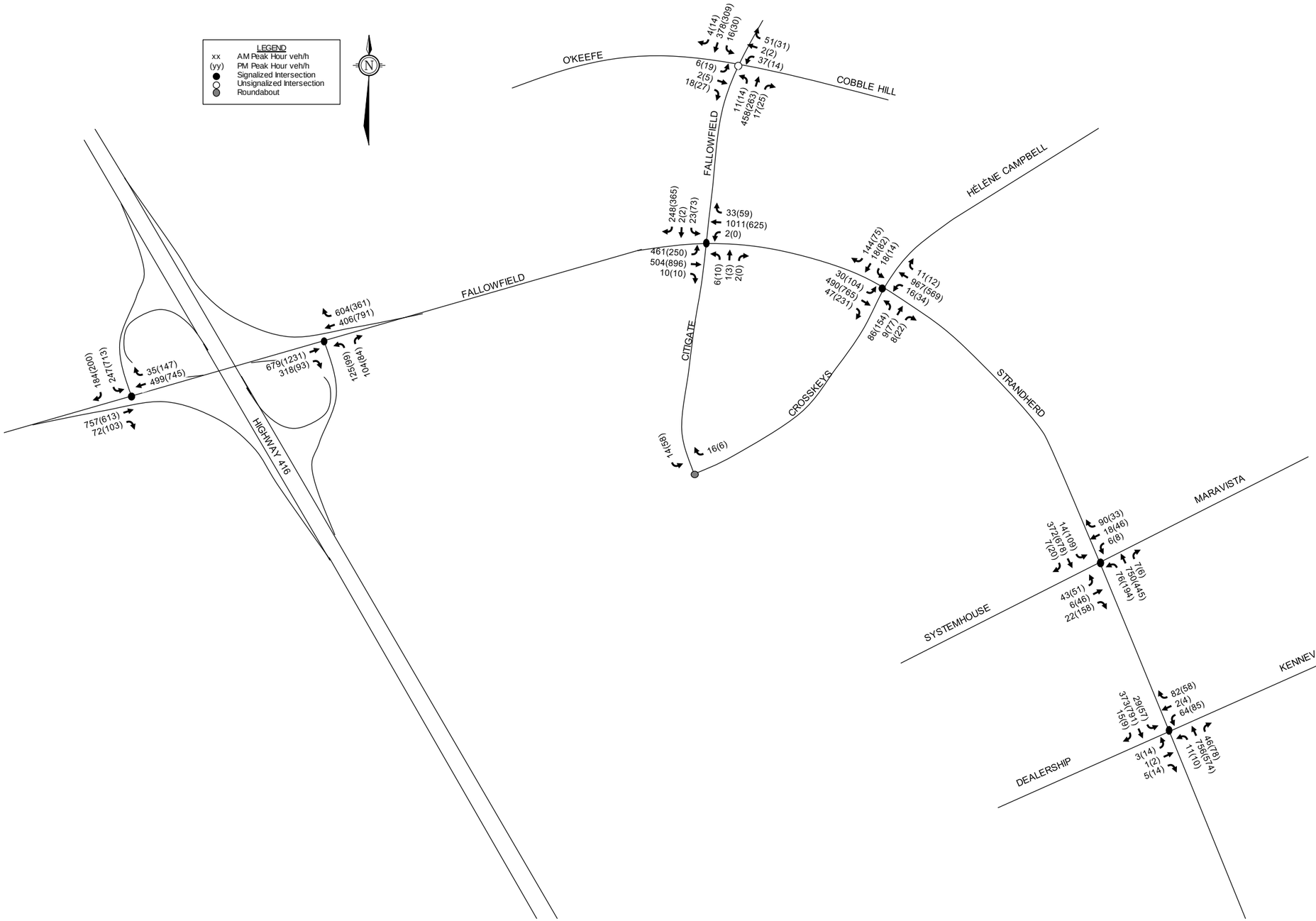


**Figure 7: 2026 Background Growth**

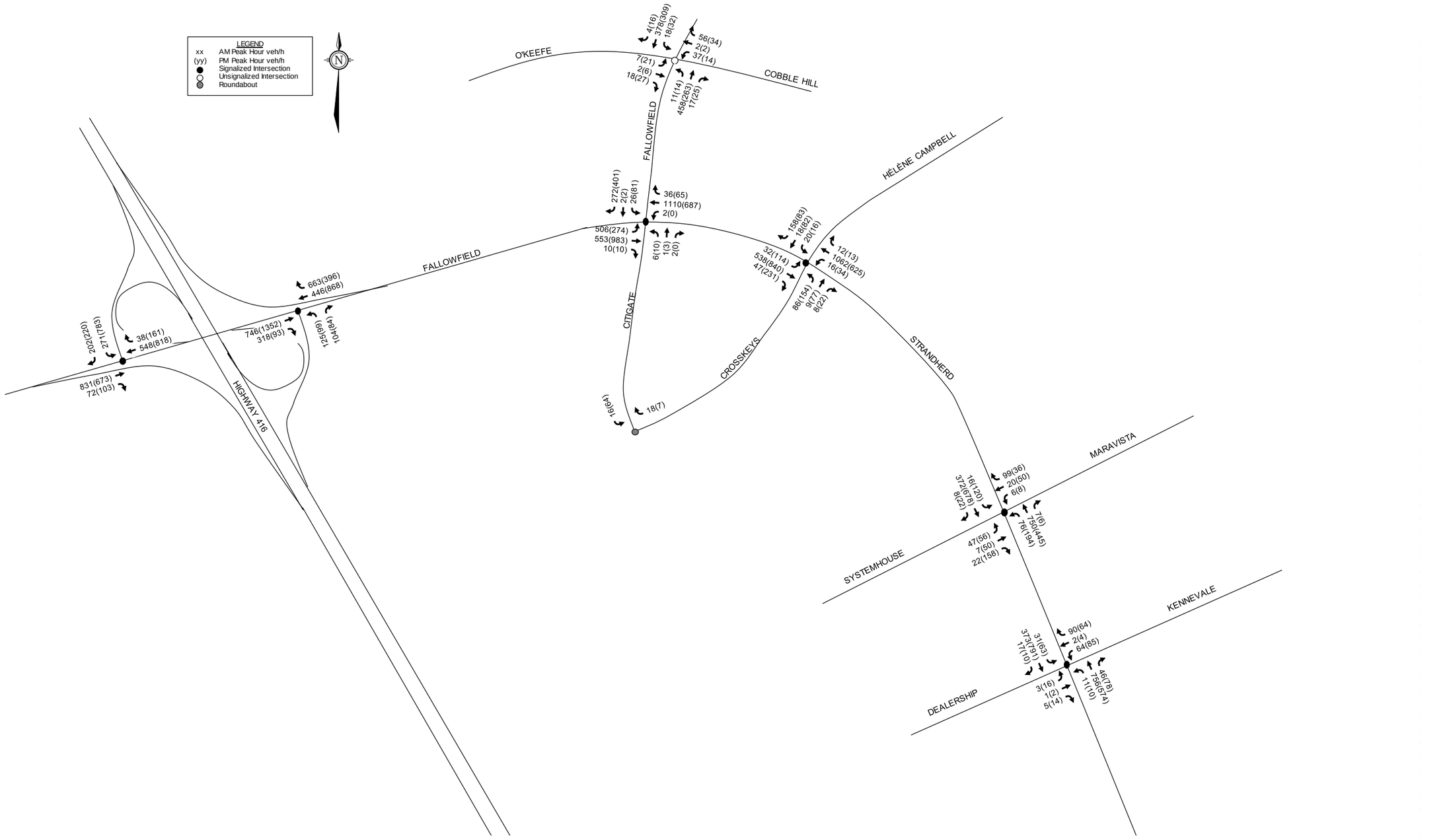


**Figure 8: 2031 Background Growth**



**Figure 9: 2021 Other Development Traffic**

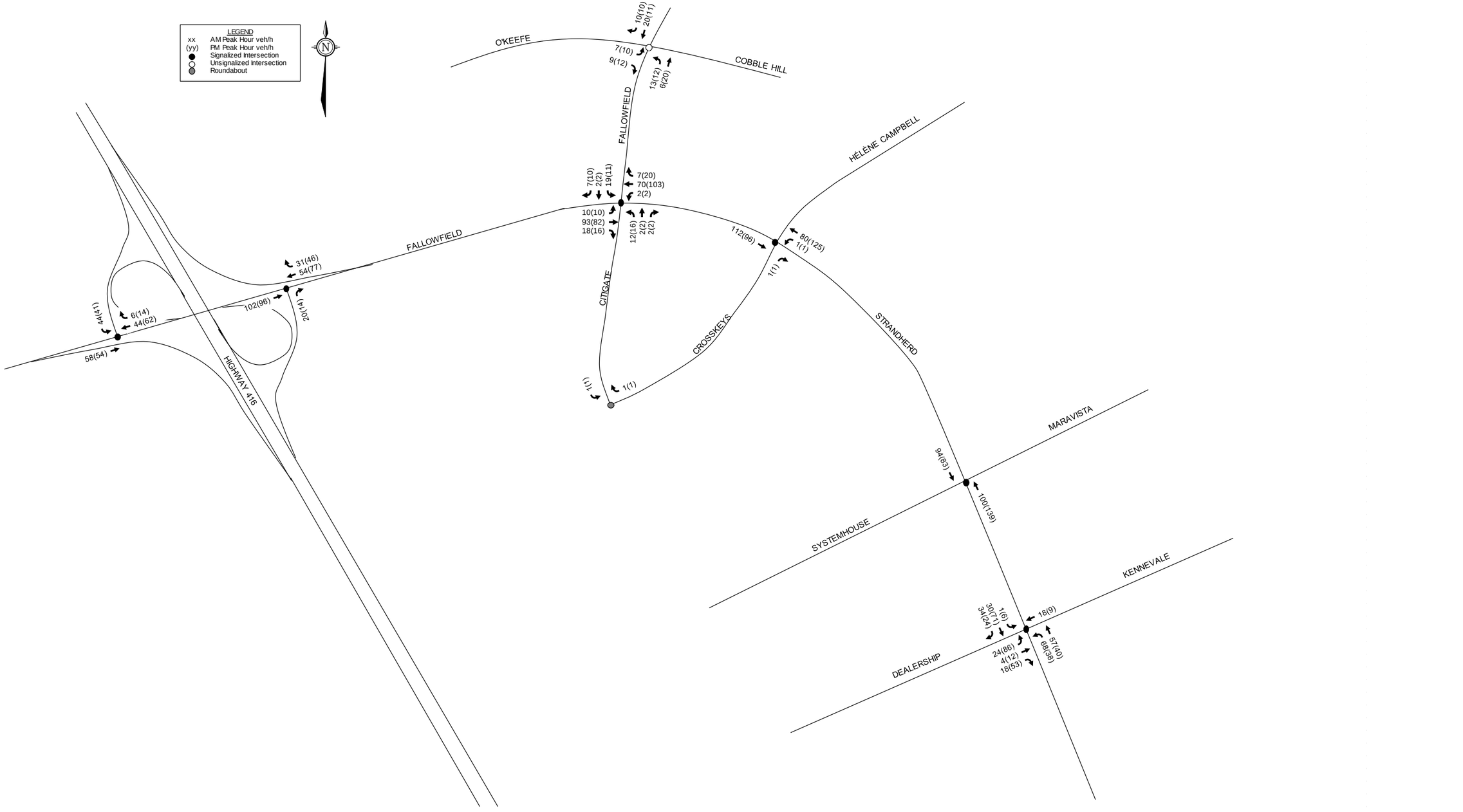


**Figure 10: 2026 Other Development Traffic**

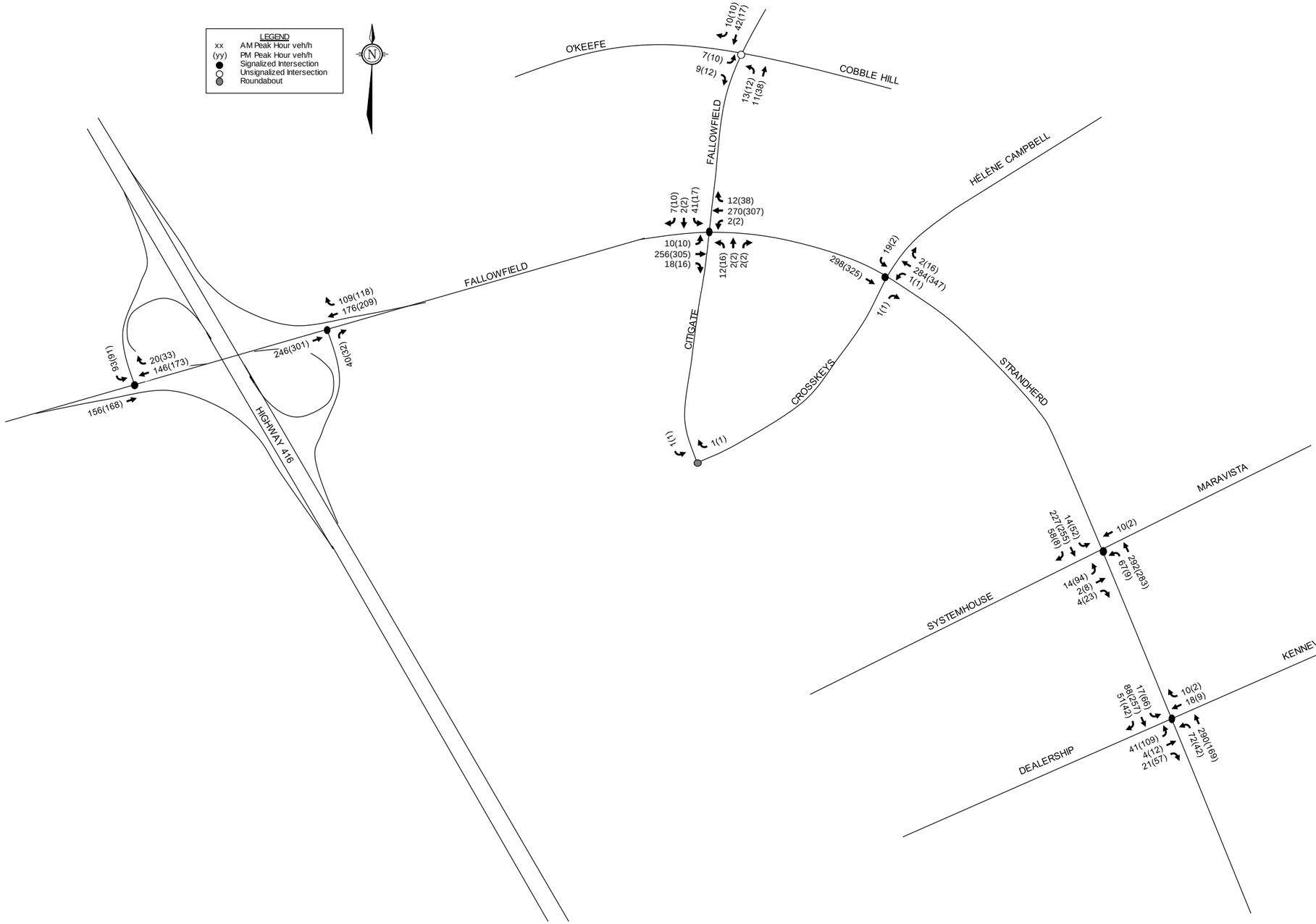


**Figure 11: 2031 Other Development Traffic**

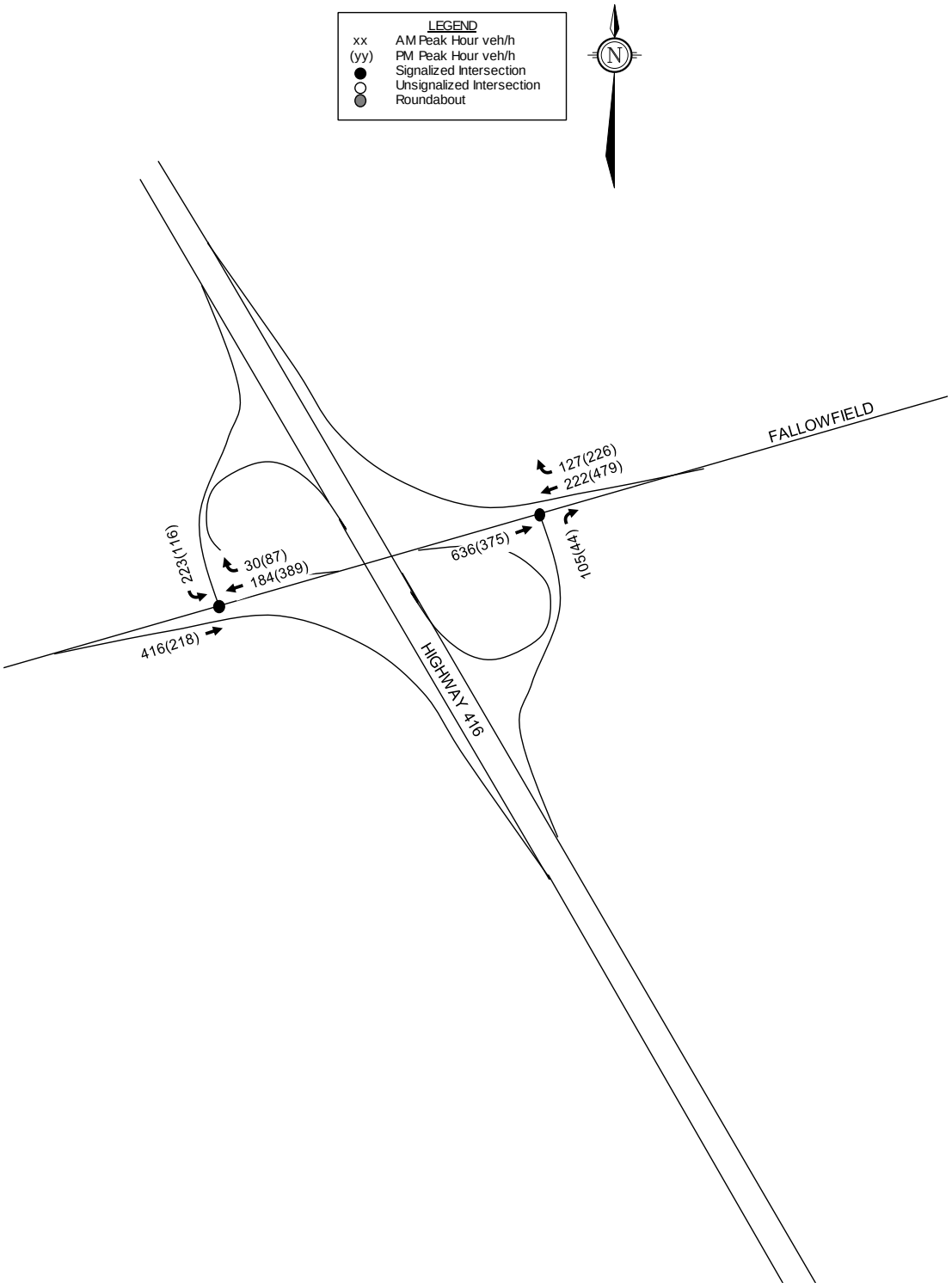


**Figure 12: 2021 Background + Other Development Traffic**

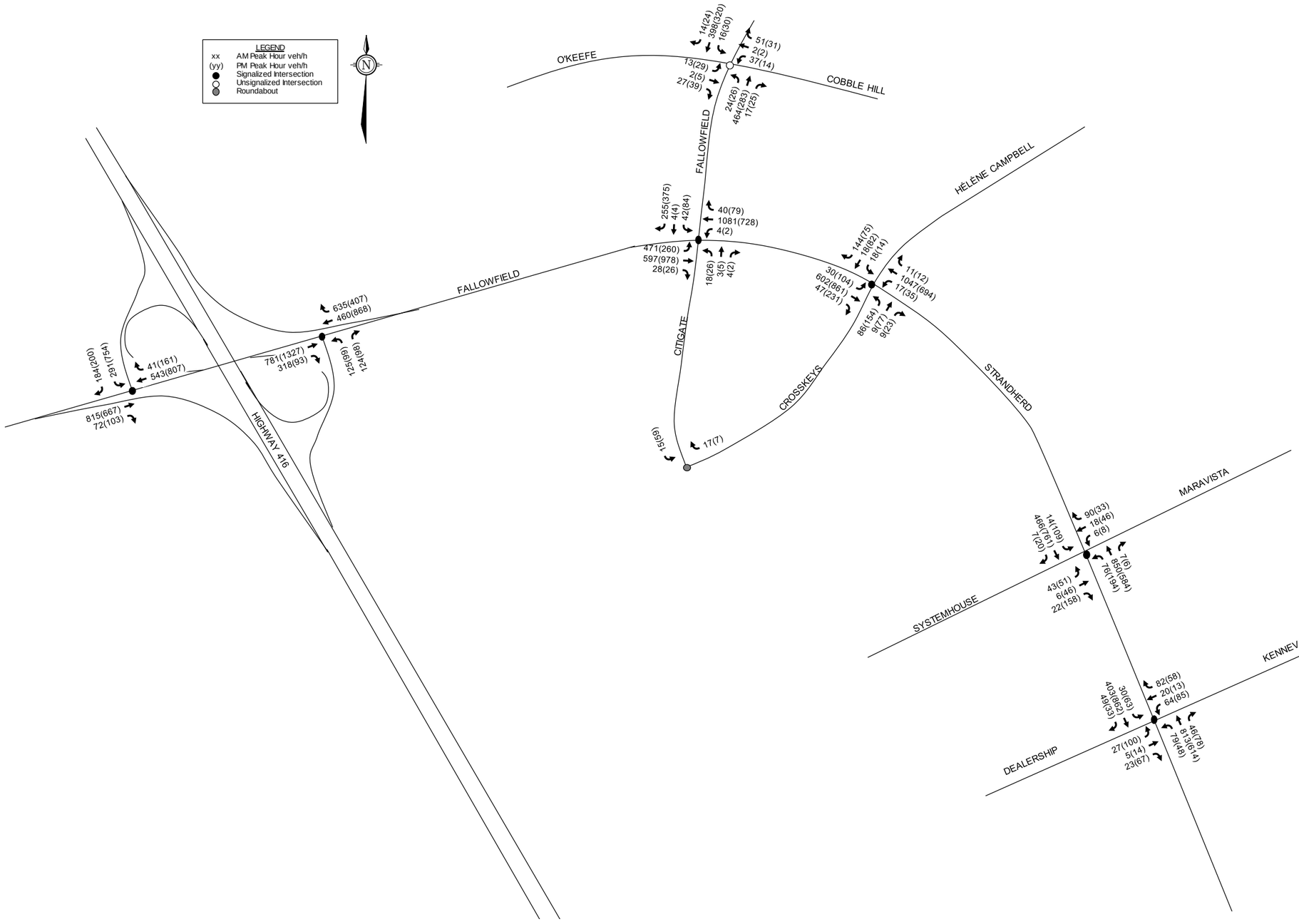


**Figure 13: 2026 Background + Other Development Traffic**

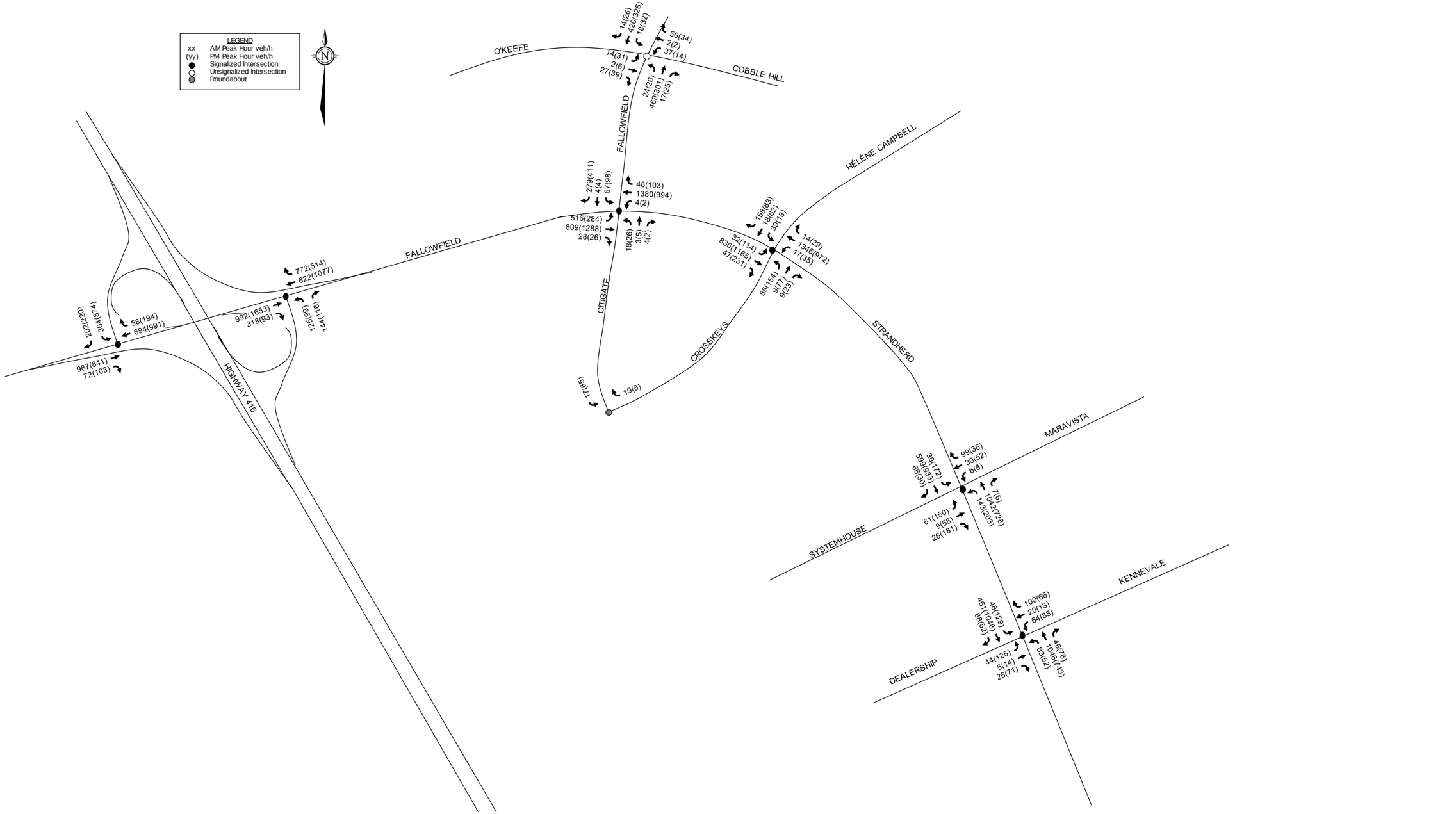


**Figure 14: 2031 Background + Other Development Traffic**

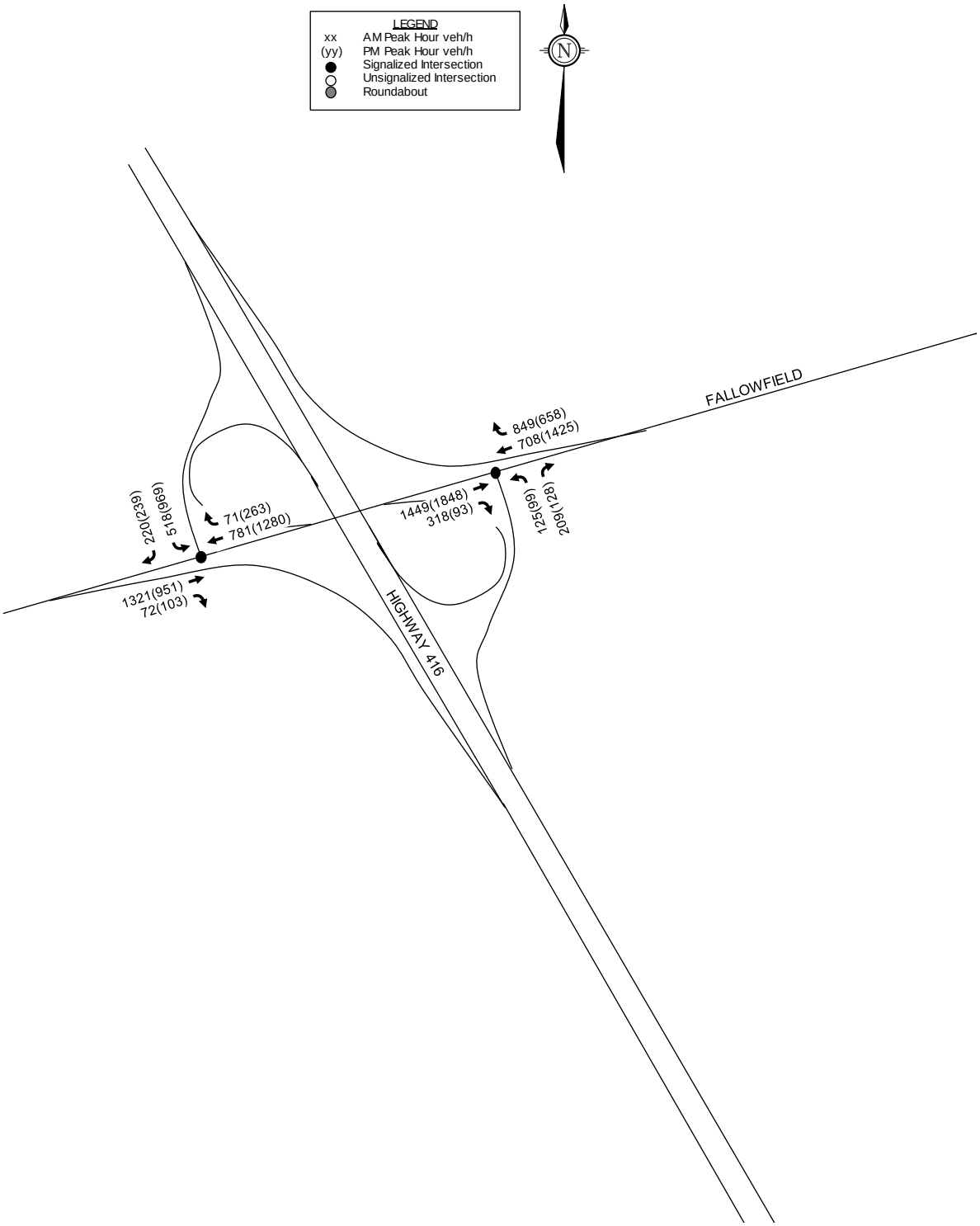


**Figure 15: 2021 Total Traffic**

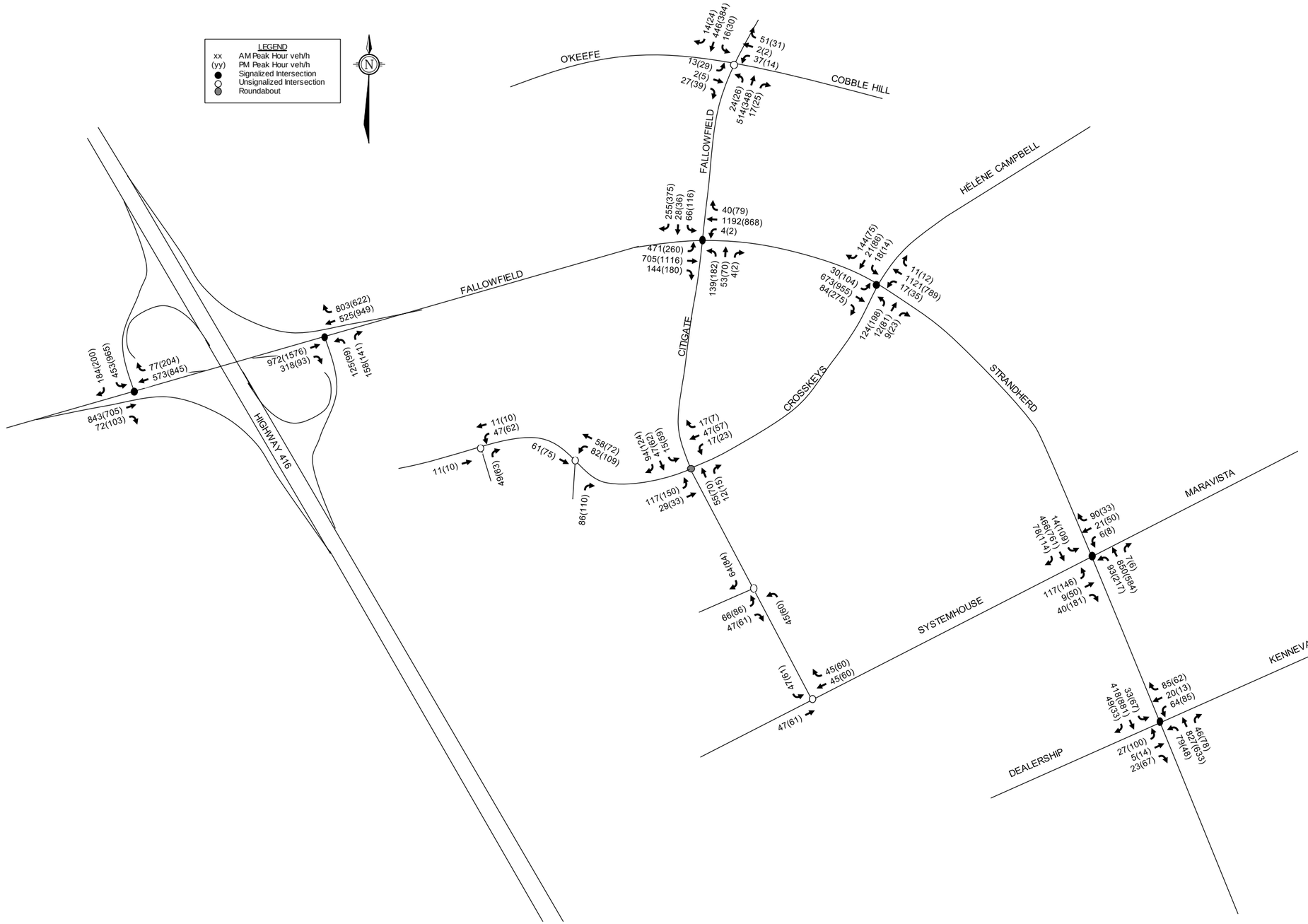


**Figure 16: 2026 Total Traffic**

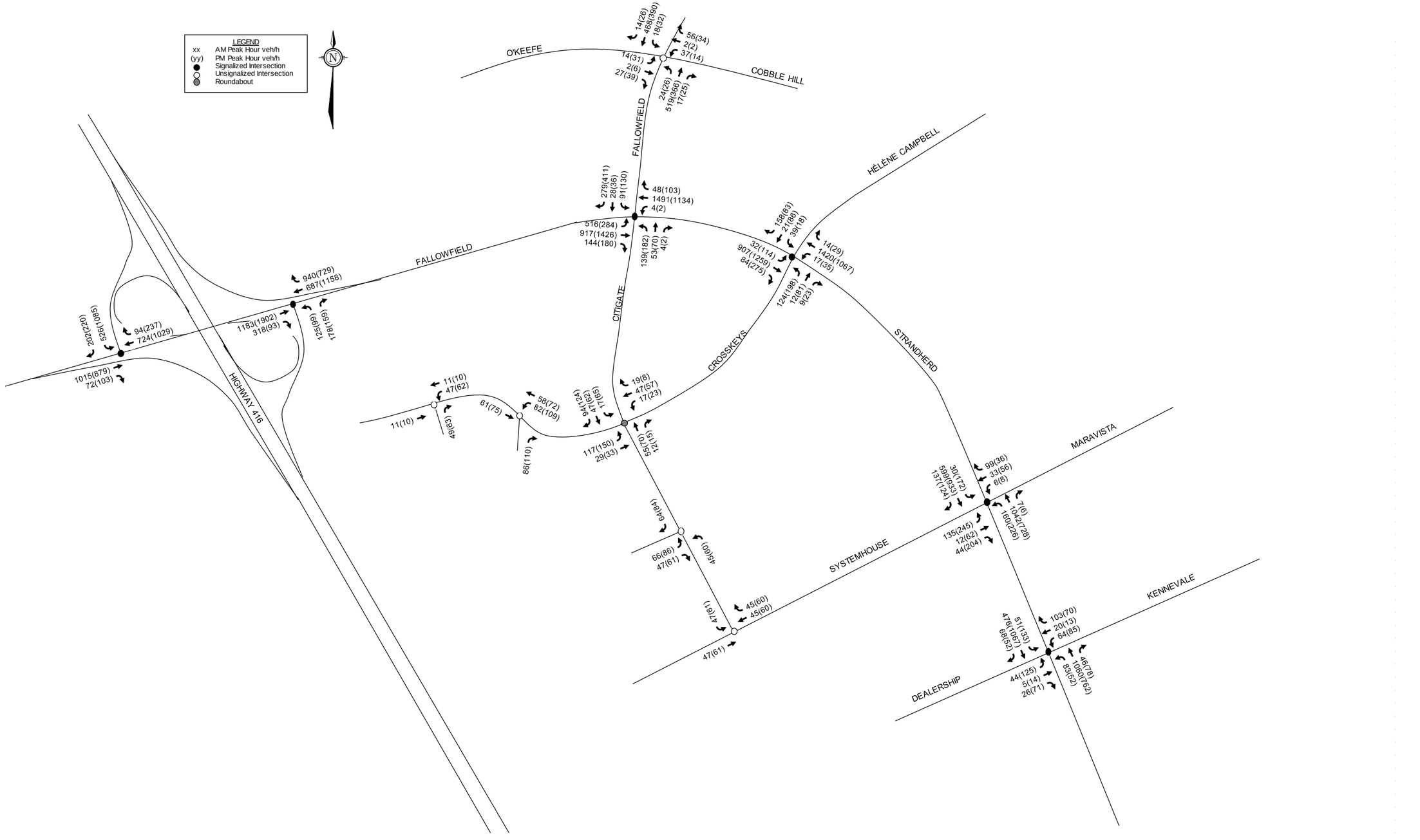
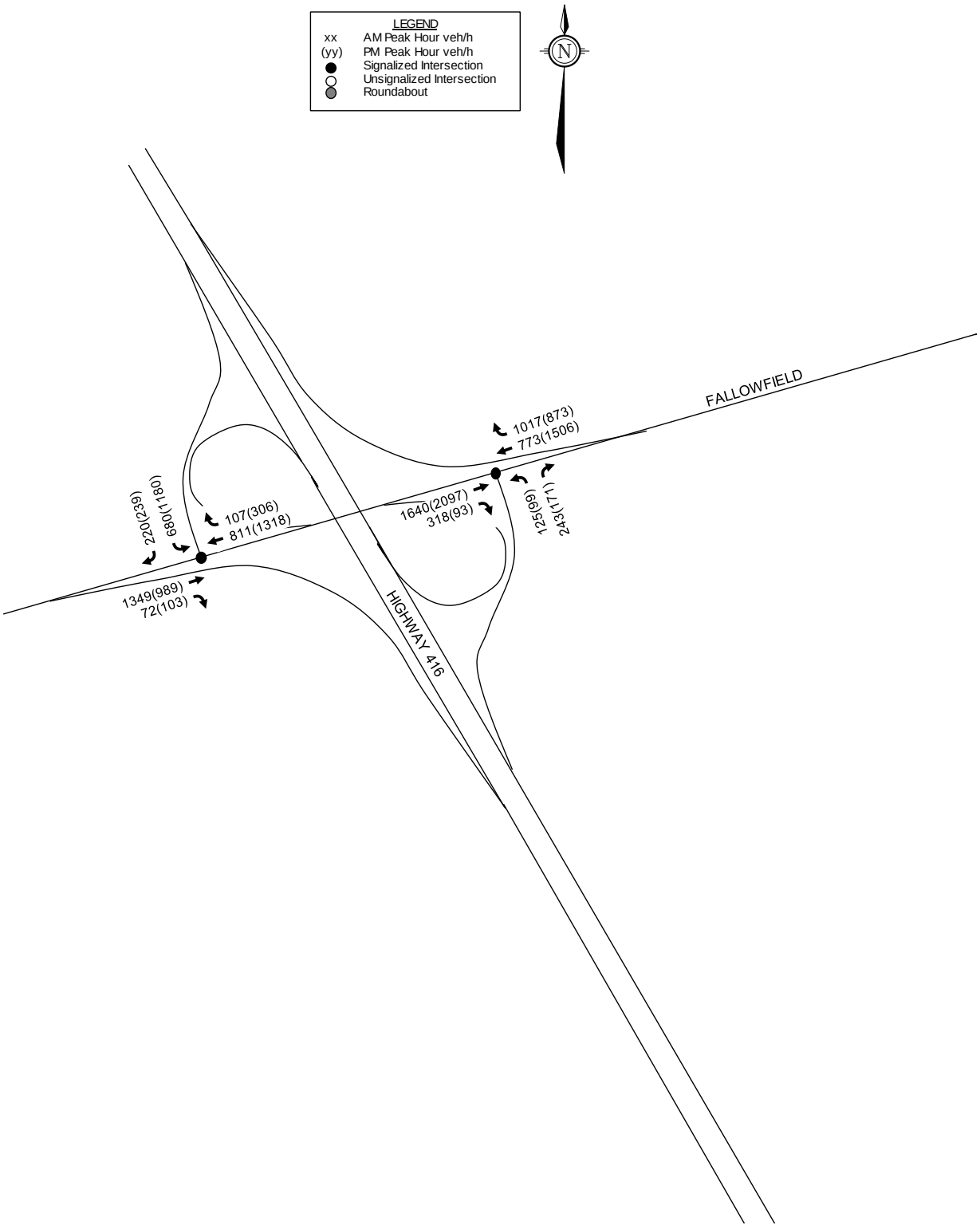


**Figure 17: 2031 Total Traffic**



# 6.0 ANALYSIS

## 6.1 Development Design

### 6.1.1 Design for Sustainable Modes

The existing and proposed multi-modal network within the study area is shown in **Figure 18**. The planned CitiGate Drive extension will have a multi-use pathway along the east side and a sidewalk along the west side.

Pedestrian facilities will be provided between the building entrances and the parking lot. New pedestrian walkways will be constructed, providing connectivity to the existing pedestrian facilities along CrossKeys Place and CitiGate Drive. Spine walkways through the parking lots are provided, with raised crosswalks along the main east/west and north/south drive aisles, as shown on the site plan. A multi-use pathway is provided, connecting to the existing facility at the CitiGate Drive/CrossKeys Place roundabout.

The nearest bus stops to the subject site are described in section 4.1.5.

OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. It is anticipated that bus service will be extended via CrossKeys Place, CitiGate Drive, and Systemhouse Street. Stops will be added at the two intersections, CrossKeys Place/CitiGate Drive and Systemhouse Street/CitiGate Drive. Based on the foregoing, there are expected to be two transit stops within the required 400m walk radius.

Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in section 6.2. Bike racks will be located to the north of the building's front entrance. A total of 12 covered bicycle parking spaces are proposed. A bicycle repair station is also proposed adjacent to the bike racks. In addition to the MUP connection at the roundabout, a bike path is proposed which will connect the bike rack area to the CrossKeys Place extension at the southerly CrossKeys Place access, as shown on the site plan.

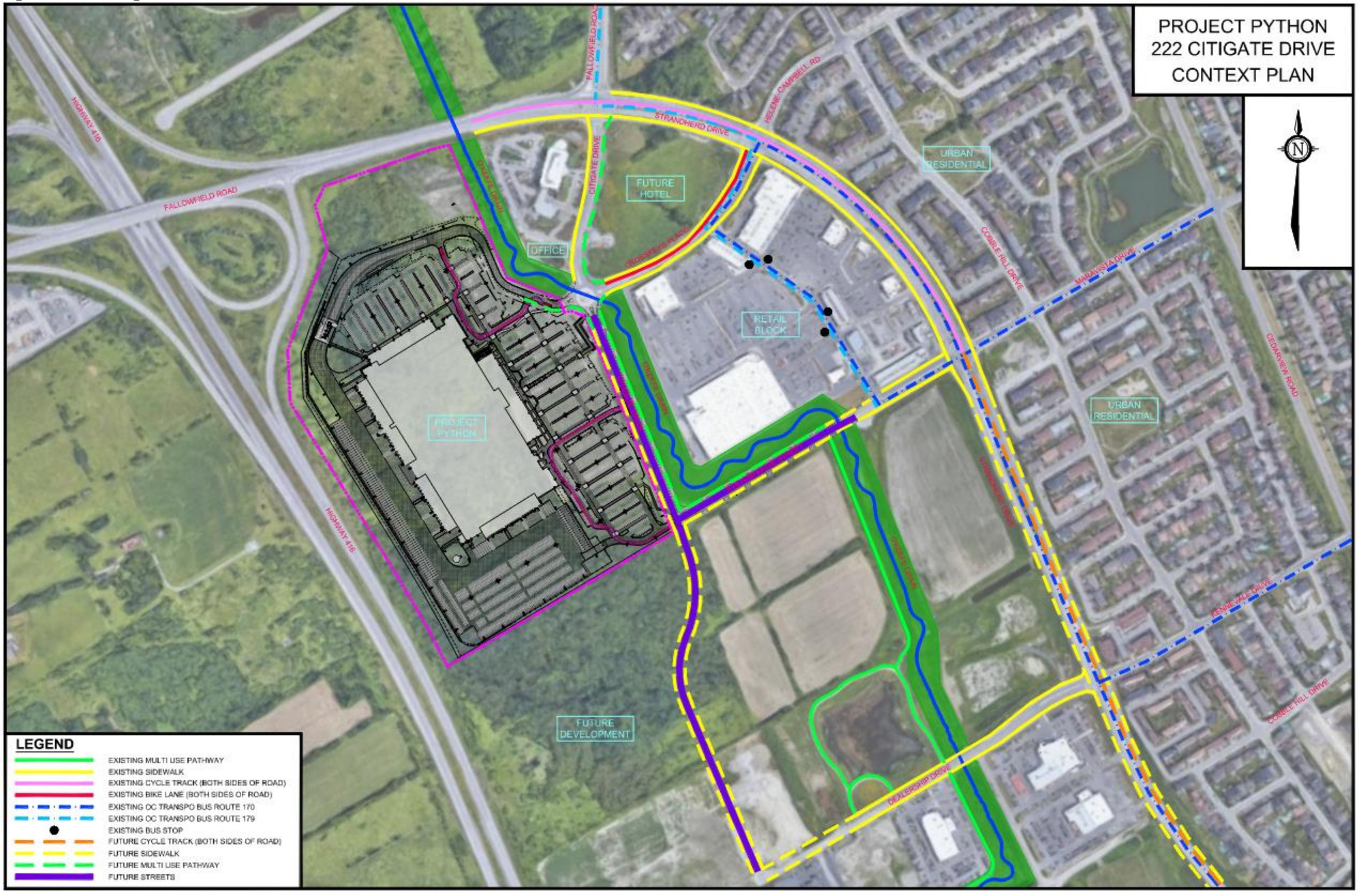
A review of the Transportation Demand Management (TDM) – *Supportive Development Design and Infrastructure Checklist* has been conducted. A copy of the TDM checklist is included in **Appendix G**. All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

### 6.1.2 Circulation and Access

The proposed development will be served by two accesses along the CitiGate Drive extension and two accesses along the private CrossKeys Place extension. Two drop-off areas are proposed at the northeast and southeast corners of the building, with access to the main building entrances.

The southern CitiGate Drive access and the northerly access to the CrossKeys Place extension will serve trucks and employees, with all loading spaces located on the west and south sides of the building. The other two driveways are intended for vehicular access only (no trucks).

**Figure 18: Existing and Planned Multi-Modal Network**



Garbage collection will utilize the on-site truck route which wraps around the west and south the building, with a garbage compactor located off one of the loading docks at the rear or south side of the proposed building.

There are eight proposed fire hydrants evenly spaced around the proposed building and two internal fire pump rooms in the southwest corner of the building. The proposed fire route includes the main east-west drive aisle which provides front door access. The fire route also includes the on-site truck route which will provide access to the rear loading dock area on the west side of the building and to the pump rooms.

## 6.2 Parking

The subject site is located in Area C on Schedule 1 and 1A of the City of Ottawa's ZBL. Minimum vehicular and bicycle parking rates for the proposed uses are identified in the ZBL and are summarized in the following table.

**Table 8: Parking Requirements**

| Land Use | Rate | GFA | Requirement |
|---|---|---|---|
| *Vehicle Parking* | | | |
| Office | 2.4 per 100m$^2$ of GFA | 1,559 m$^2$ | 37 |
| Light Industrial | 0.8 per 100m$^2$ of GFA | 251,851 m$^2$ | 2,015 |
| | | **Total** | **2,052** |
| *Bicycle Parking* | | | |
| Office | 1 per 250m$^2$ of GFA | 1,559 m$^2$ | 6 |
| Light Industrial | 1 per 1,500m$^2$ of GFA | 251,851 m$^2$ | 168 |
| | | **Total** | **174** |

Based on the foregoing, the approximately 2,065 proposed vehicular parking spaces meet the minimum requirement of the ZBL. The 174 proposed bicycle parking spaces also meet the minimum requirements of the ZBL.

Minimum barrier-free parking was reviewed for the subject site. A total of 32 barrier-free parking spaces are required for the proposed development, and 28 spaces are proposed. Further refinement is required to meet AODA parking space requirements.

As per the City of Ottawa's Zoning By-law, three loading spaces are required for the light industrial use and one loading space is required for the office use. Approximately 50 loading spaces are shown on the site plan, thereby exceeding the minimum requirements of the ZBL.

## 6.3 Boundary Street Design

This section provides a review of the boundary street using complete streets principles. The Multi-Modal Level of Service (MMLOS) guidelines produced by IBI Group in 2015 were used to evaluate the LOS of the boundary roadway for each mode of transportation. Schedule 'B' of the City of Ottawa's Official Plan indicates the subject site is in the 'Urban Employment Area'.

The analysis reflects the approved design including the planned multi-use pathway (MUP) along the east side and the sidewalk along the west side of the CitiGate Drive extension. Plan and profile sheets for CitiGate Drive can be found in **Appendix H**.

Target PLOS, BLOS, TLOS, TkLOS and Auto LOS for CitiGate Drive are based on the targets for Employment Area, as identified in Exhibit 22 of the MMLOS guidelines. The following summarizes the findings of the MMLOS segment analysis.

### 6.3.1 Pedestrian Level of Service (PLOS)

Exhibit 4 of the MMLOS guidelines has been used to evaluate the segment PLOS of the CitiGate Drive extension. Exhibit 22 of the MMLOS guidelines suggest a target PLOS C all road classes within an Employment Area. The results of the segment PLOS analysis are summarized in the following table.

**Table 9: PLOS Segment Analysis**

| Sidewalk Width | Boulevard Width | Avg. Daily Curb Lane Traffic Volume | Presence of On-Street Parking | Operating Speed[1] | Segment PLOS |
|---|---|---|---|---|---|
| **CitiGate Drive Extension (East Side)** | | | | | |
| 3m | >2m | <3,000 vpd | Yes | 60 | A |
| **CitiGate Drive Extension (West Side)** | | | | | |
| 2m | >2m | <3,000 vpd | Yes | 60 | A |

1. Operating speed taken as 10km/h above the posted speed

### 6.3.2 Bicycle Level of Service (BLOS)

Exhibit 11 of the MMLOS guidelines has been used to evaluate the segment BLOS of the CitiGate Drive extension. Exhibit 22 of the MMLOS guidelines suggest a target BLOS E for collector roads in an Employment Area. The results of the segment BLOS analysis are in the following table.

**Table 10: BLOS Segment Analysis**

| Road Class | Bike Route | Type of Bikeway | Travel Lanes | Centerline Markings | Operating Speed | Segment BLOS |
|---|---|---|---|---|---|---|
| **CitiGate Drive Extension (East Side)** | | | | | | |
| Collector | Major Pathway | Multi-Use Pathway | 2 | Yes | 60km/h | A |
| **CitiGate Drive Extension (West Side)** | | | | | | |
| Collector | Major Pathway | Mixed Traffic | 2 | Yes | 60km/h | F |

### 6.3.3 Transit Level of Service (TLOS)

Exhibit 15 of the MMLOS guidelines has been used to evaluate the segment TLOS of the boundary roadways. The CitiGate Drive extension has been evaluated for TLOS despite having no target. The results of the segment TLOS analysis are summarized in the following table.

**Table 11: TLOS Segment Analysis**

| Facility Type | Level/Exposure to Congestion Delay, Friction and Incidents | | | Segment TLOS |
|---|---|---|---|---|
| | Congestion | Friction | Incident Potential | |
| **CitiGate Drive Extension** | | | | |
| Mixed Traffic | Yes | Low | Medium | D |

### 6.3.4 Truck Level of Service (TkLOS)

Exhibit 20 of the MMLOS guidelines has been used to evaluate the segment TkLOS of the CitiGate Drive extension. Exhibit 22 of the MMLOS guidelines suggests a target TkLOS of D for collector roadways in an Employment Area. The results of the segment TkLOS analysis are summarized in the following table.

**Table 12: TkLOS Segment Analysis**

| Curb Lane Width | Number of Travel Lanes | Segment TkLOS |
|---|---|---|
| **CitiGate Drive Extension** | | |
| 5.5m | 2 | B |

### 6.3.5 Vehicular Level of Service (Auto LOS)

Exhibit 22 of the MMLOS guidelines suggest a target Auto LOS D for all roadways within an Employment Area. The typical lane capacity along the CitiGate Drive extension are based on the City's guidelines for the TRANS Long-Range Transportation Model. The lane capacity along the CitiGate Drive extension has been estimated based on roadway classification and general characteristics (i.e. suburban with limited access, urban with on-street parking, etc.). The results of the Auto LOS analysis are summarized in the following table.

Traffic volumes used for the Auto LOS analysis are the 2026 total traffic projections identified above.

**Table 13: Auto LOS Segment Analysis**

| Direction | Directional Capacity | Traffic Volumes | | V/C Ratio and LOS | | | |
|---|---|---|---|---|---|---|---|
| | | AM Peak | PM Peak | AM Peak | | PM Peak | |
| | | | | V/C | LOS | V/C | LOS |
| **CitiGate Drive Extension** | | | | | | | |
| NB | 600 vph | 68 | 87 | 0.11 | A | 0.15 | A |
| SB | 600 vph | 66 | 86 | 0.11 | A | 0.14 | A |

### 6.3.6 Segment MMLOS Summary

The following table summarizes the findings of the MMLOS segment analysis.

**Table 14: Segment MMLOS Summary**

| Segment | PLOS | BLOS | TLOS | TkLOS | Auto LOS |
|---|---|---|---|---|---|
| CitiGate Drive Extension | A | F | D | B | A |
| **Target** | **C** | **E** | **-** | **D** | **D** |

The planned CitiGate Drive extension meets the target PLOS, TkLOS and Auto LOS, however it does not meet the target BLOS.

Along the east side of CitiGate Drive there is a planned multi-use pathway which earns a BLOS of A. The west side of CitiGate Drive will offer mixed traffic for cyclists, which earns a BLOS of F with an operating speed of 60km/h. This is considered a reasonable trade-off as cyclists will have the option of using the MUP along the east side of CitiGate Drive.

## 6.4 Access Intersection Design

The proposed development will be served by two accesses along the CitiGate Drive extension and two accesses along the CrossKeys Place extension. All accesses will be stop controlled.

The northerly CitiGate Drive access is approximately 8.2m in width, measured at the property line. The CrossKeys Place extension and the southern CitiGate Drive access, which serve trucks, are approximately 11m in width.

Section 25 (a) of the City's *Private Approach By-Law* identifies a maximum number of private approaches that can be provided, based on the amount of frontage. For sites with 46m to 150m of frontage, one two-way private approach and two one-way private approaches or two two-way private approaches are permitted. For every additional 90m of frontage in excess of 150m, the by-law permits another two-way private approach or two one-way private approaches. The subject site has approximately 350m of frontage on the CitiGate Drive extension. Therefore, the number of accesses on CitiGate Drive serving the proposed development meets this requirement.

Section 25 (m) of the *Private Approach By-Law* identifies a requirement to provide a minimum distance of 60m on CitiGate Drive at the street line between a private approach and the nearest intersecting street line, and between a private approach and any other private approach. The northern CitiGate Drive access will be located approximately 160m south of the CitiGate Drive/CrossKeys Place roundabout, and approximately 170m north of the southern CitiGate Drive access/Systemhouse Street, thereby meeting this requirement.

Section 25 (p) of the *Private Approach By-Law* identifies a minimum spacing requirement of 3.0m between the nearest edge of a private approach and the property line, as measured at the street line. The southern CitiGate Drive access will be located approximately 7m north of the southern property line, thereby meeting this requirement.

Section 107 (1)(a) of the *Zoning By-Law* identifies a minimum width requirement of 6.7m for a two-way driveway to a parking lot. Section 25 (d) of the *Private Approach By-Law* identifies a maximum width requirement of 9.0m for any two-way private approach, as measured at the street

line, although an exception for wider accesses is permitted under Section 25 (e) for transport loading areas.

The Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads* suggests a minimum corner clearance of 25m for an access from an intersection along a collector roadway. The northern CitiGate Drive access will be located approximately 160m south of the CitiGate Drive/CrossKeys Place roundabout, and approximately 170m north of the southern CitiGate Drive access/Systemhouse Street. Based on the proposed spacing, the minimum corner clearance requirements are met.

The TAC *Geometric Design Guide for Canadian Roads* outlines minimum clear throat lengths for driveways based on land use, development size, and types of roadways. On a collector roadway, the minimum clear throat length for a driveway to a large light industrial development is 15m. All accesses meet this requirement.

## 6.5 Transportation Demand Management

### 6.5.1 Context for TDM

The subject site is not located within a Design Priority Area (DPA) or Transit Oriented Development (TOD) zone.

This site is expected to operate with two shifts with approximately 750 employees on site during each shift during the off-peak season and approximately 1040 employees on site during each shift during the peak season. The peak season for this site is anticipated to occur from October to January, and the off-peak season from February to September.

Shift arrivals and departures are spread over a two-hour period. The peak hour for the site generated traffic occurs between 6:00AM to 7:00AM and 5:30PM to 6:30PM.

### 6.5.2 Need and Opportunity

The proposed development's modal shares are consistent with the existing modal shares observed for the South Nepean district in the TRANS O-D Survey.

A review of the Transportation Demand Management (TDM) – *Supportive Development Design and Infrastructure Checklist* has been conducted. A copy of the TDM checklist is included in **Appendix G**. All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

To maximize support of users of sustainable modes, the following infrastructure measures are proposed:

- The development will provide pedestrian and cycling connections to the adjacent public street network and its active transportation facilities;
- Bicycle parking will be located adjacent to the main building entrance and will be provided in accordance with the zoning by-law. A bicycle repair station and a total of 12 covered bicycle parking spaces are proposed;
- Safe, direct and attractive walking routes from the main building entrance to nearby transit stops will be available; and
- A designated area for passenger drop-offs/pick-ups is proposed.

### 6.5.3 TDM Program

A review of the Transportation Demand Management (TDM) Measures Checklist has been conducted. A copy of the TDM checklist is included in **Appendix G**.

To encourage the use of sustainable modes, the following TDM measures are being considered:

- Designate an internal coordinator, or contract with an external coordinator;
- Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress;
- Display local area maps with walking/cycling access routes and key destinations at major entrances;
- Offer on-site cycling courses for commuters, or subsidize off-site courses;
- Offer secure valet bike parking for visitors when demand exceeds fixed supply;
- Display relevant transit schedules and route maps at entrances;
- Provide online links to OC Transpo and STO information;
- Provide real-time arrival information display at entrances;
- Provide a dedicated ridematching portal at OttawaRideMatch.com;
- Contract with provider to install on-site bikeshare station for use by commuters and visitors;
- Contract with provider to install on-site carshare vehicles and promote their use by tenants;
- Include a multimodal travel option in invitations or advertising that attract visitors or customers;
- Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes; and
- Provide on-site amenities/services to minimize mid-day or mid-commute errands.

## 6.6 Neighbourhood Traffic Management

The City's TIA guidelines identify a threshold of 2,500 vehicles per day or 300 vehicles during the peak hour for consideration of Area Traffic Management (ATM) measures on a collector roadway. TAC table 2.6.5 suggests that residential collectors typically carry up to 8,000 vehicles per day. The typical lane capacity for a collector roadway is estimated at 600 vehicles per hour per lane based on the City's TRANS Long Range Transportation Model. Total traffic volumes on Hélène Campbell Road, Maravista Drive, and Kennevale Drive were reviewed.

Hélène Campbell Road

The 2026 total traffic volumes indicate that a two-way total of approximately 315 vehicles will use Hélène Campbell Road during the AM peak hour and 480 vehicles during the PM peak hour. The AM peak directional traffic volume is projected to be approximately 250 vehicles (southbound) and the PM peak directional traffic volume is projected to be approximately 260 vehicles (northbound). Based on the lane capacity, the v/c ratio is 0.42 during the AM peak hour and 0.43 during the PM peak hour.

Maravista Drive

The 2026 total traffic volumes indicate that a two-way total of approximately 210 vehicles will use Maravista Drive during the AM peak hour and 385 vehicles during the PM peak hour. The AM peak directional traffic volume is projected to be approximately 155 vehicles (westbound) and the

PM peak directional traffic volume is projected to be approximately 275 vehicles (eastbound). Based on the lane capacity, the v/c ratio is 0.26 during the AM peak hour and 0.46 during the PM peak hour.

Kennevale Drive

The 2026 total traffic volumes indicate that a two-way total of approximately 340 vehicles will use Kennevale Drive during the AM peak hour and 470 vehicles during the PM peak hour. The AM peak directional traffic volume is projected to be approximately 220 vehicles (westbound) and the PM peak directional traffic volume is projected to be approximately 270 vehicles (eastbound). Based on the lane capacity, the v/c ratio is 0.37 during the AM peak hour and 0.45 during the PM peak hour.

The majority of traffic being generated by the proposed development is anticipated to arrive/depart the study area via the arterial roadways (Strandherd Drive and Fallowfield Road) and Highway 416. Approximately 5-10 vehicles per hour of site traffic is expected to use each of the above residential collector streets during peak hours. Despite total traffic volumes that are anticipated to exceed the ATM thresholds of 300 vehicles per hour for collector roadways, all three collector roadways will operate with v/c ratios less than 0.60 (LOS A). The added traffic generated by the proposed development is not anticipated to have a significant impact on the existing vehicular operations along the neighbourhood collector roadways (Hélène Campbell Road, Maravista Drive, and Kennevale Drive).

## 6.7 Transit

Based on the trip generation presented in Section 5.1, the proposed development is anticipated to generate an additional 238 transit trips (117 in, 121 out) during the weekday AM peak hour and 311 transit trips (154 in, 157 out) during the weekday PM peak hour.

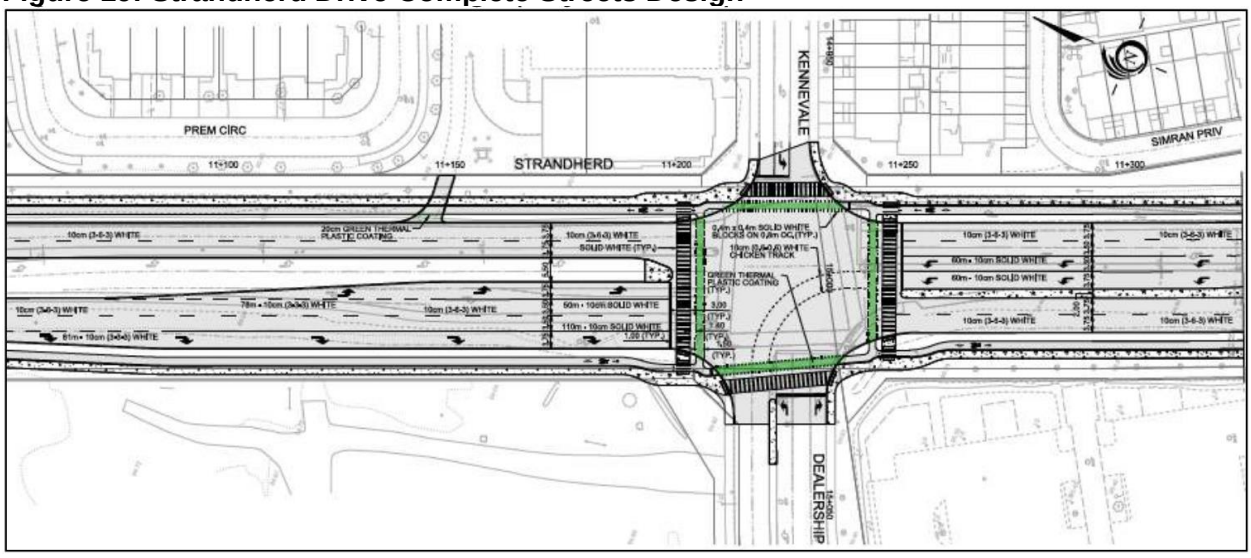
It is anticipated that most transit trips will arrive/depart the subject side via OC Transpo route 170 or route 179. It is anticipated that bus service will be extended via CrossKeys Place, CitiGate Drive, and Systemhouse Street. Stops will be added at the two intersections, CrossKeys Place/CitiGate Drive and Systemhouse Street/CitiGate Drive.

## 6.8 Intersection Design

### 6.8.1 Existing Intersection MMLOS Analysis

The Strandherd Drive widening has been completed between Fallowfield Road/CitiGate Drive and Maravista Drive/Systemhouse Street and includes complete streets principles. The City of Ottawa has prepared a complete street concept for Strandherd Drive between Maravista Drive and Jockvale Road. The concept at the Strandherd Drive/Dealership Drive/Kennevale Drive intersection is shown in **Figure 19** and includes cycle tracks, sidewalks, and added travel lanes. The City of Ottawa has completed its analysis and review of the “trade-offs” when developing this Complete Streets design and have already considered MMLOS factors in the development of its concept. It is anticipated that the site will have no major impacts on non-auto MMLOS results.

**Figure 19: Strandherd Drive Complete Streets Design**




### 6.8.2 Existing Intersection Operations

Intersection capacity analysis has been completed for the existing traffic condition. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 0.9). The target for all unsignalized intersections within the City's jurisdiction is a delay of 35 seconds or less, which represents a LOS D and the target for all signalized intersections under the City's jurisdiction is a v/c ratio of 0.90 or less, which represents a LOS D. The target for all signalized intersections within the MTO's jurisdiction is a v/c ratio of 0.85 or less.

The results of the analysis are summarized in **Table 15** for the weekday AM and PM peak hours. Signal timing plans obtained from the City of Ottawa are included in **Appendix I**. Detailed reports are included in **Appendix J**.

The weekday traffic count performed at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection did not identify any pedestrians crossing north-south at this intersection, and there were only two pedestrians observed at this intersection over the entirety of the 8-hour count. The signal timing plan obtained from the City of Ottawa identifies that the north-south movement will be forced off early if there is no pedestrian actuation. The intersection was modeled with and without pedestrian actuation, to account for future increased pedestrian usage.

Similarly, the timing plan at the Strandherd Drive/Systemhouse Street/Maravista Drive intersection identifies that the east-west movement will be forced off early if there are no pedestrians crossing actuations on Strandherd Drive. The intersection was modeled with and without pedestrian actuation, to account for future increased pedestrian usage.

Intersection analysis was not completed for the roundabout at CitiGate Drive/CrossKeys Place, as it currently only has two approaches and is therefore not considered an intersection. The roundabout will be assessed as part of the total analysis.

**Table 15: Existing Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *Existing Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.66 | B | SBL | 0.84 | D | SBL |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.68 | B | NBL | 0.61 | B | NBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | 0.67 | B | WBT | 0.70 | B | EBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | 0.82 | D | EBL | 0.70 | B | EBL |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.51 | A | WBT | 0.70 | B | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.52 | A | WBT/R | 0.60 | A | NBL/ SBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.43 | A | NBT/R | 0.67 | B | SBL |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.67 | B | NBT | 0.86 | D | SBT |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 21 sec. | C | WBT | 14 sec. | B | EBT |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive

Under existing traffic conditions, all study area intersections are operating with a LOS D or better.

Strandherd Drive/CitiGate Drive/Fallowfield Road

The westbound queue at Strandherd Drive/CitiGate Drive/Fallowfield Road is approximately 240m in the AM peak with north-south pedestrian actuation. Without north-south pedestrian actuation, this queue length improves to approximately 140m. With pedestrian actuation, the westbound queue extends past the Strandherd Drive/CrossKeys Place/Hélène Campbell Road intersection (located approximately 205m east of Strandherd Drive/CitiGate Drive/Fallowfield Road, measured from nearest edge to nearest edge) during the AM peak and is a result of heavy through volumes and limited capacity along Strandherd Drive. This is consistent with the findings of the 2012 CitiGate CTS for the 2019 background traffic scenario. A channelized westbound right turn was recommended for this intersection; however, it was not implemented as part of the Strandherd Drive modifications.

Strandherd Drive/CrossKeys Place/Hélène Campbell Road

The eastbound left movement at the Strandherd Drive/CrossKeys Place/Hélène Campbell Road intersection is anticipated to have a maximum queuing length of approximately 65m during the PM peak, marginally exceeding the 60m storage length. This is a result of heavy through volumes and limited capacity along Strandherd Drive. A storage length of 60m is adequate based on the TAC storage length equation.

Strandherd Drive/Dealership Drive/Kennevale Drive

The maximum queuing length experienced by the northbound through movement at the Strandherd Drive/Dealership Drive/Kennevale Drive intersection is approximately 180m in the AM peak and the maximum queuing length experienced by the southbound through movement is approximately 220m in the PM peak. This is a result of heavy volumes in a single through lane. The Strandherd Drive widening project will increase through capacity along Strandherd Drive at this intersection.

### 6.8.3 2021 Background Intersection Operations

Intersection capacity analysis has been completed for the 2021 background traffic condition. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 16** for the weekday AM and PM peak hours.

**Table 16: 2021 Background Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2021 Background Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.68 | B | SBL | 0.83 | D | SBL |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.65 | B | NBL | 0.58 | A | NBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | 0.66 | B | WBT | 0.68 | B | EBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | 0.82 | D | EBL | 0.68 | B | EBL |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.50 | A | WBT | 0.66 | B | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.50 | A | WBT/R | 0.59 | A | SBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.43 | A | NBT | 0.65 | B | SBL |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.64 | B | NBT | 0.84 | D | SBT |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 19 sec. | C | WB | 14 sec. | B | EB |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive

Under 2021 background traffic conditions, all study area intersections are anticipated to operate with a LOS D or better.

Note that some critical movements appear to operate slightly better under projected conditions than under existing conditions; this is a result of the PHF of 1.0 for future conditions as per the TIA guidelines.

With background growth and the addition of other study area development traffic, minor increases in queue lengths are anticipated at the study area intersections.

### 6.8.4 2026 Background Intersection Operations

Intersection capacity analysis has been completed for the 2026 background traffic condition. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 17** for the weekday AM and PM peak hours.

**Table 17: 2026 Background Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2026 Background Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.72 | C | SBL | 0.87 | D | SBL |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.65 | B | NBL | 0.66 | B | EBT |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | 0.89 | D | WBT | 0.71 | C | EBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | **0.94** | **E** | **WBT** | 0.71 | C | EBL |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.64 | B | WBT | 0.66 | B | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.56 | A | WBT/R | 0.60 | A | SBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.56 | A | NBT | 0.64 | B | NBL/ SBL |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.50 | A | NBT | 0.69 | B | EBL |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 20 sec. | C | WB | 15 sec. | B | EB |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive

Fallowfield Road/Highway 416 Southbound Off-Ramp

The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.87 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.82, achieving the MTO's target v/c ratio of 0.85.

Strandherd Drive/CitiGate Drive/Fallowfield Road
With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 0.94 (LOS E) in the AM peak. Without north-south pedestrian actuation, this v/c ratio improves to 0.89.

Compared to 2021 background traffic, an increase of approximately 80m for the maximum westbound and eastbound queuing lengths is anticipated.

Strandherd Drive/CrossKeys Place/Hélène Campbell Road
Compared to 2021 background traffic, an increase of approximately 100m for the maximum eastbound queuing length and approximately 50m for the maximum westbound queuing length is anticipated.

Strandherd Drive/Systemhouse Street/Maravista Drive
Compared to 2021 background traffic, an increase of approximately 70m for the maximum northbound queuing length is anticipated.

Strandherd Drive/Dealership Drive/Kennevale Drive
Compared to 2021 background traffic, a decrease of approximately 60m for the maximum northbound and southbound queuing lengths is anticipated, due to the Strandherd Drive widening adding through lane capacity.

### 6.8.5 2031 Background Intersection Operations

Intersection capacity analysis has been completed for the 2031 background traffic condition for the 416 ramp terminals in accordance with the MTO's TIS guidelines. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 18** for the weekday AM and PM peak hours.

**Table 18: 2031 Background Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2031 Background Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.77 | C | SBL | **0.92** | **E** | **SBL** |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.78 | C | NBR | 0.75 | C | EBT |

Fallowfield Road/Highway 416 Southbound Off-Ramp
Under 2031 background traffic, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.92 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.84, achieving the MTO's target v/c ratio of 0.85. The maximum

queue length on the off-ramp is anticipated to be 75m in the AM peak and 140m in the PM peak, improving to 120m in the PM peak with the adjusted signal timing identified above.

Fallowfield Road/Highway 416 Northbound Off-Ramp
Under 2031 background traffic conditions, the maximum queue length on the northbound off-ramp is anticipated to be 60m in the AM peak and 40m in the PM peak.

### 6.8.6 2021 Total Intersection Operations

Intersection capacity analysis has been completed for the 2021 total traffic condition. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 19** for the weekday AM and PM peak hours.

**Table 19: 2021 Total Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2021 Total Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.76 | C | SBL | **0.91** | **E** | **SBL** |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.65 | B | NBL | 0.67 | B | NBR |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | 0.84 | D | WBT | 0.69 | B | SBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | **0.94** | **E** | **WBT** | 0.68 | B | EBL/T |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.57 | A | NBL | 0.76 | C | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.51 | A | WBT/R | 0.60 | A | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.47 | A | NBT | 0.66 | B | NBL |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.67 | B | NBT | 0.86 | D | SBT |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 22 sec. | C | WB | 16 sec. | C | EB |
| CitiGate Drive/Systemhouse Street/Site Access | 9 sec. | A | EB | 9 sec. | A | EB |
| Northern CitiGate Drive Site Access | 10 sec. | A | EB | 10 sec. | B | EB |
| CitiGate Drive/CrossKeys Place(3) | 3 sec. | A | WB | 3 sec. | A | SB |

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| Southern CrossKeys Place Site Access | 9 sec. | A | NB | 9 sec. | A | NB |
| Northern CrossKeys Place Site Access | 9 sec. | A | NB | 9 sec. | A | NB |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive
3: Roundabout – results taken from Rodel analysis

With the addition of site generated traffic, minor increases in queue lengths are anticipated at all study area intersections.

Fallowfield Road/Highway 416 Southbound Off-Ramp
The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio of 0.91 for the southbound left movement in the PM peak with the addition of site traffic. This is increased from 0.83 based on the 2021 background traffic. With adjusted signal timing (re-assigning 15 seconds from the east-west phase to the southbound phase) and the existing cycle length of 120 seconds, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.82 in the PM peak. The maximum queue length anticipated on the southbound ramp is approximately 140m, an increase of approximately 40m compared to the 2021 background traffic. This maximum queue length improves to 115m (an increase of 15m compared to the 2021 background traffic) with the adjusted signal timing identified above.

Fallowfield Road/Highway 416 Northbound Off-Ramp
The maximum queue length anticipated on the northbound ramp is approximately 45m which represents no increase from 2021 background traffic conditions.

In our opinion the impact of site traffic is incremental and will not adversely affect the operation of Highway 416.

Strandherd Drive/CitiGate Drive/Fallowfield Road
The Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c of 0.94 for the westbound through movement in the AM peak when the north-south pedestrian crossing is actuated. Without north-south pedestrian actuation, this v/c ratio is anticipated to improve to 0.84 in the AM peak.

All other study area intersections are anticipated to operate with a LOS D or better.

### 6.8.7 2026 Total Intersection Operations

Intersection capacity analysis has been completed for the 2026 total traffic condition. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 20** for the weekday AM and PM peak hours.

**Table 20: 2026 Total Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2026 Total Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.78 | C | EBT | **0.98** | **E** | **SBL** |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.66 | B | NBR | 0.79 | C | EBT |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | **0.98** | **E** | **WBT** | 0.78 | C | EBT |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | **1.31** | **F** | **WBT** | **0.92** | **E** | **WBT** |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.70 | B | WBT | 0.74 | C | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.57 | A | NBT/ WBT | 0.71 | C | SBT |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.61 | B | NBT | 0.73 | C | SBT |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.52 | A | NBT | 0.62 | B | EBL |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 23 sec. | C | WB | 17 sec. | C | EB |
| CitiGate Drive/Systemhouse Street/Site Access | 9 sec. | A | EB | 9 sec. | A | EB |
| Northern CitiGate Drive Site Access | 10 sec. | A | EB | 10 sec. | B | EB |
| CitiGate Drive/CrossKeys Place(3) | 3 sec. | A | WB | 3 sec. | A | SB |
| Southern CrossKeys Place Site Access | 9 sec. | A | NB | 9 sec. | A | NB |
| Northern CrossKeys Place Site Access | 9 sec. | A | NB | 9 sec. | A | NB |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive
3: Roundabout – results taken from Rodel analysis

<u>Fallowfield Road/Highway 416 Southbound Off-Ramp</u>

The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio 0.98 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 15 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.84, achieving the MTO's target v/c ratio of 0.85. The maximum queue length on the off-ramp is anticipated to be 75m in the AM peak and 175m in the PM peak, improving to 130m in the PM peak with the adjusted signal timing identified above.

Strandherd Drive/CitiGate Drive/Fallowfield Road

With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 1.31 (LOS F) in the AM peak. Without north-south pedestrian actuation, this v/c ratio improves to 0.98 in the AM peak.

With an increased cycle length to 130 seconds, the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c of 0.95 for the eastbound left movement in the AM peak without pedestrian actuation. In order to achieve a LOS D with an increased cycle length, a reduction of 75 westbound through vehicles would be required in the AM peak. As the network is co-ordinated, increasing the cycle length at this intersection would require an increased cycle length at all study area intersections. For a cycle length of 130 seconds in the AM peak, all other study area intersections are anticipated to operate with a LOS D or better.

Additional through capacity is required on Strandherd Drive at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection. This is consistent with the recommendations of the approved 2012 CTS for the CitiGate lands, and the 1991 Strandherd Drive ESR to protect for a six-lane cross section between Highway 416 and Jockvale Road. The footings for the rail overpass have been designed for a bridge expansion to six lanes. This additional capacity could be provided via general travel lanes or an extension of the planned Chapman Mills bus rapid transit (BRT) corridor west of Borrisokane. This is identified for the City's consideration as funding becomes available.

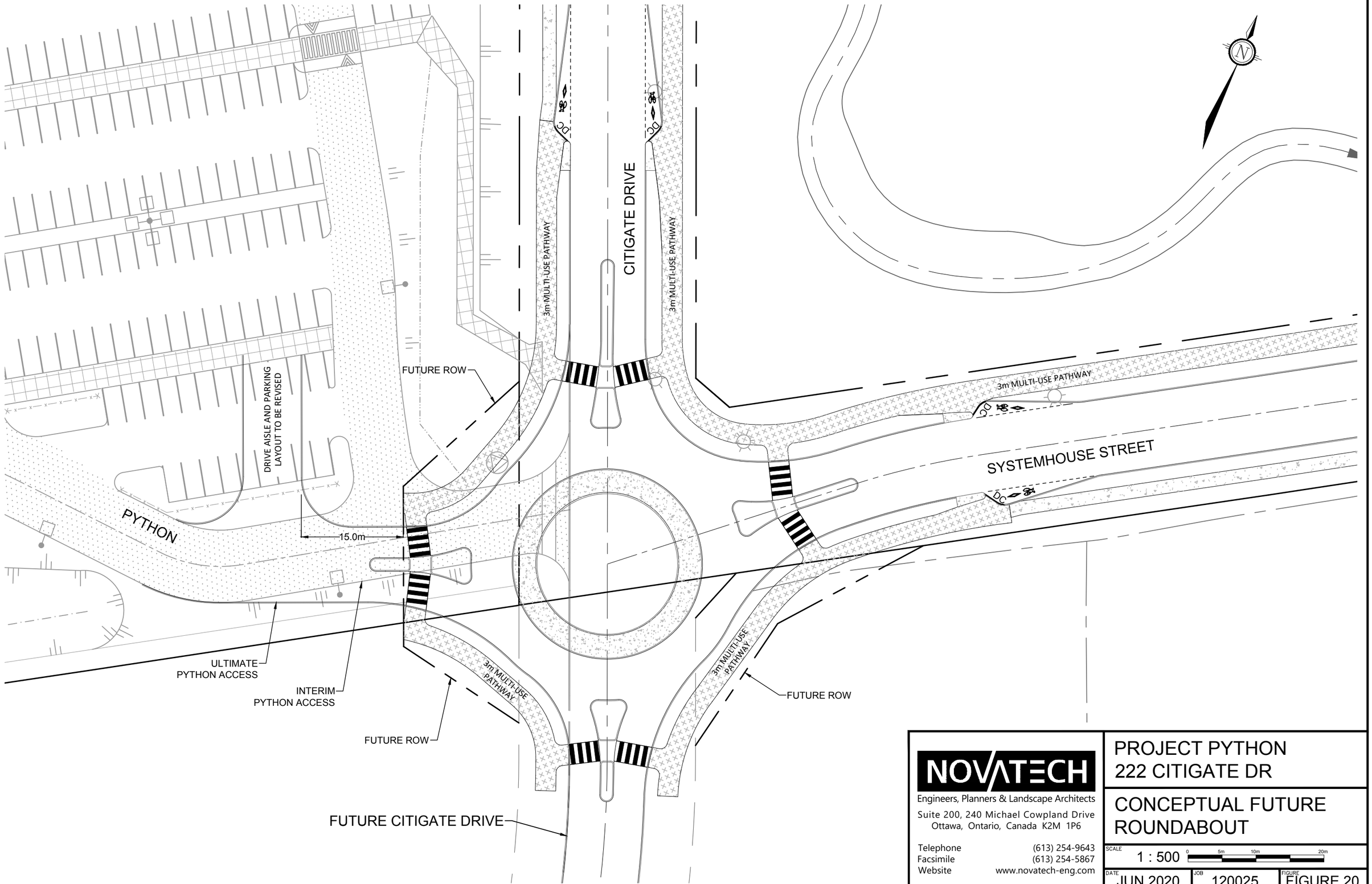
Alternatively, the Barnsdale Road/Highway 416 interchange is identified in the City's TMP as a 2031 Network Concept, to serve growing Barrhaven/Nepean South. The need for additional through lane capacity on Strandherd Drive and Fallowfield Road will ultimately be addressed with the construction of the planned interchange.

CitiGate Drive/Systemhouse Street/Site Access

The CitiGate Drive/Systemhouse Street/Site Access intersection is anticipated to operate with delays of 9 seconds under 2026 total traffic conditions, with stop control at the site access. When CitiGate Drive is extended further south, a roundabout control is recommended at this intersection through future site plan applications for lands to the south. This conceptual future roundabout is shown in **Figure 20**.

Northern CitiGate Drive Site Access

A review of left turn warrants was conducted at the northern CitiGate Drive site access. Based on advancing and opposing volumes, no northbound left turn lane is required at this access under 2026 total traffic conditions.

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# PROJECT PYTHON
# 222 CITIGATE DR

## CONCEPTUAL FUTURE ROUNDABOUT

SCALE 1 : 500 (0, 5m, 10m, 20m)

DATE JUN 2020 | JOB 120025 | FIGURE FIGURE 20

C:\temp\AcPublish_6632\120025-Fig20.dwg, Fig 20, Jun 02, 2020 - 2:00pm, rhillier

### 6.8.8 2031 Total Intersection Operations

Intersection capacity analysis has been completed for the 2031 total traffic condition. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 21** for the weekday AM and PM peak hours.

**Table 21: 2031 Total Intersection Operations**

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2031 Total Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.81 | D | EBT | **1.07** | **F** | **SBL** |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.82 | D | NBR | 0.88 | D | EBT |

Fallowfield Road/Highway 416 Southbound Off-Ramp

The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 1.07 for the southbound left movement in the PM peak. With adjusted signal timing (reassigning 11 seconds from the eastbound/westbound movements to the southbound movement), this v/c ratio improves to a 0.90.

With an increased cycle length to 130 seconds in the PM peak, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio of 0.89 for the southbound left movement. In order to achieve the target v/c of 0.85 with an increased cycle length, a reduction of 105 westbound through vehicles would be required in the PM peak.

The maximum queueing length anticipated on the southbound ramp is approximately 200m. This improves to 155m with the adjusted signal timing identified above and 160m with an increased cycle length to 130 seconds. The approximate length of the ramp is 500m and the queue will not extend to Highway 416.

Fallowfield Road/Highway 416 Northbound Off-Ramp

The Fallowfield Road/Highway 416 Northbound Off-Ramp is anticipated to operate with a v/c of 0.88 for the eastbound through movement in the PM peak. With adjusted signal timing (reassigning 11 from the northbound movement to the eastbound/westbound movements), this v/c ratio improves to a 0.86.

With an increased cycle length to 130 seconds in the PM peak, a v/c ratio of 0.85 for the eastbound through movement is anticipated.

The maximum queueing length anticipated on the northbound ramp is approximately 70m. The approximate length of the ramp is 500m and the queue will not extend to Highway 416.

The total analysis demonstrates that additional through lane capacity is required on Fallowfield Road at the Highway 416 off-ramps. Alternatively, the planned Barnsdale Road/Highway 416 interchange will alleviate congestion and free up capacity on Fallowfield Road at Highway 416.

### 6.8.9 Background Traffic Sensitivity Analysis

An analysis of background traffic at 7:00-8:00AM and 5:00PM-6:00PM was conducted in order to determine the sensitivity of the intersection operation results at the study area intersections. Background traffic figures for the 2021, 2026 and 2031 years at 7:00AM-8:00AM and 5:00PM-6:00PM are shown in **Figures 21**, **22**, and **23**, respectively.

#### 6.8.9.1 2021 Background Traffic Sensitivity Analysis

Intersection capacity analysis has been completed for the 2021 background traffic condition for the 7:00AM-8:00AM and 5:00PM-6:00PM hours. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the sensitivity analysis are summarized in **Table 22**.

**Table 22: 2021 Background Sensitivity Analysis**

| Intersection | 7:00 AM-8:00AM | | | 5:00PM-6:00PM | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2021 Background Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.74 | C | SBL | 0.85 | D | SBL |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.79 | C | NBR | 0.63 | B | NBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | 0.88 | D | WBT | 0.75 | C | EBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | **0.93** | **E** | **WBT** | 0.75 | C | EBL |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.63 | B | WBT | 0.74 | C | NBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.56 | A | WBT/R | 0.64 | B | SBL |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.54 | A | NBT | 0.68 | B | NBL/ SBL |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.82 | D | NBT | **1.05** | **F** | **SBT** |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | 33 sec. | D | WB | 17 sec. | C | EB |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive

**Figure 21: 2021 Background + Other Development Traffic - Sensitivity Analysis**

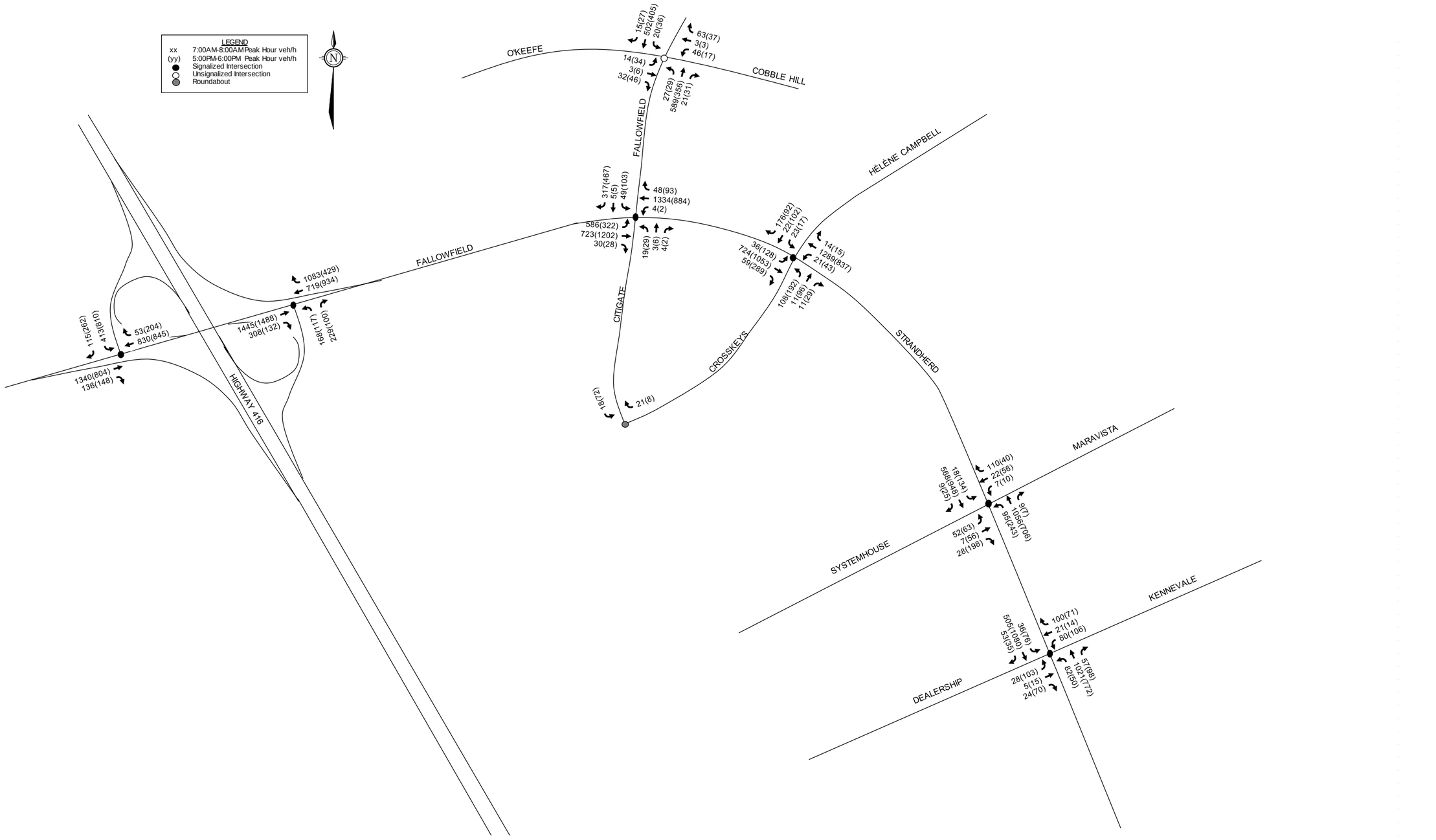


**Figure 22: 2026 Background Traffic + Other Development Traffic - Sensitivity Analysis**

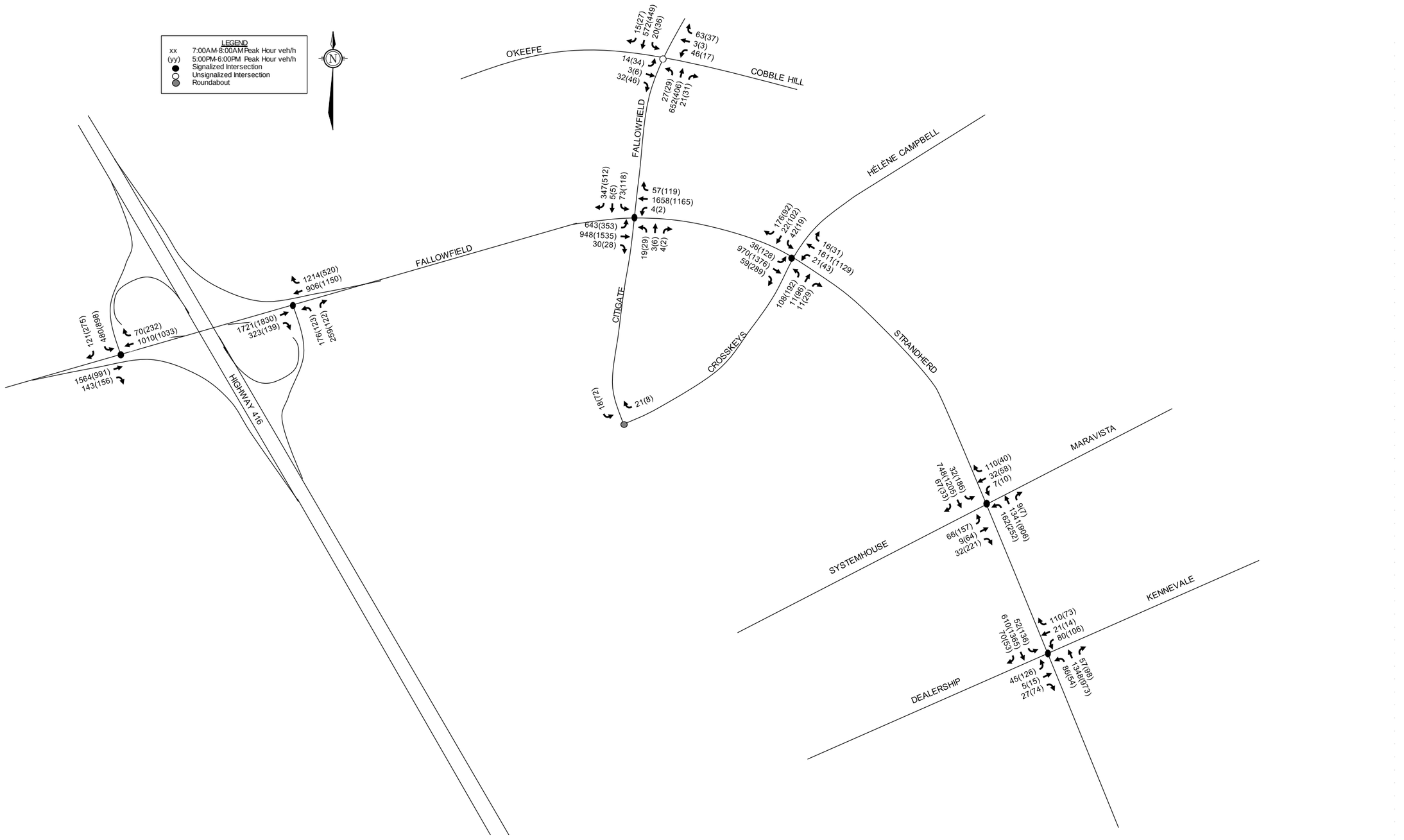
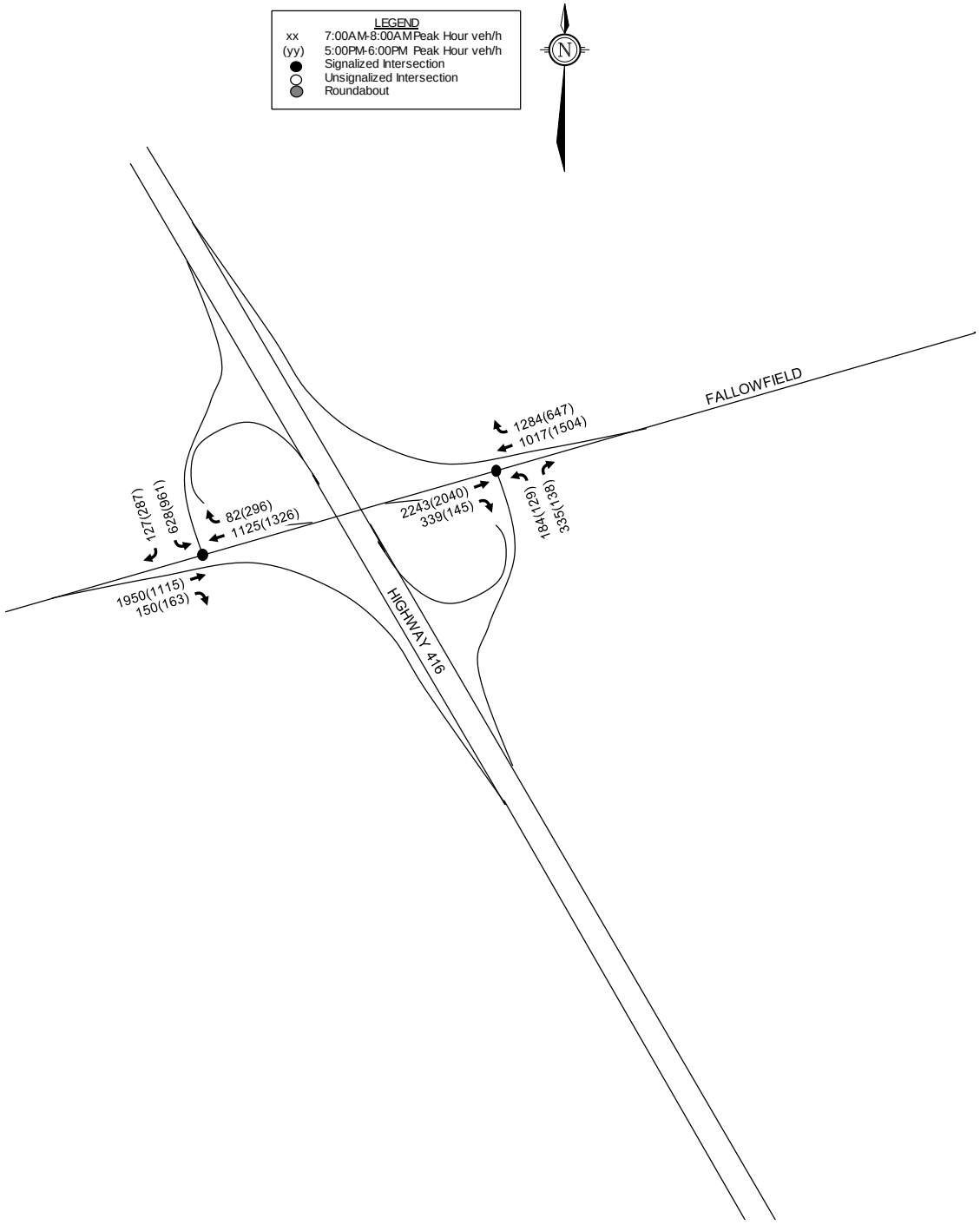


**Figure 23: 2031 Background Traffic + Other Development Traffic - Sensitivity Analysis**



Strandherd Drive/CitiGate Drive/Fallowfield Road

With north-south pedestrian actuation, the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 0.93 (LOS E) for the westbound through movement for the 7:00AM-8:00AM hour. Without north-south pedestrian actuation, this v/c ratio improves to 0.88 (LOS D).

### 6.8.9.2 2026 Background Traffic Sensitivity Analysis

Intersection capacity analysis has been completed for the 2026 background traffic condition for the 7:00AM-8:00AM and 5:00PM-6:00PM hours. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the sensitivity analysis are summarized in **Table 23**.

**Table 23: 2026 Background Sensitivity Analysis**

| Intersection | 7:00 AM-8:00AM | | | 5:00PM-6:00PM | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2026 Background Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | 0.77 | B | SBL | 0.88 | D | SBL |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | 0.84 | D | NBR | 0.74 | C | EBT |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(1) | **1.09** | **F** | **WBT** | 0.77 | C | EBL |
| Strandherd Drive/CitiGate Drive/Fallowfield Road(2) | **1.38** | **F** | **WBT** | 0.81 | D | EBT |
| Strandherd Drive/CrossKeys Place/Hélène Campbell Road | 0.78 | C | WBT | 0.83 | D | EBT |
| Strandherd Drive/Systemhouse Street/Maravista Drive(1) | 0.68 | B | NBT | 0.83 | D | SBT |
| Strandherd Drive/Systemhouse Street/Maravista Drive(2) | 0.73 | C | NBT | 0.85 | D | SBT |
| Strandherd Drive/Dealership Drive/Kennevale Drive | 0.65 | B | NBT | 0.70 | B | EBL |
| Fallowfield Road/O'Keefe Court/Cobble Hill Drive | **44 sec.** | **E** | **WB** | 19 sec. | C | EB |

1: Intersection modeled without pedestrians crossing Strandherd Drive
2: Intersection modeled with pedestrians crossing Strandherd Drive

Fallowfield Road/Highway 416 Southbound Off-Ramp

The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.88 for the southbound left movement in the 5:00PM-6:00PM hour. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.82, achieving the MTO's target v/c ratio of 0.85.

Strandherd Drive/CitiGate Drive/Fallowfield Road

With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 1.38 (LOS F) in the 7:00AM-8:00AM hour. Without north-south pedestrian actuation, this v/c ratio improves to 1.09. In order to achieve a LOS D, a reduction of 300 westbound through vehicles, or a reduction of 150 vehicles for both the westbound through and eastbound left movements would be required in the 7:00AM-8:00AM hour.

The sensitivity analysis shows that the need for more lane capacity on Strandherd Drive in 2026 is required with or without site traffic, depending on the time of day. The need for more capacity or the future Barnsdale Road interchange is not development related.

Fallowfield Road/O'Keefe Court/Cobble Hill Drive

The Fallowfield Road/O'Keefe Court/Cobble Hill Drive intersection is anticipated to operate with delays of approximately 44 seconds on the westbound approach in the AM peak hour. A maximum queue length of 23m, or approximately three vehicles, is anticipated on the westbound approach. A review of Ontario Traffic Manual (OTM) criteria for traffic signalization warrants was conducted for this intersection. The signalization warrants were checked for projected traffic volumes identified above. Based on OTM traffic signalization warrants, the Fallowfield Road/O'Keefe Court/Cobble Hill Drive intersection will only 46% met in the 2026 background year. Given that the traffic signal warrant is not met, side street stop control is recommended for the 2026 background traffic condition.

#### 6.8.9.3 2031 Background Traffic Sensitivity Analysis

Intersection capacity analysis has been completed for the 2031 background traffic condition for the 7:00AM-8:00AM and 5:00PM-6:00PM hours at the 416 ramp terminals in accordance with the MTO's TIS guidelines. The intersection parameters used in the analysis are consistent with the City's TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the analysis are summarized in **Table 24**.

**Table 24: 2031 Background Intersection Operations**

| Intersection | 7:00 AM-8:00AM | | | 5:00PM-6:00PM | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2031 Background Traffic* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | **1.00** | **F** | **EBT** | **0.91** | **E** | **SBL** |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | **1.07** | **F** | **EBT** | 0.83 | D | EBT |

Under 2031 background traffic volumes, both Highway 416 off-ramps exceed the Auto LOS threshold. With an increased cycle length of 130 seconds, the following table shows the improvements to the intersections within the study area.

**Table 25: 2031 Background Sensitivity Analysis – 130 Second Cycle Length**

| Intersection | 7:00 AM-8:00AM | | | 5:00PM-6:00PM | | |
|---|---|---|---|---|---|---|
| | Max. v/c or delay | LOS | Mvmt | Max. v/c or delay | LOS | Mvmt |
| *2031 Background Traffic – 130 second cycle length* | | | | | | |
| Fallowfield Road/Highway 416 Southbound Off-Ramp | **0.94** | **E** | **EBT** | 0.88 | D | SBL |
| Fallowfield Road/Highway 416 Northbound Off-Ramp | **1.05** | **F** | **NBR** | 0.81 | D | EBT |

Fallowfield Road/Highway 416 Southbound Off-Ramp

With an increased cycle length to 130 seconds, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.94 for the eastbound through movement in the 7:00-8:00AM hour and 0.88 for the southbound left movement in the 5:00PM-6:00PM hour. The maximum queue length on the off-ramp is anticipated to be 115m in the 7:00-8:00AM hour and 135m in the 5:00PM-6:00PM hour.

In order to achieve MTO's target v/c ratio of 0.85, a reduction of 350 eastbound through vehicles, or a reduction of 150 eastbound through and 50 southbound left vehicles would be required in the 7:00-8:00AM hour, and a reduction of 100 eastbound through vehicles would be required in the 5:00PM-6:00PM hour, based on current geometry.

Fallowfield Road/Highway 416 Northbound Off-Ramp

With an increased cycle length to 130 seconds, the Fallowfield Road/Highway 416 Northbound Off-Ramp is anticipated to operate with a v/c of 1.05 for the northbound right movement in the 7:00-8:00AM hour and 0.81 for the eastbound through movement in the 5:00PM-6:00PM hour. The maximum queue length on the off-ramp is anticipated to be 150m in the 7:00-8:00AM hour and 50m in the 5:00PM-6:00PM hour.

In order to achieve the MTO target v/c ratio 0.85, a reduction of 550 eastbound through vehicles would be required in the 7:00-8:00AM hour, based on current geometry.

The 2031 sensitivity analysis demonstrates that additional through capacity is required on Fallowfield Road at the 416 off-ramps to accommodate background traffic in the 7:00AM-8:00AM and 5:00PM-6:00PM hours. Note that the 416 overpass on Fallowfield Road is built to six lanes.

Alternatively, the Barnsdale Road/Highway 416 interchange is identified in the City's TMP as a 2031 Network Concept, to serve growing Barrhaven/Nepean South. The need for additional through lane capacity on Strandherd Drive and Fallowfield Road will ultimately be addressed with the construction of the planned interchange.

The need for more lane capacity at the 416 ramps is required with or without the site traffic, depending on the time of day. The need for more capacity or the future Barnsdale Road interchange is not development related.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

Development Design & Parking

- Pedestrian facilities will be provided between the building entrances and the parking lot. New pedestrian walkways will be constructed, providing connectivity to the existing pedestrian facilities along CrossKeys Place and CitiGate Drive. Spine walkways through the parking lots are provided, with raised crosswalks along the main east/west and north/south drive aisles, as shown on the site plan. A multi-use pathway is provided, connecting to the existing facility at the CitiGate Drive/CrossKeys Place roundabout.
- It is anticipated that bus service will be extended via CrossKeys Place, CitiGate Drive, and Systemhouse Street. Stops will be added at the two intersections, CrossKeys Place/CitiGate Drive and Systemhouse Street/CitiGate Drive.
- Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in section 6.2. Bike racks will be located to the north of the building's front entrance. A total of 12 covered bicycle parking spaces are proposed. A bicycle repair station is also proposed adjacent to the bike racks. In addition to the MUP connection at the roundabout, a bike path is proposed which will connect the bike rack area to the CrossKeys Place extension at the southerly CrossKeys Place access, as shown on the site plan.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- The approximately 2,065 proposed vehicular parking spaces meet the minimum requirement of the ZBL.

Boundary Street Design

- The planned CitiGate Drive extension meets the target PLOS, TkLOS and Auto LOS, however it does not meet the target BLOS.
- Along the east side of CitiGate Drive there is a planned multi-use pathway which earns a BLOS of A. The west side of CitiGate Drive will offer mixed traffic for cyclists, which earns a BLOS of F with an operating speed of 60km/h. This is considered a reasonable trade-off as cyclists will have the option of using the MUP along the east side of CitiGate Drive.

Access Intersection Design

- The proposed development will be served by two accesses along the CitiGate Drive extension and two accesses along the private CrossKeys Place extension. All accesses will be stop controlled.
- The northerly CitiGate Drive access is approximately 8.2m in width, measured at the property line. The CrossKeys Place extension and the southern CitiGate Drive access, which serve trucks, are approximately 11m in width.
- The proposed accesses meet all requirements of the City's *Private Approach By-Law,* and the TAC criteria for corner clearance and clear throat.

Transportation Demand Management

- To encourage the use of sustainable modes, the following TDM measures are being considered:
    - Designate an internal coordinator, or contract with an external coordinator;

- Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress;
- Display local area maps with walking/cycling access routes and key destinations at major entrances;
- Offer on-site cycling courses for commuters, or subsidize off-site courses;
- Offer secure valet bike parking for visitors when demand exceeds fixed supply;
- Display relevant transit schedules and route maps at entrances;
- Provide online links to OC Transpo and STO information;
- Provide real-time arrival information display at entrances;
- Provide a dedicated ridematching portal at OttawaRideMatch.com;
- Contract with provider to install on-site bikeshare station for use by commuters and visitors;
- Contract with provider to install on-site carshare vehicles and promote their use by tenants;
- Include a multimodal travel option in invitations or advertising that attract visitors or customers;
- Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes; and
- Provide on-site amenities/services to minimize mid-day or mid-commute errands.

Neighbourhood Traffic Management

- The majority of traffic being generated by the proposed development is anticipated to arrive/depart the study area via the arterial roadways (Strandherd Drive and Fallowfield Road) and Highway 416.
- Hélène Campbell Road, Maravista Drive, and Kennevale Drive will operate with v/c ratios less than 0.60 (LOS A) under 2026 total traffic conditions. The added traffic generated by the proposed development is not anticipated to have a significant impact on the existing vehicular operations along the neighbourhood collector roadways (Hélène Campbell Road, Maravista Drive, and Kennevale Drive).

Transit

- The proposed development is anticipated to generate an additional 238 transit trips (117 in, 121 out) during the weekday AM peak hour and 311 transit trips (154 in, 157 out) during the weekday PM peak hour.

Intersection MMLOS Analysis

- A Complete Streets Design has been completed for Strandherd Drive. The City of Ottawa has completed its analysis and review of the “trade-offs” when developing this Complete Streets design and have already considered MMLOS factors in the development of its concept. It is anticipated that the site will have no major impacts on non-auto MMLOS results.

Existing Intersection Operations

- Under existing traffic conditions, all study area intersections are operating with a LOS D or better.
- The westbound queue at Strandherd Drive/CitiGate Drive/Fallowfield Road is approximately 240m in the AM peak with north-south pedestrian actuation. Without north-south pedestrian actuation, this queue length improves to approximately 140m. With pedestrian actuation, the westbound queue extends past the Strandherd Drive/CrossKeys

Place/Hélène Campbell Road intersection (located approximately 205m east of Strandherd Drive/CitiGate Drive/Fallowfield Road, measured from nearest edge to nearest edge) during the AM peak and is a result of heavy through volumes and limited capacity along Strandherd Drive.

2021 Background Intersection Operations

- Under 2021 background traffic conditions, all study area intersections are anticipated to operate with a LOS D or better.
- With background growth and the addition of other study area development traffic, minor increases in queue lengths are anticipated.

2026 Background Intersection Operations

- The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.87 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.82, achieving the MTO's target v/c ratio of 0.85.
- With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 0.94 (LOS E) in the AM peak. Without north-south pedestrian actuation, this v/c ratio improves to 0.89.

2031 Background Intersection Operations

- Under 2031 background traffic, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.92 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 10 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.84, achieving the MTO's target v/c ratio of 0.85. The maximum queue length on the off-ramp is anticipated to be 75m in the AM peak and 140m in the PM peak, improving to 120m in the PM peak with the adjusted signal timing identified above.
- Under 2031 background traffic conditions, the maximum queue length on the Northbound Off-Ramp is anticipated to be 60m in the AM peak and 40m in the PM peak.

2021 Total Intersection Operation

- With the addition of site generated traffic, minor increases in queue lengths are anticipated at all study area intersections.
- The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio of 0.91 for the southbound left movement in the PM peak with the addition of site traffic. This is increased from 0.83 based on the 2021 background traffic. With adjusted signal timing (re-assigning 15 seconds from the east-west phase to the southbound phase) and the existing cycle length of 120 seconds, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 0.82 in the PM peak. The maximum queue length anticipated on the southbound ramp is approximately 140m, an increase of approximately 40m compared to the 2021 background traffic. This maximum queue length improves to 115m (an increase of 15m compared to the 2021 background traffic) with the adjusted signal timing identified above.
- The impact of site traffic is incremental and will not adversely affect the operation of Highway 416.

- The Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c of 0.94 for the westbound through movement in the AM peak when the north-south pedestrian crossing is actuated. Without north-south pedestrian actuation, this v/c ratio is anticipated to improve to 0.84 in the AM peak.

2026 Total Intersection Operations

- With an increased cycle length to 130 seconds, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio 0.98 for the southbound left movement in the PM peak. With adjusted signal timing (re-assigning 15 seconds from the east-west phase to the southbound phase) the v/c ratio improves to 0.84, achieving the MTO's target v/c ratio of 0.85. The maximum queue length on the off-ramp is anticipated to be 75m in the AM peak and 175m in the PM peak, improving to 130m in the PM peak with the adjusted signal timing identified above.
- With north-south pedestrian actuation, the westbound through movement at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c ratio of 1.31 (LOS F) in the AM peak. Without north-south pedestrian actuation, this v/c ratio improves to 0.98 in the AM peak. With an increased cycle length to 130 seconds, the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection is anticipated to operate with a v/c of 0.95 for the eastbound left movement in the AM peak without pedestrian actuation. In order to achieve a LOS D with an increased cycle length, a reduction of 75 westbound through vehicles would be required in the AM peak. As the network is co-ordinated, increasing the cycle length at this intersection would require an increased cycle length at all study area intersections. For a cycle length of 130 seconds in the AM peak, all other study area intersections are anticipated to operate with a LOS D or better.
- Additional through capacity is required on Strandherd Drive at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection. This is consistent with the recommendations of the approved 2012 CTS for the CitiGate lands, and the 1991 Strandherd Drive ESR to protect for a six-lane cross section between Highway 416 and Jockvale Road. The footings for the rail overpass have been designed for a bridge expansion to six lanes. This additional capacity could be provided via general travel lanes or an extension of the planned Chapman Mills bus rapid transit (BRT) corridor west of Borrisokane. This is identified for the City's consideration as funding becomes available. Alternatively, the Barnsdale Road/Highway 416 interchange is identified in the City's TMP as a 2031 Network Concept, to serve growing Barrhaven/Nepean South. The need for additional through lane capacity on Strandherd Drive and Fallowfield Road will ultimately be addressed with the construction of the planned interchange.
- The CitiGate Drive/Systemhouse Street/Site Access intersection is anticipated to operate with delays of 9 seconds under 2026 total traffic conditions, with stop control at the site access. When CitiGate Drive is extended further south, a roundabout control is recommended at this intersection through future site plan applications for lands to the south.
- A review of left turn warrants was conducted at the northern CitiGate Drive site access. Based on advancing and opposing volumes, no northbound left turn lane is required at this access under 2026 total traffic conditions.

2031 Total Intersection Operations

- The Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c of 1.07 for the southbound left movement in the PM peak. With adjusted signal timing (reassigning 11 seconds from the eastbound/westbound movements to the southbound movement), this v/c ratio improves to a 0.90. With an increased cycle length to 130 seconds in the PM peak, the Fallowfield Road/Highway 416 Southbound Off-Ramp is anticipated to operate with a v/c ratio of 0.89 for the southbound left movement. In order to achieve the target v/c of 0.85 with an increased cycle length, a reduction of 105 westbound through vehicles would be required in the PM peak.
- The maximum queueing length anticipated on the southbound ramp is approximately 200m. This improves to 155m with adjusted signal timing and 160m with an increased cycle length to 130 seconds. The approximate length of the ramp is 500m and the queue will not extend to Highway 416.
- The Fallowfield Road/Highway 416 Northbound Off-Ramp is anticipated to operate with a v/c of 0.88 for the eastbound through movement in the PM peak. With adjusted signal timing (reassigning 11 from the northbound movement to the eastbound/westbound movements), this v/c ratio improves to a 0.86. With an increased cycle length to 130 seconds in the PM peak, a v/c ratio of 0.85 for the eastbound through movement is anticipated.
- The maximum queueing length anticipated on the northbound ramp is approximately 70m. The approximate length of the ramp is 500m and the queue will not extend to Highway 416.
- The total analysis demonstrates that additional through lane capacity is required on Fallowfield Road at the Highway 416 off-ramps. Alternatively, the planned Barnsdale Road/Highway 416 interchange will alleviate congestion and free up capacity on Fallowfield Road at Highway 416.

Background Traffic Sensitivity Analysis

- The 2026 sensitivity analysis demonstrates that the need for more lane capacity on Strandherd Drive in 2026 is required with or without site traffic, depending on the time of day. The need for more capacity or the future Barnsdale Road interchange is not development related.
- The 2031 sensitivity analysis demonstrates that the need for more lane capacity at the 416 ramps is required with or without the site traffic, depending on the time of day. The need for more capacity or the future Barnsdale Road interchange is not development related.

**NOVATECH**

Prepared by:

Rochelle Fortier, B.Eng.
E.I.T. | Transportation/Traffic

Reviewed by:




Jennifer Luong, P.Eng.
Senior Project Manager | Transportation/Traffic

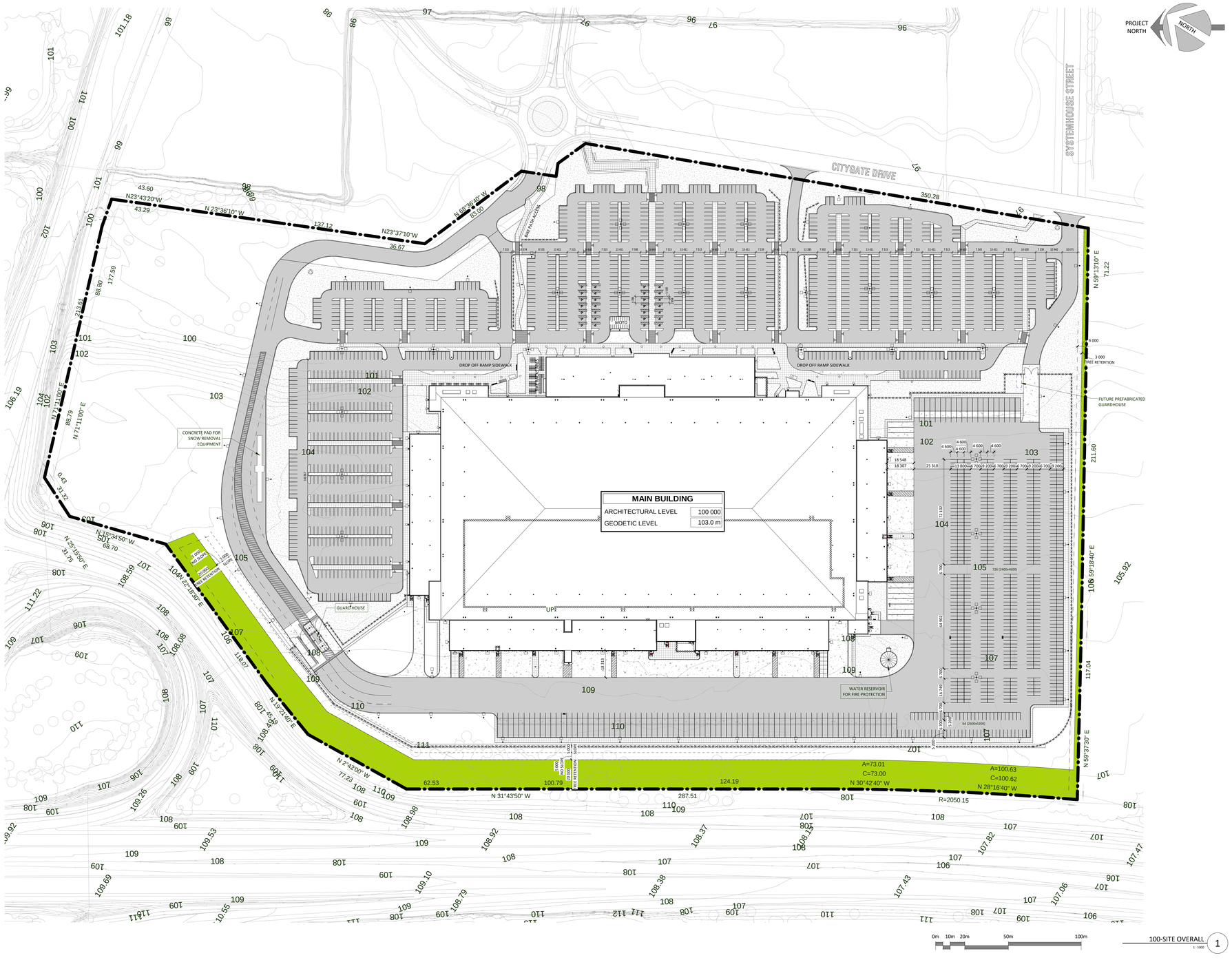
# APPENDIX A

Site Plan




GKC ARCHITECTS

100 - 7275 ST-URBAIN MONTRÉAL QC H2R 2Y5 T:514.737.6255 WWW.GKC.CA




## SITE DEVELOPMENT STATISTICS

| | | |
|---|---|---|
| LOT AREA | ± 259 522 m² | ± 64,129 ac. |
| LOT FRONTAGE | 350,274 m | 1149,19 ft |
| LOT DEPT IRREGULAR | ± 328,64 m | 1078,22 ft |

## SITE STATISITICS

| | |
|---|---|
| LOT COVERAGE | 22.5 % |
| BUILDING HEIGHT | 27 m |

## BUILDING GROSS FLOOR AREA

| | | |
|---|---|---|
| TOTAL GROUND FLOOR AREA | ± 59 049 m² | ± 635 593 ft² |
| - GUARD HOUSE | ± 26 m² | ± 279 ft² |
| - GROUND FLOOR LEVEL1 | ± 59 023 m² | ± 635 314 ft² |
| - PRESTIGE OFFICES | ± 1 559 m² | ± 16 781 ft² |
| - LIGHT INDUSTRIAL | ± 251 851 m² | ± 2 710 905 ft² |

### TOTAL PARKING SPACES

| Parking Type | Stalls provided |
|---|---|
| Bicycle Space - 762 x 1830 | 174 |
| Car Space - 2 400 x 4 600 | 726 |
| Car Space - 2 600 x 5 200 | 64 |
| Car Space - 2 743 x 5 486 | 1248 |
| Handicap - 4 420 x 5 486 | 28 |
| Motorcycle Space - 1 524 x 2 438 | 18 |
| Trailer Space - 3 658 x16 764 | 105 |
| | 2363 |

### PARKING CARS

| Parking Type | Stalls provided |
|---|---|
| Car Space - 2 400 x 4 600 | 726 |
| Car Space - 2 600 x 5 200 | 64 |
| Car Space - 2 743 x 5 486 | 1248 |
| Handicap - 4 420 x 5 486 | 28 |
| Grand total required 37 + 2 015 + 6 = 2 058 | 2066 |

## ZONING PROVISIONS: LIGHT INDUSTRIAL ZONE

### PROJECT DESCRIPTION

PROJECT : PYTHON
ADDRESS : 222 CITYGATE DRIVE OTTAWA, ONTARIO
DEVELOPER : PYTHON LP, C/O NOVATECH ENGINEERING CONSULTANTS, 240 MICHAEL COPELAND DR, KANATA, ON K2M1P6
APPLICANT : NOVATECH ENGINEERING CONSULTANTS, 240 MICHAEL COPELAND DR, KANATA, ON K2M1P6
PROPERTY IDENTIFICATION : BLOCK 13, PLAN 4M1538, CITY OF OTTAWA, BEING ALL OF PIN 04467-1618(LT)

| ZONE PERFORMANCE STANDARDS CITY OF OTTAWA ZONING BY-LAW 2008-250 | IP6 REQUIRED | PROVIDED |
|---|---|---|
| MINIMUM LOT AREA (m²) | 10 000m² | ± 259 578 m² |
| MINIMUM LOT WIDTH (m²) | 100 m | ± 366.18 m |
| MAXIMUM LOT COVERAGE (m²) | 55% | 23% |
| MINIMUM FRONT YARD SETBACK (m) EAST | 3 m | ± 132 m |
| MINIMUM CORNER YARD SETBACK (m) NORTH | 3 m | ± 110 m |
| MINIMUM INTERIOR YARD SETBACK (m) SOUTH | 3 m | ± 128 m |
| MINIMUM REAR YARD SETBACK (m) WEST | 6 m | ± 94 m |
| MAXIMUM BUILDING HEIGHT | 45 m | 27 m |

## PARKING AND LOADING (SEC. 100-114)

| PERFORMANCE STANDARDS | PARKING RATE | AREA | REQUIRED | PROVIDED |
|---|---|---|---|---|
| MINIMUM PARKING SPACE RATES (OFFICE) | 2.4 / 100 m² | 1 559 m² | 37 | 37 |
| MINIMUM PARKING SPACE RATES (LIGHT INDUSTRIAL) | 0.8 / 100 m² | 251 851 m² | 2 015 | 2 029 |
| MINIMUM ACCESSIBLE PARKING SPACE RATES | 500 AND OVER | N/A | 6 | 28 |
| MOTORCYCLE PARKING SPACE RATES (OFFICE) | - | - | N/A | 16 |
| MINIMUM BICYCLE PARKING SPACE RATES (OFFICE) | 1 / 250 m² | 1 559 m² | 6 | 6 |
| MINIMUM BICYCLE PARKING SPACE RATES (LIGHT INDUSTRIAL) | 1 / 1 500 m² | 251 851 m² | 168 | 168 |
| MINIMUM LOADING SPACE RATES (LIGHT INDUSTRIAL) | 3 / 25 000 m² | 251 851 m² | 30 | 51 |

| No. | Date | Revision | By |
|---|---|---|---|
| 2 | 2020.06.01 | SPA REVISION | |
| 1 | 2020.04.06 | SPA | |

2020-06-01 10:48:06 AM

PROJECT PYTHON

ONTARIO ASSOCIATION OF ARCHITECTS ASSOCIATION DES ARCHITECTES DE L'ONTARIO LICENCE 6964

**Copyright GKC Architects** - Not to be used for any other project without the architect's written permission and conditions must be verified on site. Do not scale drawing. Any discrepancies or omissions on the drawing shall be reported to the architect immediately in writing. All work to conform to most recent applicable norms, bylaws and codes for all given trades.

ARCHITECTURE

OVERALL SITE PLAN

DRAWN BY: MB CHECKED BY: NV

SCALE: As indicated

FOLIO: 20010 **A100** R2

# APPENDIX B

TIA Screening Form

# City of Ottawa 2017 TIA Guidelines Screening Form

## 1. Description of Proposed Development

| | |
|---|---|
| Municipal Address | |
| Description of Location | **Southeast of the Fallowfield Road/Highway 416 interchange, located within the CitiGate Business Park (Block 13)** |
| Land Use Classification | **Office & Light Industrial** |
| Development Size (units) | |
| Development Size ($m^2$) | **Approximately 2,700,000 sq. ft. GFA (250,000 $m^2$)** |
| Number of Accesses and Locations | **Two accesses from future CrossKeys Place, two accesses from future CitiGate Drive** |
| Phase of Development | **1** |
| Buildout Year | **2021** |

**If available, please attach a sketch of the development or site plan to this form.**

## 2. Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

| Land Use Type | Minimum Development Size |
|---|---|
| Single-family homes | 40 units |
| Townhomes or apartments | 90 units |
| Office | 3,500 $m^2$ |
| Industrial | 5,000 $m^2$ |
| Fast-food restaurant or coffee shop | 100 $m^2$ |
| Destination retail | 1,000 $m^2$ |
| Gas station or convenience market | 75 $m^2$ |

** If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.*

**If the proposed development size is greater than the sizes identified above, the Trip Generation Trigger is satisfied.**

## 3. Location Triggers

| | Yes | No |
|---|---|---|
| Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks? | | X |
| Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?* | | X |

**DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).*

**If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.**

## 4. Safety Triggers

| | Yes | No |
|---|---|---|
| Are posted speed limits on a boundary street 80 km/hr or greater? | X | |
| Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway? | | X |
| Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)? | X | |
| Is the proposed driveway within auxiliary lanes of an intersection? | | X |
| Does the proposed driveway make use of an existing median break that serves an existing site? | | X |
| Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development? | | X |
| Does the development include a drive-thru facility? | | X |

**If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.**

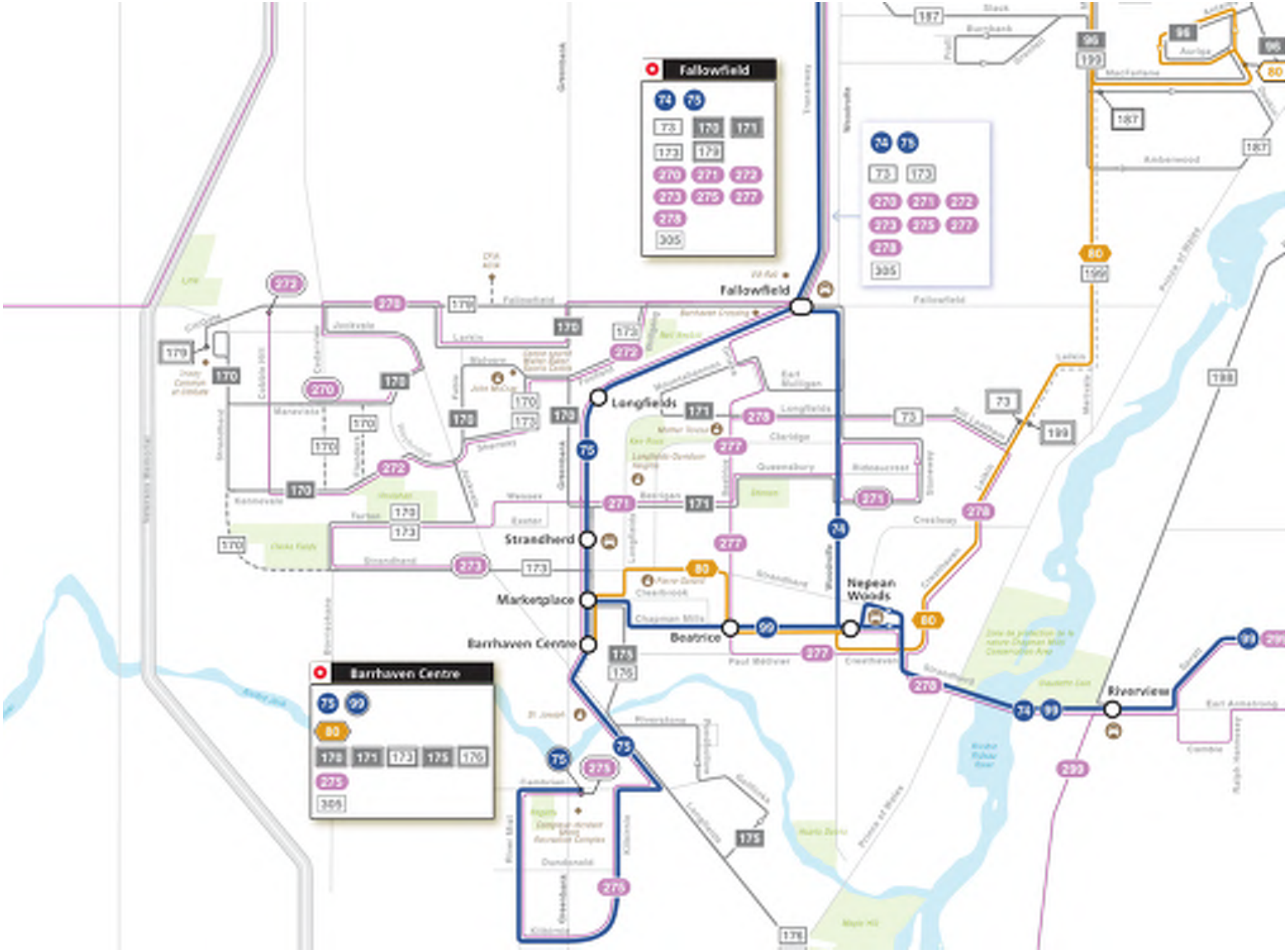
## 5. Summary

| | Yes | No |
|---|---|---|
| Does the development satisfy the Trip Generation Trigger? | X | |
| Does the development satisfy the Location Trigger? | | X |
| Does the development satisfy the Safety Trigger? | X | |

**If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).**

# APPENDIX C

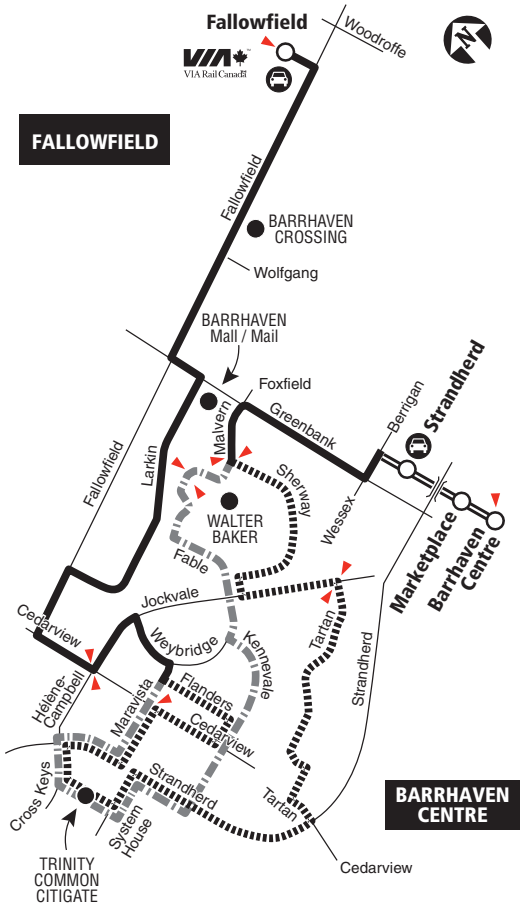
OC Transpo System Information


Fallowfield
74 75
73 170 171
173 179
270 271 272
273 275 277
278
305
Barrhaven Centre
75 99
80
170 171 173 175 176
225
305
Fallowfield
Longfields
Strandherd
Marketplace
Barrhaven Centre
Beatrice
Nepean Woods
Riverview

# 170 FALLOWFIELD / BARRHAVEN CENTRE

*Local*

**7 days a week / 7 jours par semaine**
All day service
Service toute la journée




| | |
|---|---|
| | Transitway & Station |
| | Evenings and weekends only / Soirs et fins de semaine seulement |
| | No service evenings and weekends / Pas de service le soir et les fins de semaine |
| | Park & Ride / Parc-o-bus |
| | Timepoint / Heures de passage |

2019.06

**Schedule / Horaire.....613-560-1000**
**Text / Texto .....560560**
*plus* your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle ..... **613-741-4390**
Lost and Found / Objets perdus..... **613-563-4011**
Security / Sécurité..... **613-741-2478**

**Effective June 25, 2017**
**En vigueur 25 juin 2017**

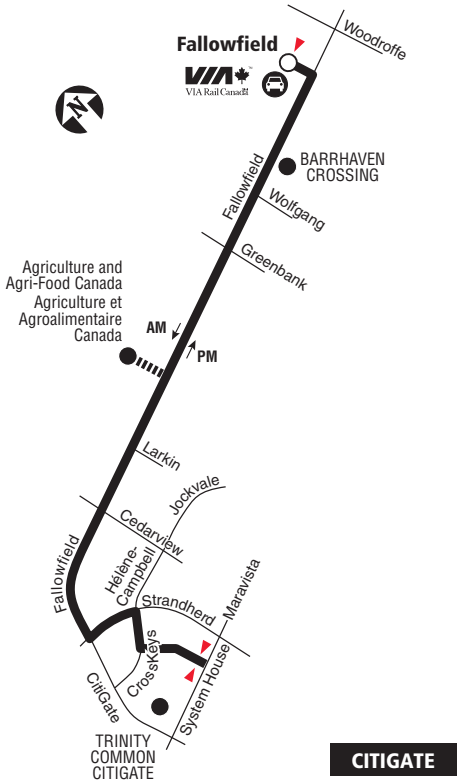
OC Transpo
**INFO 613-741-4390**
**octranspo.com**

# 179 FALLOWFIELD / CITIGATE

*Local*

**Monday to Friday / Lundi au vendredi**
Peak periods only
Périodes de pointe seulement

**FALLOWFIELD**




**CITIGATE**

Transitway & Station
Some trips / Quelques trajets
Park & Ride / Parc-o-bus
Timepoint / Heures de passage

2019.06

**Schedule / Horaire.....613-560-1000**
**Text / Texto .....560560**
*plus* your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle ..... **613-842-3600**
Lost and Found / Objets perdus..... **613-563-4011**
Security / Sécurité..... **613-741-2478**

**Effective June 25, 2017**
**En vigueur 25 juin 2017**

OC Transpo
**INFO 613-741-4390**
**octranspo.com**

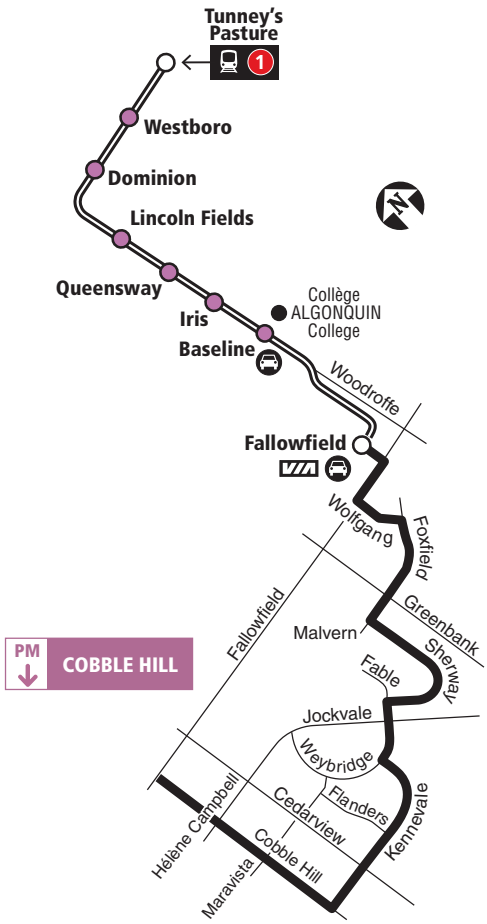
# 272 Connexion

## COBBLE HILL
## TUNNEY'S PASTURE

**Monday to Friday / Lundi au vendredi**

Peak periods only
Périodes de pointe seulement

**AM ↑ TUNNEY'S PASTURE**




**PM ↓ COBBLE HILL**

Transitway & Station

Limited stops: Off only in AM / No stop in PM
Arrêts limités : Débarquement en AM seul. / Aucun arrêt en PM

Park & Ride / Parc-o-bus

2020.01

**Schedule / Horaire.....613-560-1000**
**Text / Texto .....560560**

*plus* your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle ..... **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité..... **613-741-2478**

**Effective January 5, 2020**
**En vigueur 5 janvier 2020**

OC Transpo

**INFO 613-741-4390**
**octranspo.com**

# APPENDIX D

Traffic Count Data

# Transportation Services - Traffic Services

## Turning Movement Count - Cyclist Volume Report

**Work Order**
**37872**

## CROSSKEYS PL/HELENE CAMPBELL RD @ STRANDHERD DR

**Count Date:** Wednesday, May 30, 2018 **Start Time:** 07:00

| | STRANDHERD DR | | | CROSSKEYS PL/HELENE CAMPBELL RD | | | |
|---|---|---|---|---|---|---|---|
| Time Period | Northbound | Southbound | **Street Total** | Eastbound | Westbound | **Street Total** | **Grand Total** |
| 07:00 08:00 | 0 | 0 | **0** | 0 | 1 | **1** | **1** |
| 08:00 09:00 | 2 | 1 | **3** | 1 | 2 | **3** | **6** |
| 09:00 10:00 | 0 | 0 | **0** | 1 | 0 | **1** | **1** |
| 11:30 12:30 | 0 | 2 | **2** | 1 | 2 | **3** | **5** |
| 12:30 13:30 | 0 | 1 | **1** | 0 | 2 | **2** | **3** |
| 15:00 16:00 | 0 | 2 | **2** | 1 | 0 | **1** | **3** |
| 16:00 17:00 | 0 | 1 | **1** | 0 | 1 | **1** | **2** |
| 17:00 18:00 | 4 | 1 | **5** | 5 | 5 | **10** | **15** |
| Total ..... | 6 | 8 | **14** | 9 | 13 | **22** | **36** |

**Comment:**

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

# Transportation Services - Traffic Services

**Work Order**
**37872**

## Turning Movement Count - Pedestrian Volume Report

### CROSSKEYS PL/HELENE CAMPBELL RD @ STRANDHERD DR

**Count Date:** Wednesday, May 30, 2018 **Start Time:** 07:00

| Time Period | NB Approach (E or W Crossing) | SB Approach (E or W Crossing) | Total | EB Approach (N or S Crossing) | WB Approach (N or S Crossing) | Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 07:00 07:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:15 07:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:30 07:45 | 0 | 1 | **1** | 1 | 0 | **1** | **2** |
| 07:45 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:00 08:00 | 0 | 1 | **1** | 1 | 0 | **1** | **2** |
| 08:00 08:15 | 1 | 0 | **1** | 0 | 1 | **1** | **2** |
| 08:15 08:30 | 0 | 1 | **1** | 1 | 0 | **1** | **2** |
| 08:30 08:45 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 08:45 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 09:00 | 3 | 1 | **4** | 1 | 1 | **2** | **6** |
| 09:00 09:15 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 09:15 09:30 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 09:30 09:45 | 3 | 1 | **4** | 1 | 0 | **1** | **5** |
| 09:45 10:00 | 0 | 0 | **0** | 1 | 0 | **1** | **1** |
| 09:00 10:00 | 6 | 1 | **7** | 2 | 0 | **2** | **9** |
| 11:30 11:45 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 11:45 12:00 | 4 | 0 | **4** | 0 | 0 | **0** | **4** |
| 12:00 12:15 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 12:15 12:30 | 5 | 0 | **5** | 0 | 0 | **0** | **5** |
| 11:30 12:30 | 12 | 0 | **12** | 0 | 0 | **0** | **12** |
| 12:30 12:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:45 13:00 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 13:00 13:15 | 4 | 0 | **4** | 0 | 0 | **0** | **4** |
| 13:15 13:30 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 12:30 13:30 | 7 | 0 | **7** | 0 | 0 | **0** | **7** |
| 15:00 15:15 | 4 | 0 | **4** | 0 | 0 | **0** | **4** |
| 15:15 15:30 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 15:30 15:45 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 15:45 16:00 | 2 | 0 | **2** | 1 | 0 | **1** | **3** |
| 15:00 16:00 | 8 | 0 | **8** | 1 | 0 | **1** | **9** |
| 16:00 16:15 | 1 | 4 | **5** | 2 | 0 | **2** | **7** |
| 16:15 16:30 | 6 | 2 | **8** | 2 | 0 | **2** | **10** |
| 16:30 16:45 | 1 | 1 | **2** | 1 | 3 | **4** | **6** |
| 16:45 17:00 | 2 | 0 | **2** | 0 | 1 | **1** | **3** |
| 16:00 17:00 | 10 | 7 | **17** | 5 | 4 | **9** | **26** |
| 17:00 17:15 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 17:15 17:30 | 4 | 0 | **4** | 0 | 0 | **0** | **4** |
| 17:30 17:45 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 17:45 18:00 | 2 | 2 | **4** | 0 | 0 | **0** | **4** |
| 17:00 18:00 | 9 | 2 | **11** | 0 | 0 | **0** | **11** |
| Total ..... | 55 | 12 | **67** | 10 | 5 | **15** | **82** |

**Comment:**

# Transportation Services - Traffic Services

**Work Order** 37872

## Turning Movement Count - Full Study Summary Report

## CROSSKEYS PL/HELENE CAMPBELL RD @ STRANDHERD DR

**Survey Date:** Wednesday, May 30, 2018

**Total Observed U-Turns**

Northbound: 4 Southbound: 5

Eastbound: 0 Westbound: 0

**AADT Factor** .90

### Full Study

| | STRANDHERD DR | | | | | | | | | CROSSKEYS PL/HELENE CAMPBELL RD | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
| Period | LT | ST | RT | **NB TOT** | LT | ST | RT | **SB TOT** | **STR TOT** | LT | ST | RT | **EB TOT** | LT | ST | RT | **WB TOT** | **STR TOT** | **Grand Total** |
| 07:00 08:00 | 20 | 1185 | 14 | **1219** | 36 | 600 | 59 | **695** | **1914** | 108 | 11 | 10 | **129** | 23 | 22 | 176 | **221** | **350** | **2264** |
| 08:00 09:00 | 19 | 1078 | 20 | **1117** | 35 | 625 | 76 | **736** | **1853** | 89 | 21 | 8 | **118** | 20 | 26 | 189 | **235** | **353** | **2206** |
| 09:00 10:00 | 35 | 769 | 17 | **821** | 34 | 485 | 143 | **662** | **1483** | 94 | 13 | 11 | **118** | 21 | 55 | 98 | **174** | **292** | **1775** |
| 11:30 12:30 | 45 | 588 | 9 | **642** | 36 | 585 | 212 | **833** | **1475** | 185 | 52 | 35 | **272** | 22 | 71 | 64 | **157** | **429** | **1904** |
| 12:30 13:30 | 50 | 559 | 12 | **621** | 34 | 583 | 178 | **795** | **1416** | 221 | 48 | 27 | **296** | 23 | 44 | 53 | **120** | **416** | **1832** |
| 15:00 16:00 | 39 | 691 | 12 | **742** | 80 | 847 | 237 | **1164** | **1906** | 224 | 68 | 22 | **314** | 18 | 69 | 74 | **161** | **475** | **2381** |
| 16:00 17:00 | 46 | 758 | 23 | **827** | 128 | 945 | 274 | **1347** | **2174** | 238 | 98 | 35 | **371** | 16 | 90 | 73 | **179** | **550** | **2724** |
| 17:00 18:00 | 42 | 698 | 15 | **755** | 128 | 938 | 289 | **1355** | **2110** | 192 | 96 | 28 | **316** | 17 | 102 | 92 | **211** | **527** | **2637** |
| **Sub Total** | 296 | 6326 | 122 | **6744** | 511 | 5608 | 1468 | **7587** | **14331** | 1351 | 407 | 176 | **1934** | 160 | 479 | 819 | **1458** | **3392** | **17723** |
| **U Turns** | | | | **4** | | | | **5** | **9** | | | | **0** | | | | **0** | **0** | **9** |
| **Total** | 296 | 6326 | 122 | **6748** | 511 | 5608 | 1468 | **7592** | **14340** | 1351 | 407 | 176 | **1934** | 160 | 479 | 819 | **1458** | **3392** | **17732** |
| **EQ 12Hr** | 411 | 8793 | 170 | **9380** | 710 | 7795 | 2041 | **10553** | **19933** | 1878 | 566 | 245 | **2688** | 222 | 666 | 1138 | **2027** | **4715** | **24648** |
| Note: These values are calculated by multiplying the totals by the appropriate expansion factor. | | | | | | | | | | | | | **1.39** | | | | | | |
| **AVG 12Hr** | 370 | 7914 | 153 | **8442** | 639 | 7016 | 1836 | **9498** | **17940** | 1690 | 509 | 220 | **2419** | 200 | 599 | 1025 | **1824** | **4243** | **22183** |
| Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. | | | | | | | | | | | | | **.90** | | | | | | |
| **AVG 24Hr** | 485 | 10367 | 200 | **11059** | 837 | 9190 | 2406 | **12442** | **23501** | 2214 | 667 | 288 | **3169** | 262 | 785 | 1342 | **2389** | **5558** | **29059** |
| Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. | | | | | | | | | | | | | **1.31** | | | | | | |

**Comments:**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

# Transportation Services - Traffic Services

## Turning Movement Count - Cyclist Volume Report

**Work Order**
**37594**

## FALLOWFIELD RD @ STRANDHERD DR

**Count Date:** Thursday, March 08, 2018 **Start Time:** 07:00

| | FALLOWFIELD RD | | | STRANDHERD DR | | | |
|---|---|---|---|---|---|---|---|
| Time Period | Northbound | Southbound | **Street Total** | Eastbound | Westbound | **Street Total** | **Grand Total** |
| 07:00 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 13:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:00 16:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:00 17:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:00 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| Total ..... | 0 | 0 | **0** | 0 | 0 | **0** | **0** |

**Comment:**

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

# Transportation Services - Traffic Services

**Work Order**
**37594**

## Turning Movement Count - Pedestrian Volume Report

### FALLOWFIELD RD @ STRANDHERD DR

**Count Date:** Thursday, March 08, 2018 **Start Time:** 07:00

| Time Period | NB Approach (E or W Crossing) | SB Approach (E or W Crossing) | Total | EB Approach (N or S Crossing) | WB Approach (N or S Crossing) | Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 07:00 07:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:15 07:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:30 07:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:45 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:00 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 08:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:15 08:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:30 08:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:45 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 09:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:15 09:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:30 09:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:45 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 11:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:45 12:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:00 12:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:15 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 12:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:45 13:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 13:00 13:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 13:15 13:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 13:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:00 15:15 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 15:15 15:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:30 15:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:45 16:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:00 16:00 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 16:00 16:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:15 16:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:30 16:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:45 17:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:00 17:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:00 17:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:15 17:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:30 17:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:45 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:00 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| Total ..... | 2 | 0 | **2** | 0 | 0 | **0** | **2** |

**Comment:**

# Transportation Services - Traffic Services

**Work Order**
37594

## Turning Movement Count - Full Study Summary Report

## FALLOWFIELD RD @ STRANDHERD DR

**Survey Date:** Thursday, March 08, 2018

**Total Observed U-Turns**

Northbound: 0 Southbound: 0
Eastbound: 2 Westbound: 0

**AADT Factor**
1.00

### Full Study

| | FALLOWFIELD RD | | | | | | | | | STRANDHERD DR | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
| Period | LT | ST | RT | **NB TOT** | LT | ST | RT | **SB TOT** | **STR TOT** | LT | ST | RT | **EB TOT** | LT | ST | RT | **WB TOT** | **STR TOT** | **Grand Total** |
| 07:00 08:00 | 7 | 1 | 2 | **10** | 29 | 3 | 304 | **336** | **346** | 565 | 618 | 12 | **1195** | 2 | 1239 | 40 | **1281** | **2476** | **2822** |
| 08:00 09:00 | 13 | 4 | 0 | **17** | 35 | 5 | 472 | **512** | **529** | 475 | 602 | 17 | **1094** | 0 | 1438 | 47 | **1485** | **2579** | **3108** |
| 09:00 10:00 | 11 | 0 | 5 | **16** | 45 | 5 | 257 | **307** | **323** | 246 | 514 | 8 | **768** | 2 | 858 | 44 | **904** | **1672** | **1995** |
| 11:30 12:30 | 6 | 1 | 6 | **13** | 67 | 2 | 159 | **228** | **241** | 177 | 626 | 23 | **826** | 0 | 620 | 52 | **672** | **1498** | **1739** |
| 12:30 13:30 | 8 | 4 | 2 | **14** | 64 | 3 | 195 | **262** | **276** | 169 | 655 | 13 | **837** | 1 | 602 | 74 | **677** | **1514** | **1790** |
| 15:00 16:00 | 26 | 0 | 3 | **29** | 100 | 9 | 354 | **463** | **492** | 242 | 967 | 13 | **1222** | 1 | 738 | 68 | **807** | **2029** | **2521** |
| 16:00 17:00 | 16 | 2 | 3 | **21** | 104 | 11 | 550 | **665** | **686** | 341 | 1125 | 29 | **1495** | 1 | 853 | 63 | **917** | **2412** | **3098** |
| 17:00 18:00 | 13 | 4 | 0 | **17** | 90 | 3 | 448 | **541** | **558** | 306 | 1098 | 12 | **1416** | 0 | 766 | 72 | **838** | **2254** | **2812** |
| **Sub Total** | 100 | 16 | 21 | **137** | 534 | 41 | 2739 | **3314** | **3451** | 2521 | 6205 | 127 | **8853** | 7 | 7114 | 460 | **7581** | **16434** | **19885** |
| **U Turns** | | | | **0** | | | | **0** | **0** | | | | **2** | | | | **0** | **2** | **2** |
| **Total** | 100 | 16 | 21 | **137** | 534 | 41 | 2739 | **3314** | **3451** | 2521 | 6205 | 127 | **8855** | 7 | 7114 | 460 | **7581** | **16436** | **19887** |
| **EQ 12Hr** | 139 | 22 | 29 | **190** | 742 | 57 | 3807 | **4606** | **4796** | 3504 | 8625 | 177 | **12308** | 10 | 9888 | 639 | **10538** | **22846** | **27642** |
| Note: These values are calculated by multiplying the totals by the appropriate expansion factor. | | | | | | | | | | | | | **1.39** | | | | | | |
| **AVG 12Hr** | 139 | 22 | 29 | **190** | 742 | 57 | 3807 | **4606** | **4796** | 3504 | 8625 | 177 | **12308** | 10 | 9888 | 639 | **10538** | **22846** | **27642** |
| Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. | | | | | | | | | | | | | **1.00** | | | | | | |
| **AVG 24Hr** | 182 | 29 | 38 | **249** | 972 | 75 | 4987 | **6034** | **6283** | 4590 | 11299 | 231 | **16124** | 13 | 12954 | 838 | **13804** | **29928** | **36211** |
| Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. | | | | | | | | | | | | | **1.31** | | | | | | |

**Comments:**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

# Transportation Services - Traffic Services

## Turning Movement Count - Cyclist Volume Report

**Work Order**
**37426**

## MARAVISTA DR @ STRANDHERD DR

**Count Date:** Thursday, January 18, 2018 **Start Time:** 07:00

| | STRANDHERD DR | | | MARAVISTA DR | | | |
|---|---|---|---|---|---|---|---|
| Time Period | Northbound | Southbound | **Street Total** | Eastbound | Westbound | **Street Total** | **Grand Total** |
| 07:00 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 12:30 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 12:30 13:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:00 16:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:00 17:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:00 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| Total ..... | 1 | 0 | **1** | 0 | 0 | **0** | **1** |

**Comment:**

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

# Transportation Services - Traffic Services

**Work Order**
**37426**

## Turning Movement Count - Pedestrian Volume Report

### MARAVISTA DR @ STRANDHERD DR

**Count Date:** Thursday, January 18, 2018 **Start Time:** 07:00

| Time Period | NB Approach (E or W Crossing) | SB Approach (E or W Crossing) | Total | EB Approach (N or S Crossing) | WB Approach (N or S Crossing) | Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 07:00 07:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:15 07:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:30 07:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:45 08:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 07:00 08:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 08:00 08:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:15 08:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:30 08:45 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 08:45 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 09:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 09:00 09:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:15 09:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:30 09:45 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 09:45 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 10:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 11:30 11:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:45 12:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:00 12:15 | 0 | 2 | **2** | 0 | 0 | **0** | **2** |
| 12:15 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 12:30 | 0 | 2 | **2** | 0 | 0 | **0** | **2** |
| 12:30 12:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:45 13:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 13:00 13:15 | 1 | 3 | **4** | 0 | 1 | **1** | **5** |
| 13:15 13:30 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 12:30 13:30 | 1 | 4 | **5** | 0 | 1 | **1** | **6** |
| 15:00 15:15 | 1 | 2 | **3** | 0 | 0 | **0** | **3** |
| 15:15 15:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:30 15:45 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 15:45 16:00 | 0 | 4 | **4** | 0 | 0 | **0** | **4** |
| 15:00 16:00 | 1 | 7 | **8** | 0 | 0 | **0** | **8** |
| 16:00 16:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:15 16:30 | 0 | 2 | **2** | 0 | 0 | **0** | **2** |
| 16:30 16:45 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 16:45 17:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 16:00 17:00 | 0 | 4 | **4** | 0 | 0 | **0** | **4** |
| 17:00 17:15 | 0 | 3 | **3** | 0 | 0 | **0** | **3** |
| 17:15 17:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:30 17:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:45 18:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 17:00 18:00 | 0 | 4 | **4** | 0 | 0 | **0** | **4** |
| Total ..... | 2 | 24 | **26** | 0 | 1 | **1** | **27** |

**Comment:**

# Transportation Services - Traffic Services

**Work Order** 37426

## Turning Movement Count - Full Study Summary Report

## MARAVISTA DR @ STRANDHERD DR

**Survey Date:** Thursday, January 18, 2018

**Total Observed U-Turns**

Northbound: 2 Southbound: 36

Eastbound: 0 Westbound: 0

**AADT Factor** 1.00

### Full Study

| | STRANDHERD DR | | | | | | | | | MARAVISTA DR | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
| Period | LT | ST | RT | **NB TOT** | LT | ST | RT | **SB TOT** | **STR TOT** | LT | ST | RT | **EB TOT** | LT | ST | RT | **WB TOT** | **STR TOT** | **Grand Total** |
| 07:00 08:00 | 95 | 937 | 9 | **1041** | 18 | 465 | 9 | **492** | **1533** | 52 | 7 | 28 | **87** | 7 | 22 | 110 | **139** | **226** | **1759** |
| 08:00 09:00 | 104 | 1034 | 15 | **1153** | 26 | 482 | 5 | **513** | **1666** | 59 | 9 | 49 | **117** | 11 | 26 | 104 | **141** | **258** | **1924** |
| 09:00 10:00 | 159 | 630 | 12 | **801** | 29 | 444 | 20 | **493** | **1294** | 52 | 7 | 59 | **118** | 9 | 31 | 72 | **112** | **230** | **1524** |
| 11:30 12:30 | 258 | 431 | 15 | **704** | 37 | 480 | 31 | **548** | **1252** | 83 | 18 | 165 | **266** | 17 | 29 | 35 | **81** | **347** | **1599** |
| 12:30 13:30 | 233 | 418 | 12 | **663** | 38 | 578 | 19 | **635** | **1298** | 72 | 12 | 183 | **267** | 8 | 24 | 28 | **60** | **327** | **1625** |
| 15:00 16:00 | 234 | 506 | 19 | **759** | 72 | 739 | 16 | **827** | **1586** | 68 | 40 | 216 | **324** | 18 | 40 | 30 | **88** | **412** | **1998** |
| 16:00 17:00 | 235 | 625 | 21 | **881** | 123 | 842 | 26 | **991** | **1872** | 69 | 58 | 196 | **323** | 13 | 49 | 43 | **105** | **428** | **2300** |
| 17:00 18:00 | 243 | 556 | 7 | **806** | 134 | 848 | 25 | **1007** | **1813** | 63 | 56 | 198 | **317** | 10 | 56 | 40 | **106** | **423** | **2236** |
| **Sub Total** | 1561 | 5137 | 110 | **6808** | 477 | 4878 | 151 | **5506** | **12314** | 518 | 207 | 1094 | **1819** | 93 | 277 | 462 | **832** | **2651** | **14965** |
| **U Turns** | | | | **2** | | | | **36** | **38** | | | | **0** | | | | **0** | **0** | **38** |
| **Total** | 1561 | 5137 | 110 | **6810** | 477 | 4878 | 151 | **5542** | **12352** | 518 | 207 | 1094 | **1819** | 93 | 277 | 462 | **832** | **2651** | **15003** |
| **EQ 12Hr** | 2170 | 7140 | 153 | **9466** | 663 | 6780 | 210 | **7703** | **17169** | 720 | 288 | 1521 | **2528** | 129 | 385 | 642 | **1156** | **3684** | **20853** |
| Note: These values are calculated by multiplying the totals by the appropriate expansion factor. | | | | | | | | | | | | | **1.39** | | | | | | |
| **AVG 12Hr** | 2170 | 7140 | 153 | **9466** | 663 | 6780 | 210 | **7703** | **17169** | 720 | 288 | 1521 | **2528** | 129 | 385 | 642 | **1156** | **3684** | **20853** |
| Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. | | | | | | | | | | | | | **1.00** | | | | | | |
| **AVG 24Hr** | 2842 | 9354 | 200 | **12400** | 869 | 8882 | 275 | **10091** | **22491** | 943 | 377 | 1992 | **3312** | 169 | 504 | 841 | **1515** | **4827** | **27318** |
| Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. | | | | | | | | | | | | | **1.31** | | | | | | |

**Comments:**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

# Transportation Services - Traffic Services

## Turning Movement Count - Cyclist Volume Report

**Work Order**
**37427**

## STRANDHERD @ KENNEVALE DR

**Count Date:** Thursday, January 18, 2018 **Start Time:** 07:00

| Time Period | Northbound | Southbound | **Street Total** | Eastbound | Westbound | **Street Total** | **Grand Total** |
|---|---|---|---|---|---|---|---|
| 07:00 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 09:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 13:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:00 16:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:00 17:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:00 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| Total ..... | 0 | 0 | **0** | 0 | 0 | **0** | **0** |

**Comment:**

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

# Transportation Services - Traffic Services

**Work Order**
**37427**

## Turning Movement Count - Pedestrian Volume Report

### STRANDHERD @ KENNEVALE DR

**Count Date:** Thursday, January 18, 2018 **Start Time:** 07:00

| Time Period | NB Approach (E or W Crossing) | SB Approach (E or W Crossing) | Total | EB Approach (N or S Crossing) | WB Approach (N or S Crossing) | Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 07:00 07:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:15 07:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:30 07:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:45 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:00 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 08:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:15 08:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:30 08:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:45 09:00 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 08:00 09:00 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 09:00 09:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:15 09:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:30 09:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:45 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:00 10:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 11:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:45 12:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:00 12:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:15 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:30 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 12:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:45 13:00 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 13:00 13:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 13:15 13:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 13:30 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 15:00 15:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:15 15:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:30 15:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:45 16:00 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 15:00 16:00 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 16:00 16:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:15 16:30 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 16:30 16:45 | 1 | 0 | **1** | 0 | 1 | **1** | **2** |
| 16:45 17:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:00 17:00 | 2 | 0 | **2** | 0 | 1 | **1** | **3** |
| 17:00 17:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:15 17:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:30 17:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:45 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:00 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| Total ..... | 6 | 0 | **6** | 0 | 1 | **1** | **7** |

**Comment:**

# Transportation Services - Traffic Services

**Work Order**
37427

## Turning Movement Count - Full Study Summary Report

## STRANDHERD @ KENNEVALE DR

**Survey Date:** Thursday, January 18, 2018

**Total Observed U-Turns**

Northbound: 10 Southbound: 4

Eastbound: 0 Westbound: 0

**AADT Factor**
1.00

### Full Study

| | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period | LT | ST | RT | **NB TOT** | LT | ST | RT | **SB TOT** | **STR TOT** | LT | ST | RT | **EB TOT** | LT | ST | RT | **WB TOT** | **STR TOT** | **Grand Total** |
| 07:00 08:00 | 14 | 945 | 57 | **1016** | 35 | 466 | 19 | **520** | **1536** | 4 | 1 | 6 | **11** | 80 | 3 | 100 | **183** | **194** | **1730** |
| 08:00 09:00 | 23 | 1039 | 93 | **1155** | 53 | 477 | 23 | **553** | **1708** | 8 | 2 | 8 | **18** | 96 | 2 | 105 | **203** | **221** | **1929** |
| 09:00 10:00 | 28 | 696 | 65 | **789** | 47 | 448 | 14 | **509** | **1298** | 17 | 4 | 10 | **31** | 52 | 1 | 56 | **109** | **140** | **1438** |
| 11:30 12:30 | 14 | 603 | 57 | **674** | 69 | 589 | 21 | **679** | **1353** | 22 | 5 | 15 | **42** | 61 | 5 | 60 | **126** | **168** | **1521** |
| 12:30 13:30 | 16 | 567 | 60 | **643** | 60 | 683 | 18 | **761** | **1404** | 23 | 0 | 6 | **29** | 60 | 1 | 63 | **124** | **153** | **1557** |
| 15:00 16:00 | 20 | 670 | 100 | **790** | 83 | 866 | 23 | **972** | **1762** | 25 | 7 | 20 | **52** | 111 | 5 | 74 | **190** | **242** | **2004** |
| 16:00 17:00 | 11 | 749 | 132 | **892** | 72 | 983 | 13 | **1068** | **1960** | 29 | 8 | 20 | **57** | 128 | 5 | 80 | **213** | **270** | **2230** |
| 17:00 18:00 | 12 | 718 | 98 | **828** | 70 | 989 | 11 | **1070** | **1898** | 17 | 3 | 17 | **37** | 106 | 5 | 71 | **182** | **219** | **2117** |
| **Sub Total** | 138 | 5987 | 662 | **6787** | 489 | 5501 | 142 | **6132** | **12919** | 145 | 30 | 102 | **277** | 694 | 27 | 609 | **1330** | **1607** | **14526** |
| **U Turns** | | | | **10** | | | | **4** | **14** | | | | **0** | | | | **0** | **0** | **14** |
| **Total** | 138 | 5987 | 662 | **6797** | 489 | 5501 | 142 | **6136** | **12933** | 145 | 30 | 102 | **277** | 694 | 27 | 609 | **1330** | **1607** | **14540** |
| **EQ 12Hr** | 192 | 8322 | 920 | **9448** | 680 | 7646 | 197 | **8529** | **17977** | 202 | 42 | 142 | **385** | 965 | 38 | 847 | **1849** | **2234** | **20211** |
| Note: These values are calculated by multiplying the totals by the appropriate expansion factor. | | | | | | | | | | | | | **1.39** | | | | | | |
| **AVG 12Hr** | 192 | 8322 | 920 | **9448** | 680 | 7646 | 197 | **8529** | **17977** | 202 | 42 | 142 | **385** | 965 | 38 | 847 | **1849** | **2234** | **20211** |
| Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. | | | | | | | | | | | | | **1.00** | | | | | | |
| **AVG 24Hr** | 251 | 10902 | 1205 | **12377** | 890 | 10017 | 259 | **11173** | **23550** | 264 | 55 | 186 | **504** | 1264 | 49 | 1109 | **2422** | **2926** | **26476** |
| Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. | | | | | | | | | | | | | **1.31** | | | | | | |

**Comments:**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

# Turning Movement Count

## Summary Report Including AM/PM Peak Hours, PHF, AADT and Expansion Factors

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses

## Citigate Drive & CrossKeys Place (Roundabout) — Nepean, ON

**Survey Date:** Thursday, 23 August 2018 **Start Time:** 0700 **AADT Factor:** 0.9

**Weather-AM/PM** Clear 12C/Clear 26C **Survey Duration:** 8 Hrs. **Survey Hours:** 0700-1000, 1130-1330 & 1500-1800

| | N/A (Eastbound) | | | | | CrossKeys Pl. (Westbound) | | | | | | N/A (Northbound) | | | | | Citigate Dr. (Southbound) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | UT | E/B Tot | LT | ST | RT | UT | W/B Tot | Street Total | LT | ST | RT | UT | N/B Tot | LT | ST | RT | UT | S/B Tot | Street Total | Grand Total |
| 0700-0800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 3 | 23 | 23 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 17 | 17 | 40 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 2 | 17 | 17 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 24 | 24 | 41 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 9 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 1 | 29 | 29 | 49 |
| 1130-1230 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 17 | 41 | 41 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 2 | 46 | 46 | 87 |
| 1230-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 22 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 1 | 50 | 50 | 98 |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 22 | 33 | 33 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 2 | 60 | 60 | 93 |
| 1600-1700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 13 | 28 | 28 | 0 | 0 | 0 | 0 | 0 | 64 | 0 | 0 | 0 | 64 | 64 | 92 |
| 1700-1800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 21 | 28 | 28 | 0 | 0 | 0 | 0 | 0 | 71 | 0 | 0 | 0 | 71 | 71 | 99 |
| Totals | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 | 109 | 238 | 238 | 0 | 0 | 0 | 0 | 0 | 355 | 0 | 0 | 6 | 361 | 361 | 599 |

### Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

➡ Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts ⬅

Equivalent 12-hour vehicle volumes. These volumes are calculated by multiplying the 8-hour totals by the 8 ➡12 expansion factor of 1.39

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equ. 12 Hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 179 | 152 | 331 | 331 | 0 | 0 | 0 | 0 | 0 | 493 | 0 | 0 | 8 | 502 | 502 | 833 |

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the equivalent 12-hour totals by the AADT factor of: 0.9

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AADT 12-hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 161 | 136 | 298 | 298 | 0 | 0 | 0 | 0 | 0 | 444 | 0 | 0 | 8 | 452 | 452 | 749 |

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AADT 24 Hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 211 | 179 | 390 | 390 | 0 | 0 | 0 | 0 | 0 | 582 | 0 | 0 | 10 | 592 | 592 | 982 |

**AM Peak Hour Factor ➡ 0.68** — Highest Hourly Vehicle Volume between 0700h & 1000h

| AM Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 9 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 1 | 29 | 29 | 49 |

**OFF Peak Hour Factor ➡ 0.82** — Highest Hourly Vehicle Volume between 1130h & 1330h

| Off Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1230-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 22 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 1 | 50 | 50 | 98 |

**PM Peak Hour Factor ➡ 0.80** — Highest Hourly Vehicle Volume between 1500h & 1800h

| PM Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1630-1730 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 18 | 31 | 31 | 0 | 0 | 0 | 0 | 0 | 72 | 0 | 0 | 0 | 72 | 72 | 103 |

### Comments

The west leg and south leg of the roundabout have not been constructed.

### Notes:

1. Includes all vehicle types except bicycles and electric scooters.
2. Expansion factors are not applied to turning movement counts if they are less than 8-hours in duration.
3. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

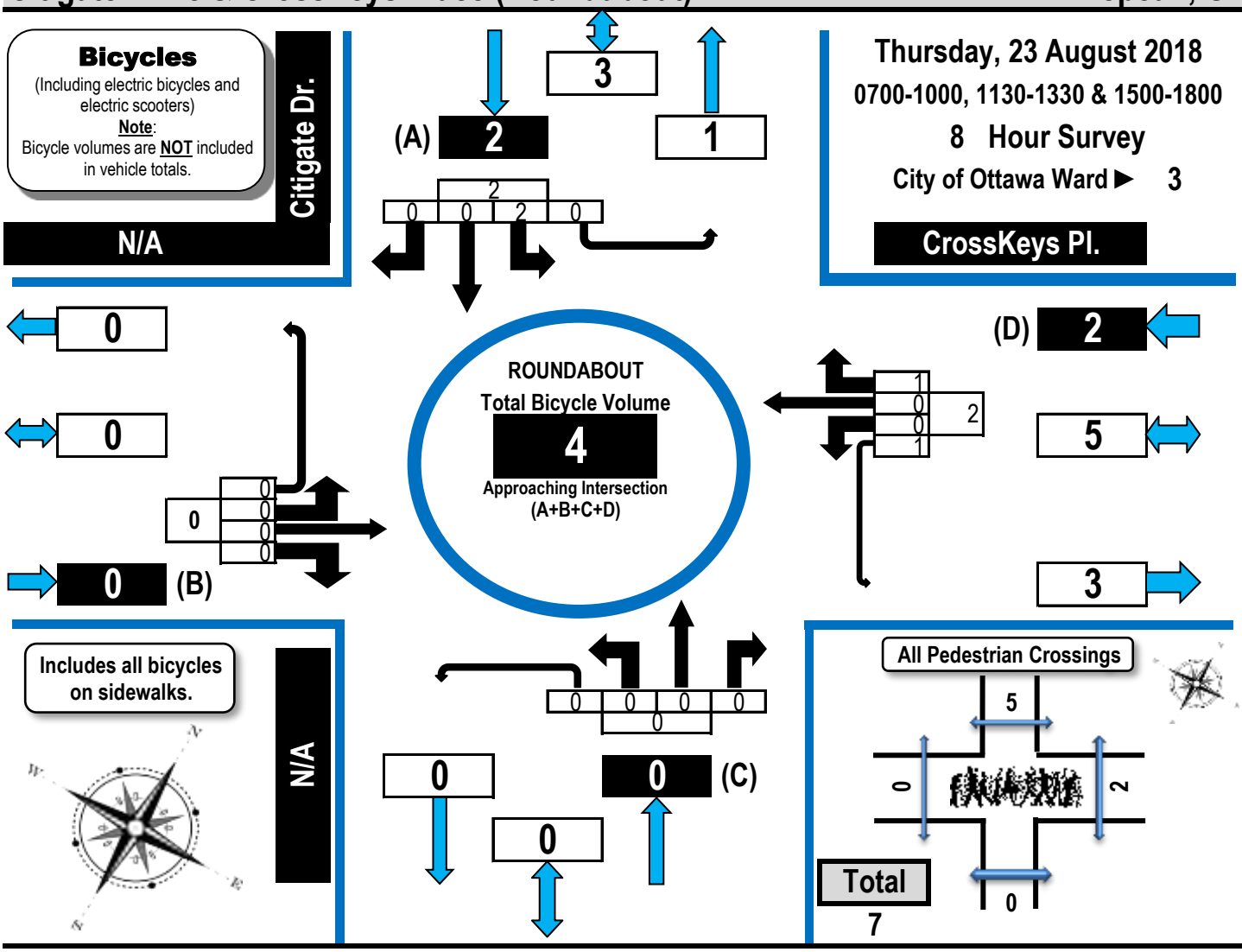
### Disclaimer:

The information contained in this data summary is for information purposes only, and may not apply to your situation. Every effort is made to ensure the traffic count information is accurate for the survey date provided on the summary and flow diagram forms. The author, publisher, and distributor provide no warranty about the content or accuracy of either the data summary or flow diagrams. Information provided is subjective. The author, publisher, and distributor shall not be liable for any loss of profit or any other commercial damages resulting from use of this data.

# Turning Movement Count
## Bicycle Summary
## Flow Diagram

Bicycles, Electric Bicycles, and Electric Scooters

## Citigate Drive & CrossKeys Place (Roundabout) — Nepean, ON




## Citigate Drive & CrossKeys Place (Roundabout) — Nepean, ON

**Survey Date:** Thursday, 23 August 2018 **Start Time:** 0700
**Weather:** Clear 12C/Clear 26C **Survey Duration:** 8 Hrs. **Survey Hours:** 0700-1000, 1130-1330 & 1500-1800
*(AM/PM)*

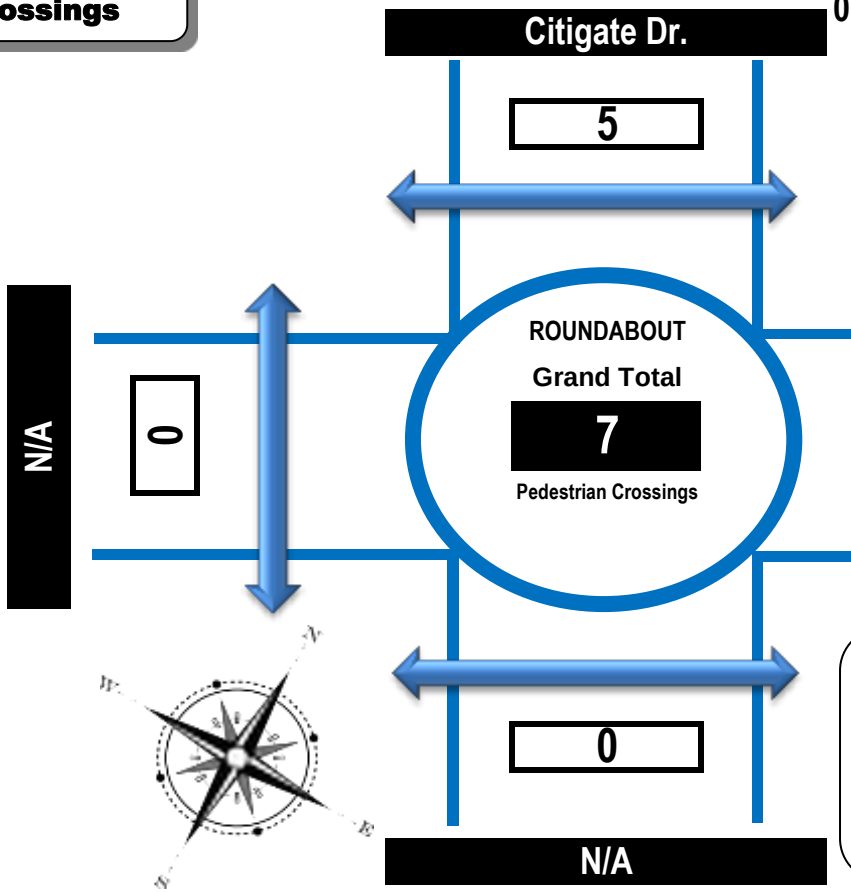
| | N/A Eastbound | | | | | CrossKeys Pl. Westbound | | | | | N/A Northbound | | | | | Citigate Dr. Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | G.Tot. |
| 0700-0800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1130-1230 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1230-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 4 |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700-1800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 4 |

# Turning Movement Count
## Pedestrian Crossings Summary and Flow Diagram

## Citigate Drive & CrossKeys Place (Roundabout) — Nepean, ON

**Pedestrian Crossings**

**Thursday, 23 August 2018**
**0700-1000, 1130-1330 & 1500-1800**
**8 Hours**
**City of Ottawa Ward ► 3**




**Note**
*The values in the summary table below and the flow diagram represent the number of pedestrian crossing**s** **NOT** the number of individual pedestrian**s** crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

## Citigate Drive & CrossKeys Place (Roundabout) — Nepean, ON

**Survey Date:** Thursday, 23 August 2018 **Start Time:** 0700
**Weather:** Clear 12C/Clear 26C **Survey Duration:** 8 Hrs. **Survey Hours:** 0700-1000, 1130-1330 & 1500-1800
***(AM/PM)***

| Time Period | West Side Crossing N/A | East Side Crossing CrossKeys Pl. | Street Total | South Side Crossing N/A | North Side Crossing Citigate Dr. | Street Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 0700-0800 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1130-1230 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1230-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1700-1800 | 0 | 2 | 2 | 0 | 2 | 2 | 4 |
| Totals | 0 | 2 | 2 | 0 | 5 | 5 | 7 |

# Turning Movement Count
## Summary Report Including AM, OFF Peak, PM, Evening Peak Hours, and PHF

**Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses**

## Fallowfield Road & Highway 416 S/B On & Off Ramps — Nepean, ON

**Survey Date:** Tuesday, 3 March 2020 **Start Time:** 0600 **AADT Factor:** 1.0

**Weather AM:** Clear -1° C **Survey Duration:** 10 Hrs. **Survey Hours:** 0600-1000, 1130-1330, & 1500-1900

**Weather PM:** Light Rain +3° C **Surveyor(s):** T. Carmody

| | Fallowfield Rd. Eastbound | | | | | Fallowfield Rd. Westbound | | | | | | Hwy 416 S/B On Ramp Northbound | | | | | Hwy 416 S/B On/Off Ramps Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | UT | E/B Tot | LT | ST | RT | UT | W/B Tot | Street Total | LT | ST | RT | UT | N/B Tot | LT | ST | RT | UT | S/B Tot | Street Total | Grand Total |
| 0600-0700 | 0 | 742 | 72 | 0 | **814** | 0 | 489 | 34 | 0 | **523** | **1337** | 0 | 0 | 0 | 0 | **0** | 242 | 0 | 180 | 0 | **422** | **422** | **1759** |
| 0700-0800 | 0 | 1257 | 135 | 0 | **1392** | 0 | 771 | 47 | 0 | **818** | **2210** | 0 | 0 | 0 | 0 | **0** | 365 | 0 | 114 | 0 | **479** | **479** | **2689** |
| 0800-0900 | 0 | 1014 | 112 | 0 | **1126** | 0 | 851 | 59 | 0 | **910** | **2036** | 0 | 0 | 0 | 0 | **0** | 327 | 0 | 105 | 0 | **432** | **432** | **2468** |
| 0900-1000 | 0 | 794 | 89 | 0 | **883** | 0 | 644 | 40 | 0 | **684** | **1567** | 0 | 0 | 0 | 0 | **0** | 244 | 0 | 110 | 0 | **354** | **354** | **1921** |
| 1130-1200 | 0 | 308 | 43 | 0 | **351** | 0 | 257 | 45 | 0 | **302** | **653** | 0 | 0 | 0 | 0 | **0** | 157 | 0 | 65 | 0 | **222** | **222** | **875** |
| 1200-1300 | 0 | 668 | 74 | 0 | **742** | 0 | 556 | 113 | 0 | **669** | **1411** | 0 | 0 | 0 | 0 | **0** | 372 | 0 | 120 | 0 | **492** | **492** | **1903** |
| 1300-1330 | 0 | 286 | 36 | 0 | **322** | 0 | 300 | 44 | 0 | **344** | **666** | 0 | 0 | 0 | 0 | **0** | 155 | 0 | 56 | 0 | **211** | **211** | **877** |
| 1500-1600 | 0 | 775 | 162 | 0 | **937** | 0 | 927 | 143 | 0 | **1070** | **2007** | 0 | 0 | 0 | 0 | **0** | 633 | 0 | 249 | 0 | **882** | **882** | **2889** |
| 1600-1700 | 0 | 876 | 206 | 0 | **1082** | 0 | 1072 | 209 | 0 | **1281** | **2363** | 0 | 0 | 0 | 0 | **0** | 731 | 0 | 307 | 0 | **1038** | **1038** | **3401** |
| 1700-1800 | 0 | 735 | 147 | 0 | **882** | 0 | 768 | 188 | 0 | **956** | **1838** | 0 | 0 | 0 | 0 | **0** | 761 | 0 | 259 | 0 | **1020** | **1020** | **2858** |
| 1800-1900 | 0 | 548 | 80 | 0 | **628** | 0 | 678 | 92 | 0 | **770** | **1398** | 0 | 0 | 0 | 0 | **0** | 539 | 0 | 167 | 0 | **706** | **706** | **2104** |
| **Totals** | **0** | **8003** | **1156** | **0** | **9159** | **0** | **7313** | **1014** | **0** | **8327** | **17486** | **0** | **0** | **0** | **0** | **0** | **4526** | **0** | **1732** | **0** | **6258** | **6258** | **23744** |

**Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts conducted during the hours of 0700h - 1000h, 1130h - 1330h and 1500h - 1800h**

| AM Peak Hour Factor ➡ 0.97 | | | | | | | | | | | | Highest Hourly Vehicle Volume Between 0500h & 1000h | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| 0715-0815 | 0 | 1272 | 138 | 0 | **1410** | 0 | 805 | 52 | 0 | **857** | **2267** | 0 | 0 | 0 | 0 | **0** | 373 | 0 | 107 | 0 | **480** | **480** | **2747** |
| OFF Peak Hour Factor ➡ 0.95 | | | | | | | | | | | | Highest Hourly Vehicle Volume Between 1000h & 1500h | | | | | | | | | | | |
| OFF Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| 1200-1300 | 0 | 668 | 74 | 0 | **742** | 0 | 556 | 113 | 0 | **669** | **1411** | 0 | 0 | 0 | 0 | **0** | 372 | 0 | 120 | 0 | **492** | **492** | **1903** |
| PM Peak Hour Factor ➡ 0.92 | | | | | | | | | | | | Highest Hourly Vehicle Volume Between 1500h & 1900h | | | | | | | | | | | |
| PM Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| 1615-1715 | 0 | 875 | 212 | 0 | **1087** | 0 | 1036 | 218 | 0 | **1254** | **2341** | 0 | 0 | 0 | 0 | **0** | 746 | 0 | 314 | 0 | **1060** | **1060** | **3401** |
| EVNG Peak Hour Factor ➡ N/A | | | | | | | | | | | | Highest Hourly Vehicle Volume Between 1900h & 0000h | | | | | | | | | | | |
| EVNG Pk Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| N/A | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | **0** | **0** |

**Comments:**

Westbound traffic would occasionally back up from Moodie Drive to the southbound Highway 416 off-ramp during the PM peak period; however, it would clear relatively quickly.

**Notes:**

1. Includes all vehicle types except bicycles and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

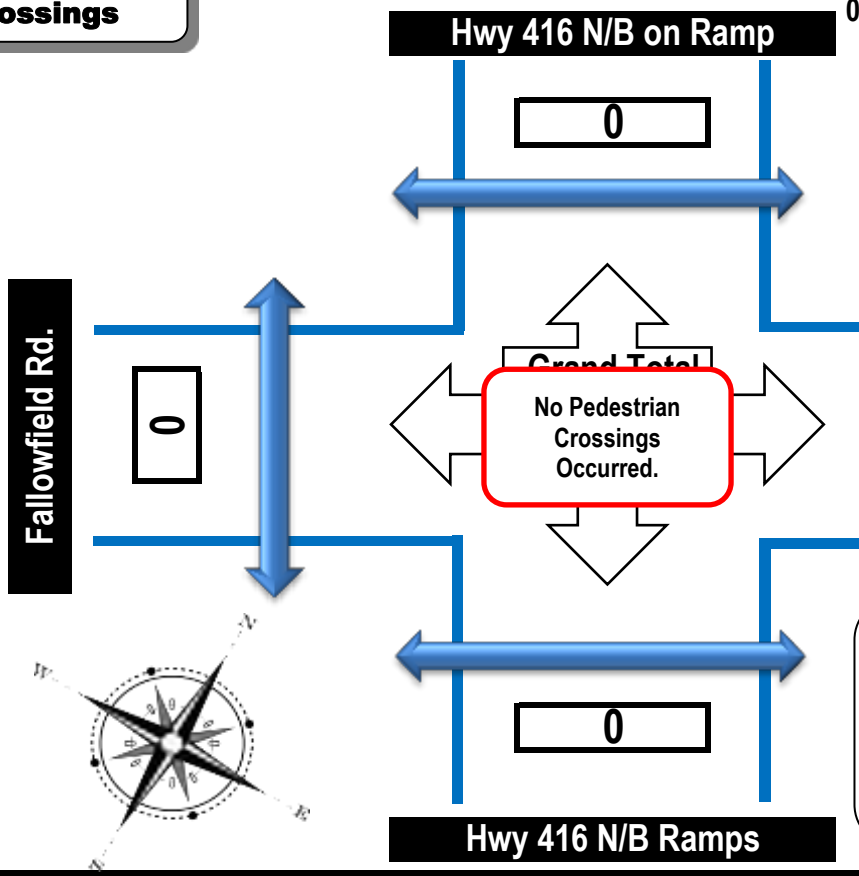
# Turning Movement Count

Pedestrian Crossings Summary
and Flow Diagram

## Fallowfield Road & Highway 416 N/B On & Off Ramps — Nepean, ON

**Pedestrian Crossings**

**Tuesday, 3 March 2020**
0600-1000, 1130-1330 & 1500-1900
10 Hour Survey
City of Ottawa Ward ▶ 3




**Note**

*The values in the summary table below and the flow diagram represent the number of pedestrian crossing**s** **NOT** the number of individual pedestrian**s** crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

| Time Period | West Side Crossing Fallowfield Rd. | East Side Crossing Fallowfield Rd. | Street Total | South Side Crossing Hwy 416 N/B Ramps | North Side Crossing Hwy 416 N/B on Ramp | Street Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 0600-0700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700-0800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1130-1200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200-1300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700-1800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800-1900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

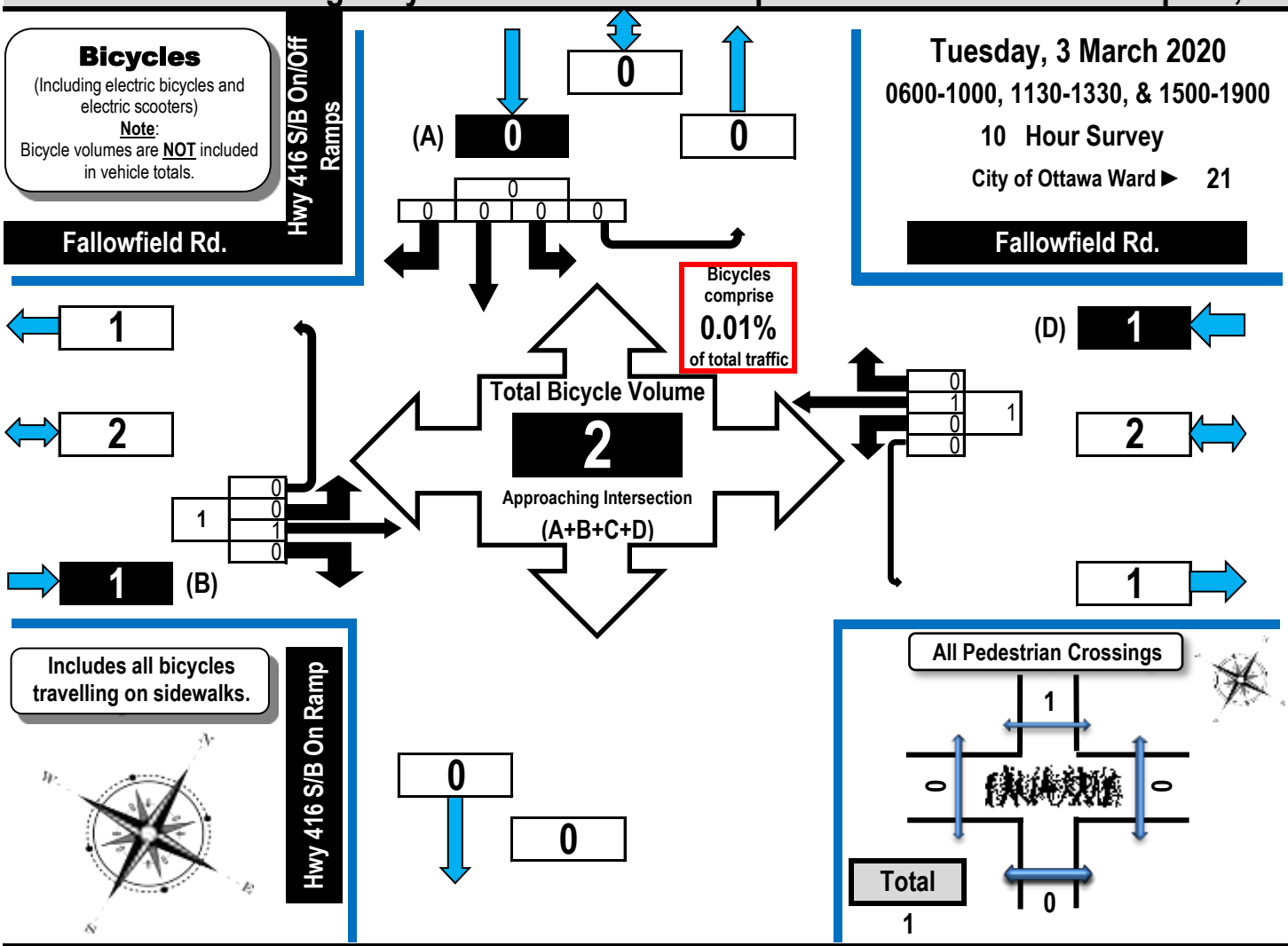
No Pedestrian Crossings Occurred.

**Comments:**
No pedestrian crossings were observed.

# Turning Movement Count
## Bicycle Summary
## Flow Diagram

## Fallowfield Road & Highway 416 S/B On & Off Ramps — Nepean, ON

**Bicycles**
(Including electric bicycles and electric scooters)
Note:
Bicycle volumes are NOT included in vehicle totals.




| | Fallowfield Rd. Eastbound | | | | | Fallowfield Rd. Westbound | | | | | Hwy 416 S/B On Ramp Northbound | | | | | Hwy 416 S/B On/Off Ramps Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | G.Tot. |
| | | | | | | | | | | | | | | | | | | | | | |
| 0600-0700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700-0800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | | |
| 1130-1200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200-1300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | | | | | | | | | | | | | | | | | | | | |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1700-1800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800-1900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Totals | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |

# Turning Movement Count
## Summary Report Including AM, OFF Peak, PM, Evening Peak Hours, and PHF

**Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses**

## Fallowfield Road & Highway 416 N/B On & Off Ramps — Nepean, ON

**Survey Date:** Tuesday, 3 March 2020 **Start Time:** 0600 **AADT Factor:** 1.0

**Weather AM:** Clear -1° C **Survey Duration:** 10 Hrs. **Survey Hours:** 0600-1000, 1130-1330 & 1500-1900

**Weather PM:** Light Rain +3° C **Surveyor(s):** T. Carmody

| | Fallowfield Rd. Eastbound | | | | | Fallowfield Rd. Westbound | | | | | | Hwy 416 N/B Ramps Northbound | | | | | Hwy 416 N/B on Ramp Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | UT | E/B Tot | LT | ST | RT | UT | W/B Tot | Street Total | LT | ST | RT | UT | N/B Tot | LT | ST | RT | UT | S/B Tot | Street Total | Grand Total |
| 0600-0700 | 0 | 666 | 318 | 0 | **984** | 0 | 398 | 592 | 0 | **990** | **1974** | 125 | 0 | 104 | 0 | **229** | 0 | 0 | 0 | 0 | **0** | **229** | **2203** |
| 0700-0800 | 0 | 1317 | 305 | 0 | **1622** | 0 | 652 | 1042 | 0 | **1694** | **3316** | 166 | 0 | 207 | 0 | **373** | 0 | 0 | 0 | 0 | **0** | **373** | **3689** |
| 0800-0900 | 0 | 1169 | 172 | 0 | **1341** | 0 | 761 | 1187 | 0 | **1948** | **3289** | 149 | 0 | 147 | 0 | **296** | 0 | 0 | 0 | 0 | **0** | **296** | **3585** |
| 0900-1000 | 0 | 839 | 199 | 0 | **1038** | 0 | 598 | 549 | 0 | **1147** | **2185** | 86 | 0 | 0 | 0 | **86** | 0 | 0 | 0 | 0 | **0** | **86** | **2271** |
| 1130-1200 | 0 | 402 | 63 | 0 | **465** | 0 | 269 | 205 | 0 | **474** | **939** | 33 | 0 | 50 | 0 | **83** | 0 | 0 | 0 | 0 | **0** | **83** | **1022** |
| 1200-1300 | 0 | 918 | 122 | 0 | **1040** | 0 | 614 | 380 | 0 | **994** | **2034** | 55 | 0 | 113 | 0 | **168** | 0 | 0 | 0 | 0 | **0** | **168** | **2202** |
| 1300-1330 | 0 | 385 | 56 | 0 | **441** | 0 | 303 | 172 | 0 | **475** | **916** | 41 | 0 | 45 | 0 | **86** | 0 | 0 | 0 | 0 | **0** | **86** | **1002** |
| 1500-1600 | 0 | 1273 | 135 | 0 | **1408** | 0 | 971 | 448 | 0 | **1419** | **2827** | 99 | 0 | 88 | 0 | **187** | 0 | 0 | 0 | 0 | **0** | **187** | **3014** |
| 1600-1700 | 0 | 1456 | 151 | 0 | **1607** | 0 | 1142 | 448 | 0 | **1590** | **3197** | 139 | 0 | 102 | 0 | **241** | 0 | 0 | 0 | 0 | **0** | **241** | **3438** |
| 1700-1800 | 0 | 1365 | 131 | 0 | **1496** | 0 | 840 | 379 | 0 | **1219** | **2715** | 116 | 0 | 85 | 0 | **201** | 0 | 0 | 0 | 0 | **0** | **201** | **2916** |
| 1800-1900 | 0 | 995 | 92 | 0 | **1087** | 0 | 696 | 316 | 0 | **1012** | **2099** | 74 | 0 | 78 | 0 | **152** | 0 | 0 | 0 | 0 | **0** | **152** | **2251** |
| Totals | **0** | **10785** | **1744** | **0** | **12529** | **0** | **7244** | **5718** | **0** | **12962** | **25491** | **1083** | **0** | **1019** | **0** | **2102** | **0** | **0** | **0** | **0** | **0** | **2102** | **27593** |

**Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts conducted during the hours of 0700h - 1000h, 1130h - 1330h and 1500h - 1800h**

| AM Peak Hour Factor ➡ 0.96 | | | | | | | | | | | | Highest Hourly Vehicle Volume Between 0500h & 1000h | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| 0715-0815 | 0 | 1376 | 269 | 0 | **1645** | 0 | 700 | 1143 | 0 | **1843** | **3488** | 157 | 0 | 199 | 0 | **356** | 0 | 0 | 0 | 0 | **0** | **356** | **3844** |
| **OFF Peak Hour Factor ➡ 0.92** | | | | | | | | | | | | **Highest Hourly Vehicle Volume Between 1000h & 1500h** | | | | | | | | | | | |
| OFF Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| 1200-1300 | 0 | 918 | 122 | 0 | **1040** | 0 | 614 | 380 | 0 | **994** | **2034** | 55 | 0 | 113 | 0 | **168** | 0 | 0 | 0 | 0 | **0** | **168** | **2202** |
| **PM Peak Hour Factor ➡ 0.94** | | | | | | | | | | | | **Highest Hourly Vehicle Volume Between 1500h & 1900h** | | | | | | | | | | | |
| PM Peak Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| 1600-1700 | 0 | 1456 | 151 | 0 | **1607** | 0 | 1142 | 448 | 0 | **1590** | **3197** | 139 | 0 | 102 | 0 | **241** | 0 | 0 | 0 | 0 | **0** | **241** | **3438** |
| **EVNG Peak Hour Factor ➡ N/A** | | | | | | | | | | | | **Highest Hourly Vehicle Volume Between 1900h & 0000h** | | | | | | | | | | | |
| EVNG Pk Hr | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | LT | ST | RT | UT | TOT | LT | ST | RT | UT | TOT | S.TOT | G.TOT |
| N/A | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | **0** | 0 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | **0** | **0** | **0** |

**Comments:**

No pedestrian crossings were observed.

**Notes:**

1. Includes all vehicle types except bicycles and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

# Turning Movement Count

**Pedestrian Crossings Summary and Flow Diagram**

## Fallowfield Road & Highway 416 S/B On & Off Ramps — Nepean, ON

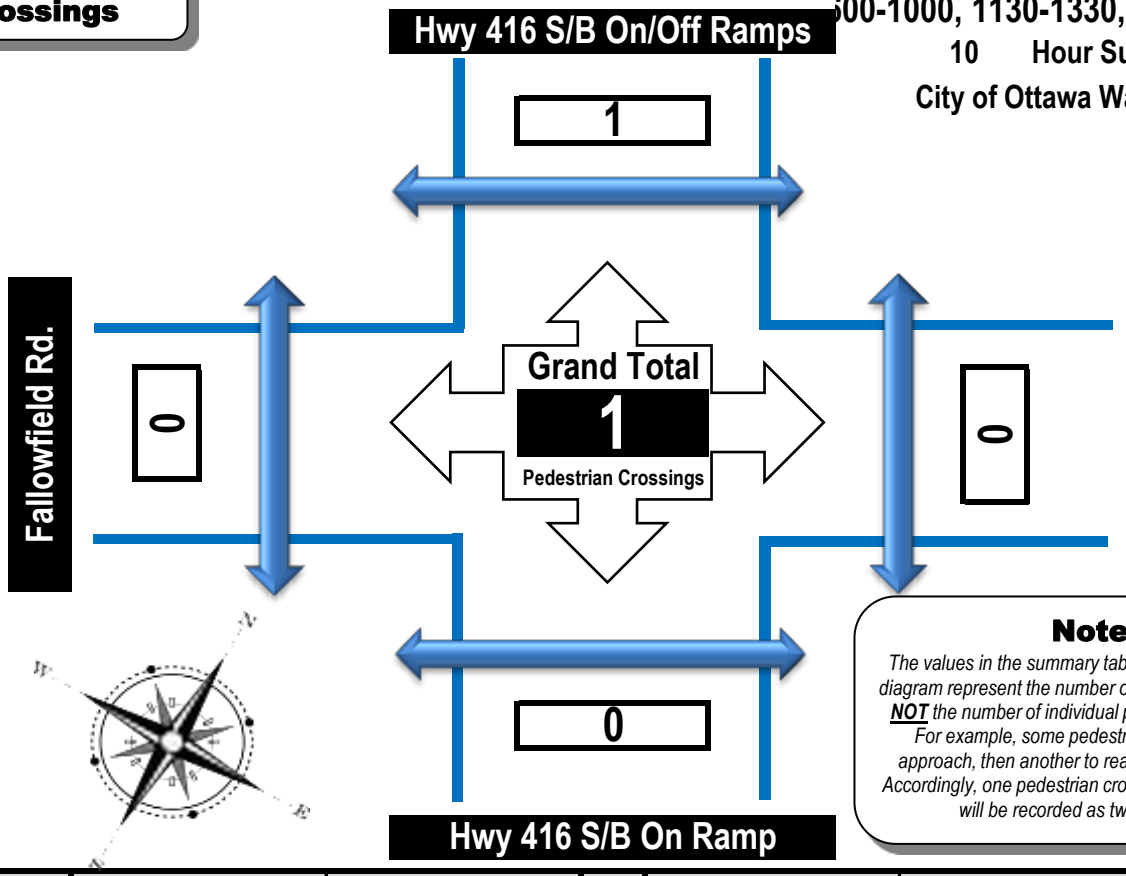
**Pedestrian Crossings**

**Tuesday, 3 March 2020**

**0600-1000, 1130-1330, & 1500-19(**

**10 Hour Survey**

**City of Ottawa Ward ► 21**




**Note**

*The values in the summary table below and the flow diagram represent the number of pedestrian crossings **NOT** the number of individual pedestrians crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

| Time Period | West Side Crossing Fallowfield Rd. | East Side Crossing Fallowfield Rd. | Street Total | South Side Crossing Hwy 416 S/B On Ramp | North Side Crossing Hwy 416 S/B On/Off Ramps | Street Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 0600-0700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700-0800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1130-1200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200-1300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700-1800 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1800-1900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | 0 | 0 | 0 | 0 | 1 | 1 | 1 |

**Comments:**

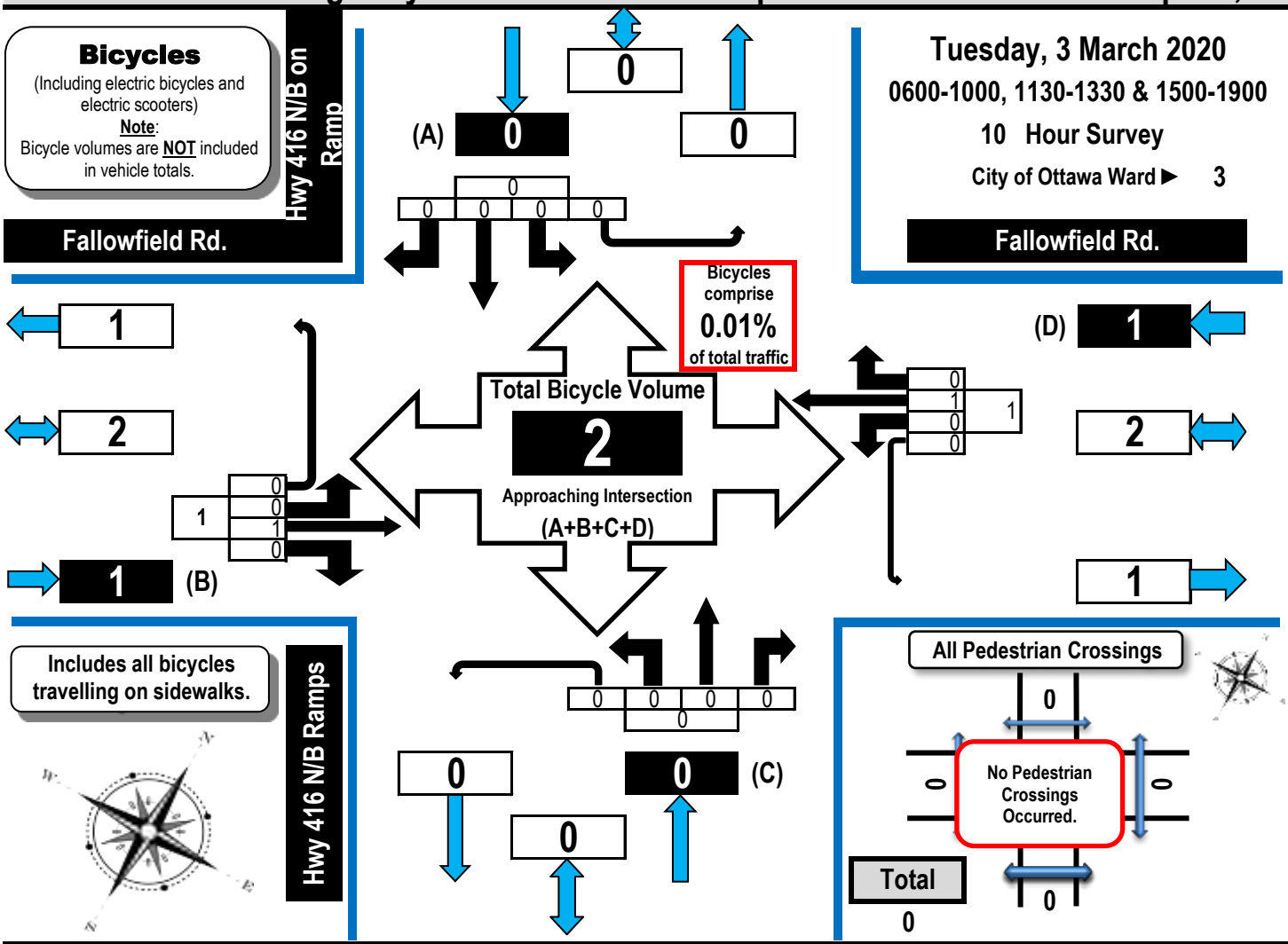
Westbound traffic would occasionally back up from Moodie Drive to the southbound Highway 416 off-ramp during the PM peak period; however, it would clear relatively quickly.

# Turning Movement Count
## Bicycle Summary
## Flow Diagram

## Fallowfield Road & Highway 416 N/B On & Off Ramps — Nepean, ON

**Bicycles**
(Including electric bicycles and electric scooters)
Note:
Bicycle volumes are NOT included in vehicle totals.

Tuesday, 3 March 2020
0600-1000, 1130-1330 & 1500-1900
10 Hour Survey
City of Ottawa Ward ▶ 3




Includes all bicycles travelling on sidewalks.

All Pedestrian Crossings




Total 0

| | Fallowfield Rd. Eastbound | | | | | Fallowfield Rd. Westbound | | | | | Hwy 416 N/B Ramps Northbound | | | | | Hwy 416 N/B on Ramp Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | LT | ST | RT | UT | S. Tot | G.Tot. |
| | | | | | | | | | | | | | | | | | | | | | |
| 0600-0700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700-0800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800-0900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | | |
| 1130-1200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200-1300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300-1330 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | | | | | | | | | | | | | | | | | | | | |
| 1500-1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1700-1800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800-1900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Totals | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |

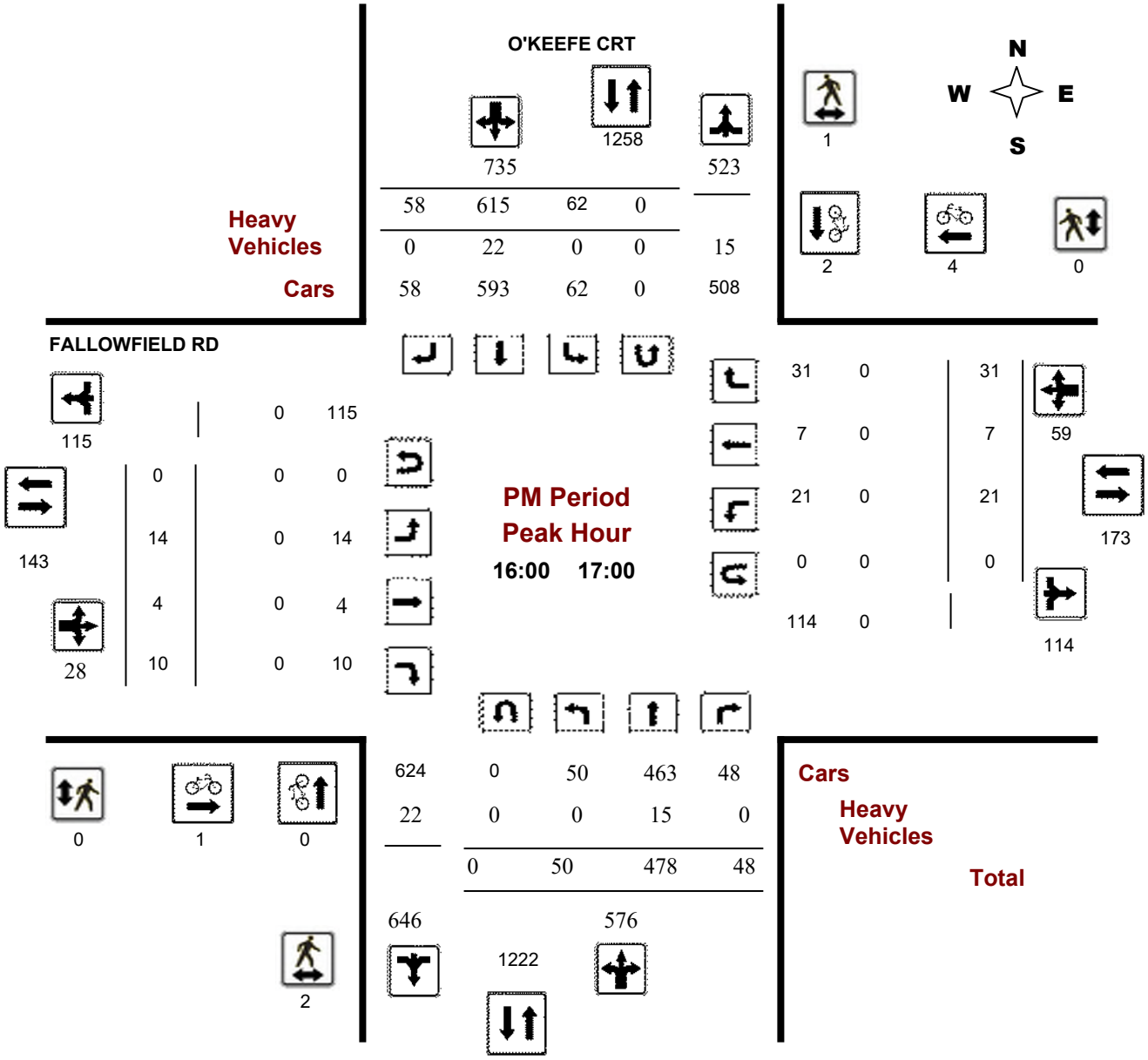
# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

## FALLOWFIELD RD @ O'KEEFE CRT

**Survey Date:** Tuesday, June 05, 2018 **WO No:** 37862

**Start Time:** 07:00 **Device:** Miovision




**Comments**

# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

## FALLOWFIELD RD @ O'KEEFE CRT

**Survey Date:** Tuesday, June 05, 2018 **WO No:** 37862

**Start Time:** 07:00 **Device:** Miovision

### Full Study Cyclist Volume

| Time Period | | O'KEEFE CRT | | | FALLOWFIELD RD | | | |
|---|---|---|---|---|---|---|---|---|
| | | Northbound | Southbound | Street Total | Eastbound | Westbound | Street Total | Grand Total |
| 07:00 | 07:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 | 07:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 | 07:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 | 08:00 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 08:00 | 08:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 | 08:30 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 08:30 | 08:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 | 09:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 | 09:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:15 | 09:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:30 | 09:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:45 | 10:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 11:45 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 11:45 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 | 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:30 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 13:00 | 0 | 0 | 0 | 0 | 2 | 2 | 2 |
| 13:00 | 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:15 | 13:30 | 0 | 0 | 0 | 2 | 0 | 2 | 2 |
| 15:00 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15:15 | 15:30 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 15:30 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15:45 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:00 | 16:15 | 0 | 1 | 1 | 1 | 0 | 1 | 2 |
| 16:15 | 16:30 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 16:30 | 16:45 | 0 | 0 | 0 | 0 | 4 | 4 | 4 |
| 16:45 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 17:45 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 17:45 | 18:00 | 1 | 1 | 2 | 0 | 0 | 0 | 2 |
| Total | | 4 | 4 | **8** | 3 | 7 | 10 | 18 |

# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

## FALLOWFIELD RD @ O'KEEFE CRT

**Survey Date:** Tuesday, June 05, 2018 **WO No:** 37862

**Start Time:** 07:00 **Device:** Miovision

### Full Study Pedestrian Volume

| | O'KEEFE CRT | | | FALLOWFIELD RD | | | |
|---|---|---|---|---|---|---|---|
| Time Period | NB Approach (E or W Crossing) | SB Approach (E or W Crossing) | **Total** | EB Approach (N or S Crossing) | WB Approach (N or S Crossing) | **Total** | **Grand Total** |
| 07:00 07:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:15 07:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:30 07:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 07:45 08:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:00 08:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:15 08:30 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 08:30 08:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 08:45 09:00 | 1 | 2 | **3** | 0 | 0 | **0** | **3** |
| 09:00 09:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:15 09:30 | 0 | 0 | **0** | 1 | 0 | **1** | **1** |
| 09:30 09:45 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 09:45 10:00 | 1 | 1 | **2** | 0 | 0 | **0** | **2** |
| 11:30 11:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 11:45 12:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:00 12:15 | 2 | 0 | **2** | 0 | 0 | **0** | **2** |
| 12:15 12:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:30 12:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 12:45 13:00 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 13:00 13:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 13:15 13:30 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 15:00 15:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:15 15:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 15:30 15:45 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 15:45 16:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:00 16:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 16:15 16:30 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 16:30 16:45 | 0 | 1 | **1** | 0 | 0 | **0** | **1** |
| 16:45 17:00 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 17:00 17:15 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:15 17:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:30 17:45 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 17:45 18:00 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| Total ..... | 7 | 8 | **15** | 1 | 0 | **1** | **16** |

# APPENDIX E

Collision Records

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

**Location:** CROSSKEYS PL/HELENE CAMPBELL RD @ STRANDHERD DR

**Traffic Control:** Traffic signal

**Total Collisions:** 13

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2016-Dec-17, Sat,13:57 | Snow | Sideswipe | P.D. only | Loose snow | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2017-Aug-03, Thu,11:25 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2017-Sep-25, Mon,10:36 | Clear | Angle | Non-fatal injury | Dry | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Truck - dump | Other motor vehicle | |
| 2017-Nov-22, Wed,18:45 | Clear | Sideswipe | P.D. only | Dry | East | Unknown | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2018-Jan-13, Sat,09:20 | Clear | Rear end | P.D. only | Wet | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2018-Jan-25, Thu,05:27 | Clear | SMV other | P.D. only | Wet | North | Turning right | Automobile, station wagon | Ran off road | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2018-Mar-16, Fri,17:00 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Passenger van | Other motor vehicle |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Jun-12, Tue,08:13 | Clear | Sideswipe | P.D. only | Dry | South | Going ahead | Passenger van | Other motor vehicle |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Jul-26, Thu,16:20 | Clear | Rear end | P.D. only | Dry | East | Slowing or stopping | Delivery van | Other motor vehicle |
| | | | | | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| 2018-Aug-06, Mon,07:45 | Clear | Angle | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-23, Sun,08:45 | Clear | Angle | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Oct-27, Sat,14:49 | Clear | Rear end | P.D. only | Dry | West | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Nov-26, Mon,14:43 | Rain | Rear end | P.D. only | Wet | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |

**Location:** FALLOWFIELD RD @ HWY 416 FALLOWFI IC66R24

**Traffic Control:** Stop sign

**Total Collisions:** 12

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2014-Jan-12, Sun,03:17 | Rain | Angle | P.D. only | Wet | East | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | North | Turning right | Truck and trailer | Other motor vehicle | |
| 2014-Jan-27, Mon,10:15 | Snow | Rear end | Non-fatal injury | Loose snow | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2015-Jun-23, Tue,17:21 | Clear | Angle | P.D. only | Dry | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle | |
| 2015-Nov-18, Wed,09:35 | Clear | Angle | Non-fatal injury | Dry | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2015-Dec-04, Fri,17:22 | Clear | Angle | Non-fatal injury | Dry | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2016-Sep-06, Tue,13:56 | Clear | Angle | Non-fatal injury | Dry | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Turning left | Pick-up truck | Other motor vehicle | |
| 2016-Nov-03, Thu,15:30 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | East | Stopped | Passenger van | Other motor vehicle |
| 2017-Jul-21, Fri,17:59 | Clear | Angle | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Turning left | Automobile, station wagon | Other motor vehicle |
| 2017-Dec-18, Mon,12:30 | Snow | Rear end | P.D. only | Slush | East | Unknown | Unknown | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-23, Sun,13:17 | Clear | Rear end | P.D. only | Dry | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-23, Sun,16:38 | Clear | Angle | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Turning left | Automobile, station wagon | Other motor vehicle |
| 2018-Nov-06, Tue,17:07 | Clear | Rear end | P.D. only | Wet | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |

**Location:** FALLOWFIELD RD @ HWY 416 FALLOWFI IC66R34

**Traffic Control:** Traffic signal **Total Collisions:** 8

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2015-Nov-22, Sun,14:50 | Clear | Rear end | P.D. only | Dry | South | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Turning left | Pick-up truck | Other motor vehicle |
| 2016-Oct-24, Mon,15:31 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2016-Nov-21, Mon,16:51 | Snow | Angle | P.D. only | Loose snow | North | Turning right | Pick-up truck | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Mar-23, Thu,16:58 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | West | Stopped | Delivery van | Other motor vehicle |
| 2017-Apr-08, Sat,12:17 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Dec-10, Sun,17:49 | Clear | Rear end | Non-fatal injury | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle |
| 2018-Oct-06, Sat,03:00 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |

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|---|---|---|---|---|---|---|---|---|---|
| 2018-Dec-14, Fri,12:00 | Rain | Rear end | P.D. only | Ice | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Truck - tractor | Other motor vehicle | |

**Location:** FALLOWFIELD RD @ MOODIE DR

**Traffic Control:** Traffic signal

**Total Collisions:** 46

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2014-Feb-14, Fri,18:00 | Clear | Rear end | P.D. only | Slush | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2014-May-07, Wed,08:15 | Clear | Sideswipe | P.D. only | Dry | West | Changing lanes | Pick-up truck | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2014-Oct-13, Mon,22:26 | Clear | SMV other | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Ran off road | |
| 2015-Jan-05, Mon,09:20 | Clear | Turning movement | P.D. only | Wet | East | Turning left | School bus | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2015-Jan-09, Fri,15:10 | Clear | Rear end | P.D. only | Wet | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Unknown | Unknown | Other motor vehicle | |
| 2015-Feb-02, Mon,12:22 | Drifting Snow | Rear end | P.D. only | Packed snow | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Delivery van | Other motor vehicle | |

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|---|---|---|---|---|---|---|---|---|
| 2015-Mar-23, Mon,06:44 | Clear | Rear end | P.D. only | Dry | South | Slowing or stopping | Delivery van | Other motor vehicle |
| | | | | | South | Stopped | School bus | Other motor vehicle |
| 2015-Jul-24, Fri,16:45 | Clear | Rear end | P.D. only | Dry | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2015-Aug-25, Tue,16:14 | Clear | Rear end | P.D. only | Dry | East | Slowing or stopping | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle |
| 2015-Nov-19, Thu,07:30 | Clear | Rear end | P.D. only | Wet | East | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle |
| 2016-Mar-21, Mon,15:37 | Clear | Rear end | Non-fatal injury | Dry | South | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| 2016-Apr-02, Sat,13:37 | Clear | Rear end | Non-fatal injury | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Turning left | Automobile, station wagon | Other motor vehicle |
| 2016-May-10, Tue,19:41 | Clear | Rear end | P.D. only | Dry | East | Slowing or stopping | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2016-May-13, Fri,00:05 | Clear | Turning movement | P.D. only | Dry | South | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2016-May-26, Thu,08:10 | Clear | Rear end | P.D. only | Dry | West | Slowing or stopping | Pick-up truck | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2016-Jul-05, Tue,15:47 | Clear | Rear end | P.D. only | Dry | West | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2016-Sep-23, Fri,07:45 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2016-Oct-25, Tue,13:50 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2016-Dec-16, Fri,09:43 | Clear | Rear end | P.D. only | Ice | East | Slowing or stopping | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Jan-05, Thu,08:07 | Clear | Rear end | P.D. only | Ice | East | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2017-Apr-07, Fri,07:51 | Clear | Rear end | P.D. only | Wet | East | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle |
| 2017-Apr-17, Mon,19:34 | Clear | Rear end | Non-fatal injury | Dry | West | Unknown | Unknown | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-May-01, Mon,16:33 | Rain | Rear end | P.D. only | Wet | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2017-Jun-15, Thu,16:36 | Clear | Rear end | P.D. only | Dry | West | Changing lanes | School bus | Other motor vehicle |
| | | | | | West | Going ahead | Pick-up truck | Other motor vehicle |
| 2017-Jun-21, Wed,06:57 | Clear | Sideswipe | P.D. only | Dry | East | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle |
| 2017-Jul-08, Sat,10:50 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2017-Jul-14, Fri,07:43 | Clear | Sideswipe | Non-fatal injury | Dry | South | Changing lanes | Passenger van | Other motor vehicle |
| | | | | | South | Going ahead | Truck - dump | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2017-Sep-08, Fri,16:36 | Clear | Rear end | Non-fatal injury | Wet | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Sep-22, Fri,17:13 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Sep-27, Wed,13:48 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Nov-17, Fri,14:00 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Passenger van | Other motor vehicle |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Dec-10, Sun,18:50 | Clear | Turning movement | P.D. only | Dry | West | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2017-Dec-19, Tue,06:55 | Snow | Turning movement | P.D. only | Loose snow | South | Turning left | Other school vehicle/bus | Other motor vehicle |
| | | | | | North | Going ahead | Pick-up truck | Other motor vehicle |
| 2018-Jan-04, Thu,18:37 | Drifting Snow | Rear end | P.D. only | Ice | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Slowing or stopping | Pick-up truck | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2018-Feb-12, Mon,17:27 | Clear | Turning movement | P.D. only | Wet | North | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Mar-27, Tue,16:39 | Clear | Rear end | P.D. only | Dry | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Passenger van | Other motor vehicle |
| | | | | | West | Stopped | Delivery van | Other motor vehicle |
| 2018-Mar-27, Tue,17:45 | Clear | Rear end | P.D. only | Dry | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| 2018-Apr-29, Sun,14:28 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-May-15, Tue,16:33 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Jul-05, Thu,16:44 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2018-Aug-12, Sun,14:32 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-03, Mon,09:20 | Clear | Rear end | Non-fatal injury | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-20, Thu,16:36 | Clear | Sideswipe | P.D. only | Dry | East | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Oct-30, Tue,17:21 | Clear | Sideswipe | P.D. only | Dry | West | Merging | Pick-up truck | Other motor vehicle |
| | | | | | West | Going ahead | Passenger van | Other motor vehicle |
| 2018-Dec-17, Mon,14:33 | Clear | Sideswipe | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Dec-23, Sun,13:46 | Clear | Turning movement | Non-fatal injury | Dry | West | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |

**Location:** FALLOWFIELD RD @ O'KEEFE CRT

**Traffic Control:** Stop sign

**Total Collisions:** 1

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2015-Sep-28, Mon,07:47 | Clear | Angle | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |

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|---|---|---|---|---|---|---|---|---|---|
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle | |

**Location:** FALLOWFIELD RD @ STRANDHERD DR

**Traffic Control:** Traffic signal **Total Collisions:** 35

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2014-Mar-26, Wed,17:53 | Clear | Rear end | Non-fatal injury | Dry | East | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle | |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle | |
| 2014-Jun-08, Sun,04:47 | Clear | SMV other | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Curb | |
| 2014-Aug-29, Fri,08:56 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning right | Pick-up truck | Other motor vehicle | |
| 2014-Oct-20, Mon,08:45 | Clear | SMV other | Non-fatal injury | Dry | East | Going ahead | Automobile, station wagon | Pedestrian | 1 |
| 2015-Feb-24, Tue,12:48 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2015-Jul-22, Wed,20:20 | Clear | Rear end | P.D. only | Dry | East | Turning left | Pick-up truck | Other motor vehicle | |
| | | | | | East | Turning left | Automobile, station wagon | Other motor vehicle | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2015-Aug-14, Fri,16:39 | Clear | Sideswipe | P.D. only | Dry | East | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2016-Jan-13, Wed,15:11 | Clear | Sideswipe | P.D. only | Wet | West | Changing lanes | Pick-up truck | Other motor vehicle |
| | | | | | West | Going ahead | Pick-up truck | Other motor vehicle |
| 2016-Jan-19, Tue,06:27 | Clear | Rear end | P.D. only | Ice | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2016-Feb-20, Sat,03:57 | Rain | Rear end | P.D. only | Slush | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2016-Jun-18, Sat,13:50 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Jan-12, Thu,06:25 | Rain | Approaching | P.D. only | Wet | West | Unknown | Unknown | Other motor vehicle |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle |
| 2017-Feb-26, Sun,14:09 | Clear | Sideswipe | P.D. only | Dry | West | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Changing lanes | Pick-up truck | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2017-Apr-20, Thu,08:40 | Clear | Rear end | P.D. only | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Turning left | Pick-up truck | Other motor vehicle |
| 2017-Jun-05, Mon,14:45 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle |
| 2017-Jul-14, Fri,18:11 | Clear | Rear end | P.D. only | Dry | South | Turning right | Pick-up truck | Other motor vehicle |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Merging | Automobile, station wagon | Other motor vehicle |
| 2017-Jul-26, Wed,07:34 | Clear | Sideswipe | P.D. only | Dry | West | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2017-Aug-12, Sat,18:56 | Rain | Rear end | Non-fatal injury | Wet | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Aug-15, Tue,14:45 | Clear | Angle | Non-fatal injury | Dry | East | Going ahead | Passenger van | Other motor vehicle |
| | | | | | North | Turning left | Pick-up truck | Other motor vehicle |
| 2017-Sep-20, Wed,20:10 | Clear | Rear end | P.D. only | Dry | West | Turning right | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | West | Turning right | Automobile, station wagon | Other motor vehicle |
| 2017-Oct-17, Tue,17:28 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Nov-17, Fri,12:02 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | West | Stopped | Passenger van | Other motor vehicle |
| 2018-Jan-08, Mon,12:55 | Snow | Rear end | Non-fatal injury | Slush | East | Slowing or stopping | Pick-up truck | Skidding/sliding |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Feb-08, Thu,15:46 | Clear | Angle | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Going ahead | Pick-up truck | Other motor vehicle |
| 2018-Feb-09, Fri,17:45 | Clear | Rear end | Non-fatal injury | Wet | West | Slowing or stopping | Automobile, station wagon | Skidding/sliding |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| 2018-Feb-16, Fri,15:35 | Clear | Rear end | P.D. only | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Turning left | Automobile, station wagon | Other motor vehicle |
| 2018-Mar-09, Fri,10:55 | Snow | Angle | Non-fatal injury | Wet | West | Going ahead | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | South | Turning left | Pick-up truck | Other motor vehicle |
| 2018-Apr-26, Thu,16:11 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Turning right | Passenger van | Other motor vehicle |
| 2018-Jun-19, Tue,21:05 | Clear | Angle | Non-fatal injury | Dry | South | Going ahead | Motorcycle | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Jun-24, Sun,14:01 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle |
| 2018-Aug-16, Thu,12:28 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-10, Mon,07:45 | Clear | Sideswipe | P.D. only | Dry | West | Unknown | Unknown | Other motor vehicle |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Sep-17, Mon,14:10 | Clear | Rear end | P.D. only | Dry | South | Turning right | Pick-up truck | Other motor vehicle |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle |
| 2018-Oct-24, Wed,08:45 | Clear | Rear end | Non-fatal injury | Dry | West | Changing lanes | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2018-Dec-22, Sat,08:04 | Snow | Turning movement | P.D. only | Loose snow | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Turning left | Automobile, station wagon | Other motor vehicle | |

**Location:** KENNEVALE DR @ STRANDHERD DR

**Traffic Control:** Traffic signal **Total Collisions:** 36

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2014-Jan-04, Sat,13:21 | Clear | SMV other | Non-fatal injury | Wet | West | Turning left | Automobile, station wagon | Pole (utility, power) | |
| 2014-Mar-17, Mon,18:08 | Clear | Rear end | Non-fatal injury | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle | |
| 2014-Mar-17, Mon,22:03 | Clear | Rear end | Non-fatal injury | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Unknown | Unknown | Other motor vehicle | |
| 2014-Jun-12, Thu,08:30 | Rain | Rear end | Non-fatal injury | Wet | West | Slowing or stopping | Pick-up truck | Other motor vehicle | |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| 2014-Jun-23, Mon,17:05 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Passenger van | Other motor vehicle | |
| | | | | | South | Going ahead | Pick-up truck | Other motor vehicle | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2014-Jul-18, Fri,13:13 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2014-Aug-21, Thu,17:41 | Clear | Rear end | P.D. only | Wet | West | Slowing or stopping | Passenger van | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2014-Oct-01, Wed,10:29 | Clear | Other | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Debris falling off vehicle |
| | | | | | South | Going ahead | Unknown | Other |
| 2014-Oct-01, Wed,18:33 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| 2015-Aug-23, Sun,10:17 | Clear | Turning movement | Non-fatal injury | Dry | North | Turning left | Passenger van | Other motor vehicle |
| | | | | | South | Going ahead | Pick-up truck | Other motor vehicle |
| 2015-Aug-24, Mon,17:45 | Clear | Angle | P.D. only | Dry | West | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2015-Nov-06, Fri,18:31 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Stopped | Passenger van | Other motor vehicle |
| 2015-Nov-10, Tue,15:58 | Clear | Rear end | P.D. only | Dry | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| 2015-Dec-08, Tue,07:35 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Passenger van | Other motor vehicle |
| | | | | | North | Slowing or stopping | Pick-up truck | Other motor vehicle |
| 2016-Jan-17, Sun,15:45 | Snow | Turning movement | P.D. only | Loose snow | South | Turning left | Pick-up truck | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2016-Jan-30, Sat,10:18 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2016-Apr-08, Fri,15:40 | Clear | Turning movement | Non-fatal injury | Dry | West | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2016-Nov-09, Wed,18:03 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Jan-28, Sat,15:55 | Clear | Rear end | P.D. only | Wet | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Stopped | Passenger van | Other motor vehicle |
| 2017-Jan-30, Mon,08:30 | Clear | Rear end | P.D. only | Ice | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Apr-27, Thu,08:50 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-May-01, Mon,22:33 | Clear | Other | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Pole (sign, parking meter) |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |
| 2017-May-02, Tue,16:00 | Clear | Rear end | P.D. only | Dry | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Stopped | Pick-up truck | Other motor vehicle |
| 2017-May-27, Sat,17:52 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2017-Jun-08, Thu,17:15 | Clear | Turning movement | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Turning left | Automobile, station wagon | Other motor vehicle |
| 2017-Jun-19, Mon,06:53 | Clear | Turning movement | P.D. only | Dry | South | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Going ahead | Delivery van | Other motor vehicle |
| 2017-Oct-07, Sat,16:48 | Clear | Turning movement | P.D. only | Dry | North | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2017-Oct-28, Sat,18:35 | Rain | Angle | P.D. only | Wet | West | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Jan-15, Mon,03:35 | Clear | SMV other | P.D. only | Slush | North | Going ahead | Automobile, station wagon | Skidding/sliding |
| 2018-Mar-17, Sat,13:00 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | West | Turning right | Automobile, station wagon | Other motor vehicle |
| 2018-Apr-02, Mon,12:57 | Clear | Rear end | P.D. only | Dry | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Oct-07, Sun,13:53 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2018-Oct-09, Tue,16:15 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2018-Dec-03, Mon,07:20 | Rain | Rear end | P.D. only | Wet | West | Going ahead | Truck-other | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2018-Dec-17, Mon,15:00 | Snow | Turning movement | P.D. only | Wet | South | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2018-Dec-19, Wed,16:00 | Clear | Turning movement | P.D. only | Dry | South | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |

**Location:** MARAVISTA DR @ STRANDHERD DR

**Traffic Control:** Traffic signal **Total Collisions:** 18

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2015-Feb-17, Tue,07:23 | Clear | Angle | P.D. only | Ice | West | Turning right | Pick-up truck | Other motor vehicle | |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2015-May-29, Fri,11:34 | Clear | Angle | Non-fatal injury | Dry | South | Turning right | Automobile, station wagon | Cyclist | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | West | Going ahead | Bicycle | Other motor vehicle |
| 2016-May-31, Tue,14:10 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | North | Stopped | Pick-up truck | Other motor vehicle |
| 2017-Mar-13, Mon,15:20 | Clear | Rear end | P.D. only | Dry | East | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2017-Mar-24, Fri,21:54 | Freezing Rain | SMV other | P.D. only | Slush | East | Going ahead | Automobile, station wagon | Skidding/sliding |
| 2017-May-18, Thu,17:23 | Clear | Angle | Non-fatal injury | Dry | South | Going ahead | Pick-up truck | Other motor vehicle |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle |
| 2017-Jun-01, Thu,16:49 | Clear | Turning movement | P.D. only | Dry | North | Turning left | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Going ahead | Pick-up truck | Other motor vehicle |
| 2017-Sep-26, Tue,19:50 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Pick-up truck | Other motor vehicle |
| | | | | | North | Stopped | Pick-up truck | Other motor vehicle |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2017-Oct-12, Thu,12:32 | Clear | Angle | P.D. only | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Making "U" turn | Automobile, station wagon | Other motor vehicle |
| 2017-Nov-04, Sat,18:19 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Jan-03, Wed,17:07 | Clear | Sideswipe | P.D. only | Wet | East | Changing lanes | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Turning left | Automobile, station wagon | Other motor vehicle |
| 2018-Jan-08, Mon,12:00 | Snow | Rear end | Non-fatal injury | Loose snow | East | Unknown | Unknown | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |
| 2018-Jul-01, Sun,17:16 | Clear | Rear end | Non-fatal injury | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | South | Stopped | Passenger van | Other motor vehicle |
| 2018-Sep-04, Tue,09:40 | Clear | Rear end | P.D. only | Dry | East | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Nov-16, Fri,16:00 | Snow | SMV other | P.D. only | Loose snow | South | Going ahead | Automobile, station wagon | Skidding/sliding |
| 2018-Dec-10, Mon,19:00 | Clear | Sideswipe | P.D. only | Dry | West | Overtaking | Automobile, station wagon | Other motor vehicle |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Dec-21, Fri,13:58 | Rain | Rear end | P.D. only | Wet | North | Stopped | Automobile, station wagon | Other motor vehicle |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle |
| 2018-Dec-23, Sun,21:25 | Clear | Rear end | P.D. only | Loose snow | East | Going ahead | Automobile, station wagon | Other motor vehicle |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle |

# APPENDIX F

Excerpts from Relevant Traffic Studies

# 4. STUDY AREA

## 4.1. INTERSECTION ANALYSIS

The TIA will examine the intersections of at: Strandherd Drive at Andora Avenue, Strandherd Drive at Fraser Fields Way and Strandherd Drive at Borrisokane Road.

# 5. TIME PERIODS

The weekday morning and afternoon peak hours are considered the appropriate time periods for operational analysis for this subdivision.

# 6. HORIZON YEARS

For the purposes of the operational analysis it is assumed that the subject development will be fully built and occupied by 2020. This will necessitate the analysis of 2020 and 2025 horizons.

# 7. BACKGROUND GROWTH

For this TIA it is proposed that a 2% background growth rate be applied to account for background traffic growth beyond the Study Area. This is considered an appropriate background growth rate as there is a substantial amount of traffic growth being accounted for as part of the explicit traffic growth from nearby proposed developments including Citi-Gate, 4401 Fallowfield Road, and 4025 Strandherd Drive.

# 8. EXEMPTIONS REVIEW

The following exemptions are anticipated:

- 4.1.2 Circulation and Access – only required for site plans, this is a draft plan of subdivision
- 4.2 Parking – this is a draft plan of subdivision
- 4.6.1 it is not anticipated that traffic will utilize the adjacent road network of the subdivision to the north of the proposed development.

# 9. DEVELOPMENT-GENERATED TRAVEL DEMAND

## 9.1. TRIP GENERATION

### 9.1.1. TRIP GENERATION RATES

Appropriate trip generation rates for the proposed development were obtained from the TRANS Trip Generation Study and have been summarized in Table 3.

Table 3: TRANS Trip Generation Study Vehicle Trip Generation Rates

| Land Use | Data Source | Vehicle Trip Rates | |
|---|---|---|---|
| | | AM Peak | PM Peak |
| Single – Detached | LUC 210 | 0.70 | 0.90 |
| Townhouses | LUC 224 | 0.54 | 0.71 |
| Reference : TRANS Trip Generation Residential Trip Rates – Table 6.3 | | | |

The above trip generation rates are used estimate the number of vehicles trips. To understand the number of person trips it is necessary to convert the above vehicle trip rates to person trip rates.

The following base mode shares for suburban areas were obtained from the TRANS Trip Generation Study and have been summarized in Table 4.

Table 4: TRANS Trip Generation Report Mode Shares - Suburban

| Land Use | Data Source | Peak Hour | Suburban Mode Shares | | |
|---|---|---|---|---|---|
| | | | Vehicle Trips | Transit Share | Non-Motorized |
| Single – Detached | LUC 210 | AM | 55% | 25% | 9% |
| | | PM | 64% | 19% | 6% |
| Townhouses | LUC 224 | AM | 55% | 27% | 8% |
| | | PM | 61% | 22% | 6% |
| Reference : TRANS Trip Generation Residential Trip Rates – Table 3.13 | | | | | |

Using the above vehicle mode share percentages person trip generation rates were developed by taking the vehicle trip rates in Table 3 and divided them by the vehicle mode share percent in Table 4. The person trip generation rates are documented in Table 5.

Table 5: TRANS Trip Generation Report Person Trip Generation Rates

| Land Use | Data Source | Vehicle Trip Rates | |
|---|---|---|---|
| | | AM Peak | PM Peak |
| Single – Detached | LUC 210 | 1.27 | 1.41 |
| Townhouses | LUC 224 | 0.98 | 1.16 |

To determine the trip generation characteristics of the proposed development the rates presented in Table 5 were used with the proposed unit counts to determine the person trip generation. Table 6 summarizes the AM and PM peak hour person trips by land use.

Table 6: Modified Person Trip Generation Rates

| Land Use | Units | AM Peak (Person Trips/h) | | | PM Peak (Person Trips/h) | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| Single – Detached | 125 | 46 | 113 | 159 | 109 | 67 | 176 |
| Townhouses | 75 | 27 | 47 | 74 | 46 | 41 | 87 |
| **Total Person Trips** | | **73** | **160** | **233** | **155** | **108** | **263** |

### 9.1.2. MODE SHARES

While the TRANS Trip Generation Study presents mode shares for aggregate areas (i.e. Suburban, Urban Area, Core Area, etc.) these are broad areas. To further refine the mode share the TRANS O-D Survey has been reviewed. The mode share targets for the development have been summarized in Table 7 below.

Table 7: Mode Share Targets for the Development

| Travel Mode | Mode Share Target |
|---|---|
| Auto Driver | 55% |
| Auto Passenger | 15% |
| Transit | 15% |
| Walking | 7.5% |
| Cycling | 7.5% |

The modes shares presented in Table 7 have been estimated using the 2011 OD Survey Data for the South Nepean traffic zone. As this is a proposed residential subdivision, in an established suburban area, the mode share is not anticipated change greatly during the study horizons. While a Bus Rapid Transit facility is proposed along the Future Chapman Mills Drive Extension, it is assumed that this development could be fully built-out prior to the completion of that transit facility. Therefore, the existing mode shares have been carried forward as the Mode Share Targets for the purposes of this analysis.

Using the mode share and total person trips, both documented above, the person trips by mode were estimated. The person trips shown in Table 6 for the proposed site were reduced by modal share values above, with the total site-generated traffic summarized in Table 8.

Table 8: Total Site Trip Generation

| Travel Mode | Mode Share | AM Peak (Person Trips/hr) | | | PM Peak (Person Trips/hr) | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| Auto Driver | 55% | 41 | 88 | 129 | 86 | 60 | 146 |
| Auto Passenger | 15% | 11 | 24 | 35 | 23 | 16 | 39 |
| Transit | 15% | 11 | 24 | 35 | 23 | 16 | 39 |
| Non-motorized | 15% | 10 | 24 | 34 | 23 | 16 | 39 |
| Total Person Trips | 100% | 73 | 160 | 233 | 155 | 108 | 263 |

As shown in Table 8, the resulting number of potential 'new' two-way vehicle trips for the proposed development is approximately 129 and 146 veh/h during the weekday morning and afternoon peak hours, respectively.

## 9.2. TRIP DISTRIBUTION

The vehicle traffic distribution was developed using the 2011 NCR Household Origin – Destination Survey. The resultant distribution is outlined in Table 9.

Table 9: Traffic Distribution

| To/From | AM Peak Hour |
|---|---|
| North | 80% |
| South | 5% |
| East | 5% |
| West | 10% |
| **Total** | **100%** |

## 9.3. TRIP ASSIGNMENT

New site generated trips were assigned to the Study Area intersections using the above distribution, turning movement splits, proximity / connectivity to major transportation infrastructure (i.e. Highway 417), and the proposed access configuration. Figure 8 below displays the percentage assignment and Figure 9 shows the resulting volume assignment of the new site generated trip used in this analysis.

Figure 8: Percent Assignment

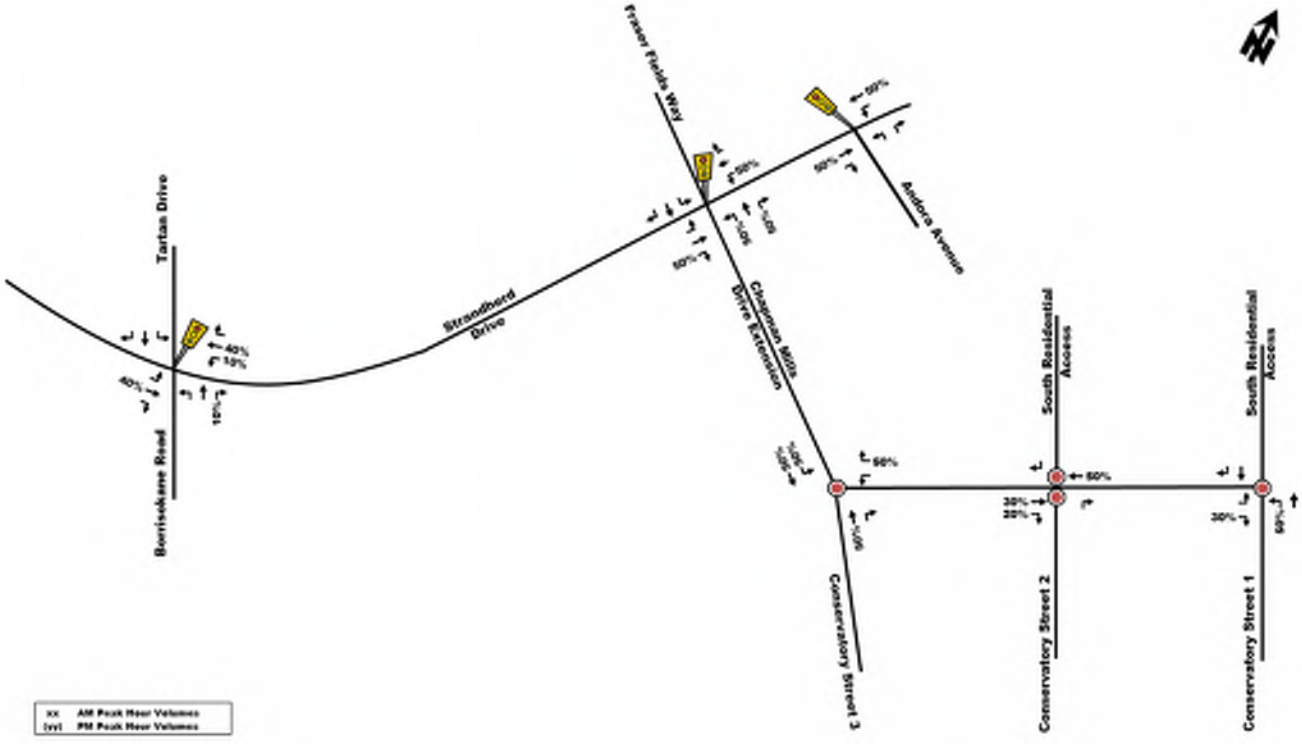
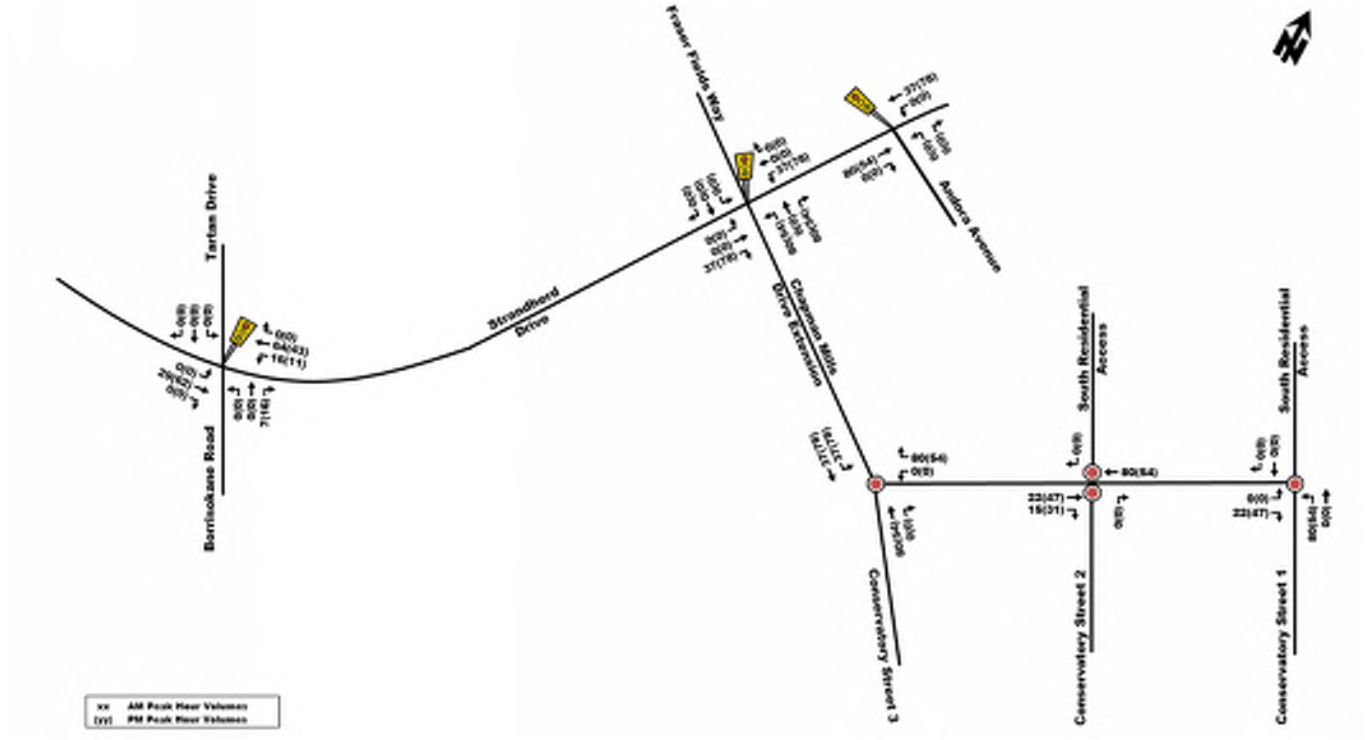


Figure 9: Site Generated Trip Volumes




# 10. BACKGROUND NETWORK TRAFFIC

## 10.1. CHANGES TO THE BACKGROUND TRANSPORTATION NETWORK

Please see Section 3.1.

## 10.2. OTHER AREA DEVELOPMENTS

The City of Ottawa's Development Applications webtool has been used to determine if there are proposed developments within the area of influence of the proposed development. These developments have been discussed in greater detail in Section 3.2. Figure 10, Figure 11, and Figure 12 document the traffic impact of each of the Citi-Gate Development, 4401 Fallowfield, and 4025 Strandherd Drive, on the subject development.

# 3.4 SITE TRAFFIC GENERATION

## 3.4.1 Land Use and Trip Generation Rates

The *Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition)* was used to estimate traffic generated by the subject site. The ITE land use codes 210 – Single Family Homes, 230 – Condo / Townhomes, and 520 – Elementary School were thought to be most representative of the proposed land uses.

As the school board has an option on the school block for seven years, there are no concepts or drawings prepared for the school at this time. In order to assess the trip generation of the proposed school, the size of the future school was estimated using a similar sized property for an elementary school in Barrhaven South. It was assumed that the proposed school will be approximately 30,000 square feet in size.

**Table 3** summarizes the trip rates obtained from the *ITE Trip Generation Manual* and the ensuing sections describe the methodology used to convert these trips to person trips across all modes of transportation.

**Table 3 Trips Generated by the Proposed Residential Development**

| ITE LAND USE | | | MORNING PEAK HOUR | | | AFTERNOON PEAK HOUR | | |
|---|---|---|---|---|---|---|---|---|
| | | | In | Out | Total | In | Out | Total |
| ***Step 1: ITE Trip Generation Rates*** | | | | | | | | |
| 210 – Single Family Homes | Units | 116 | 0.20 | 0.58 | 0.78 | 0.66 | 0.38 | 1.04 |
| 230 – Condo / Townhomes | Units | 92 | 0.09 | 0.43 | 0.52 | 0.41 | 0.20 | 0.61 |
| 520 – Elementary School | 1000's sq. ft. | 30 | 2.91 | 2.29 | 5.20 | 0.54 | 0.67 | 1.21 |
| ***Step 2: Conversion from Auto Trips to Person Trips*** | | | | | | | | |
| 210 – Single Family Homes | Trip Gen | | 23 | 68 | 91 | 76 | 44 | 120 |
| | Transit Share | 10% | 2 | 7 | 9 | 8 | 4 | 12 |
| | Auto Occupancy | 1.1 | 2 | 7 | 9 | 8 | 4 | 12 |
| | Total Person Trips | | 27 | 82 | 109 | 92 | 52 | 144 |
| 230 – Condo / Townhomes | Trip Gen | | 8 | 40 | 48 | 38 | 18 | 56 |
| | Transit Share | 10% | 1 | 4 | 5 | 4 | 2 | 6 |
| | Auto Occupancy | 1.1 | 1 | 4 | 5 | 4 | 2 | 6 |
| | Total Person Trips | | 10 | 48 | 58 | 46 | 22 | 68 |
| 520 – Elementary School | Trip Gen | | 88 | 69 | 157 | 16 | 20 | 36 |
| | Transit Share | 10% | 9 | 7 | 16 | 2 | 2 | 4 |
| | Auto Occupancy | 1.1 | 9 | 7 | 16 | 2 | 2 | 4 |
| | Total Person Trips | | 106 | 83 | 189 | 20 | 24 | 44 |

| ITE LAND USE | | | MORNING PEAK HOUR | | | AFTERNOON PEAK HOUR | | |
|---|---|---|---|---|---|---|---|---|
| | | | In | Out | Total | In | Out | Total |
| ***Step 3: Person Trips by Modal Share*** | | | | | | | | |
| 210 – Single Family Homes | Auto | 90% | 24 | 74 | 98 | 83 | 47 | 130 |
| | Passenger / Active Modes | 10% | 3 | 8 | 11 | 9 | 5 | 14 |
| 230 – Condo / Townhomes | Auto | 90% | 9 | 43 | 52 | 41 | 20 | 61 |
| | Passenger / Active Modes | 10% | 1 | 5 | 6 | 5 | 2 | 7 |
| 520 – Elementary School | Auto | 90% | 95 | 75 | 170 | 18 | 22 | 40 |
| | Passenger / Active Modes | 10% | 11 | 8 | 19 | 2 | 2 | 4 |
| ***Step 4: Internal Capture Trips*** | | | | | | | | |
| 210 – Single Family Homes | Auto Trips | | 24 | 74 | 98 | 83 | 47 | 130 |
| | Internal Capture | 0% | 0 | 0 | 0 | 0 | 0 | 0 |
| | Net New Auto Trips | | 24 | 74 | 98 | 83 | 47 | 130 |
| 230 – Condo / Townhomes | Auto Trips | | 9 | 43 | 52 | 41 | 20 | 61 |
| | Internal Capture | 0% | 0 | 0 | 0 | 0 | 0 | 0 |
| | Net New Auto Trips | | 9 | 43 | 52 | 41 | 20 | 61 |
| 520 – Elementary School | Auto Trips | | 95 | 75 | 170 | 18 | 22 | 40 |
| | Internal Capture | 70% | 67 | 53 | 120 | 13 | 15 | 28 |
| | Net New Auto Trips | | 28 | 22 | 50 | 5 | 7 | 12 |
| ***Step 5: Net New Auto Trips*** | | | | | | | | |
| Total Development | Auto Trips | | 128 | 192 | 320 | 142 | 89 | 231 |
| | Internal Capture | | 67 | 53 | 120 | 13 | 15 | 28 |
| | Net New Auto Trips | | 61 | 139 | 200 | 129 | 74 | 203 |

### 3.4.2 Conversion of ITE Rates to Person Trips

The notion of quantifying the volume of "person" trips expected to be generated by a given development is becoming a commonly accepted practice. It is aimed at quantifying the expected demands across the primary modes of transportation.

In order to convert ITE rates to person trips, the rates obtained from the ITE Trip Generation Manual were adjusted to account for the transit modal share and auto occupancy thought to be inherent within the ITE rates. An assumed transit share of 10% was thought to be inherent within the ITE rates and an auto occupancy rate of 1.1 persons per vehicle was also assumed to be inherent within the ITE rates.

Step 2 of **Table 3** outlines the conversion from auto trips to person trips.

### 3.4.3 Net New Site Trips

To reflect Barrhaven South travel characteristics, the person trips were assigned to the four primary modal shares (i.e. auto, passenger, transit, and active moves). Based on the lack of transit service and active modes facilities in the immediate study area, it was assumed that the auto modal share will be 90%, with the remaining 10% encompassing passenger, transit, and active modes. The proposed development is anticipated to generate 356 and 256 person trips during the AM and PM peak hours, respectively. In terms of vehicle trips, the proposed development is anticipated to generate 200 and 203 net new auto trips (two-way) during the AM and PM peak hours, respectively.

Step 3 of **Table 3** summarizes the expected person trips by modal share.

### 3.4.4 Internal Capture

When predicting trips that are associated with different land use types the interaction between those land use types must be accounted for by applying the principals of internal capture adjustments. Internal capture trips are trips which are shared between two or more uses within a given area. A portion of the generated trips for each individual land use is therefore drawn from the adjacent land uses. Internal capture adjustments were made to account for vehicles that visit more than one land use within the subject development. Since these trips are contained within the development area, accounting for each trip separately on the roadway network would result in "double-counting". For this reason, complementary land uses ultimately had their net new trips adjusted to reflect these synergies.

As the catchment area of the elementary school will largely consist of the subject development, the majority of the trips that the elementary school will generate will originate from the immediate area. For this reason, the elementary school was assumed to have an internal capture rate of 70%.

Step 4 of **Table 3** summarizes the internal capture trips for the subject development and Step 5 summarizes the net new auto trips.

### 3.4.5 Traffic Distribution and Assignment

The distribution of traffic to / from the study area was determined through examination of the TRANS Committee's 2011 Origin-Destination (O-D) Survey for the South Nepean District.

**Table 4** provides a summary of the estimated distribution for the traffic generated by the proposed development.

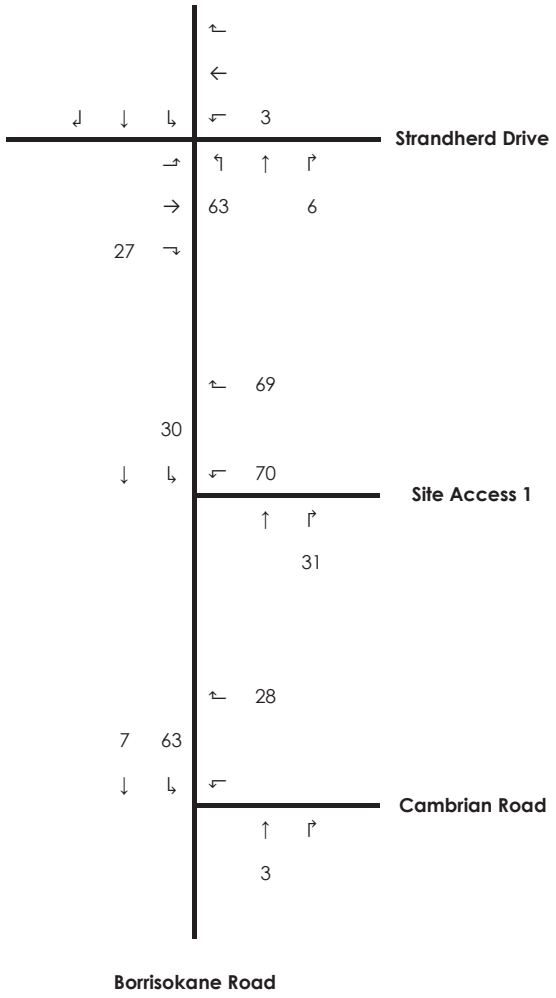
The anticipated site traffic generated by the proposed residential development was assigned to the boundary road network using a logical pattern of primary roads (i.e. along arterials and collectors) which can be seen in **Table 4** below.

**Table 4 Traffic Distribution from the South Nepean District**

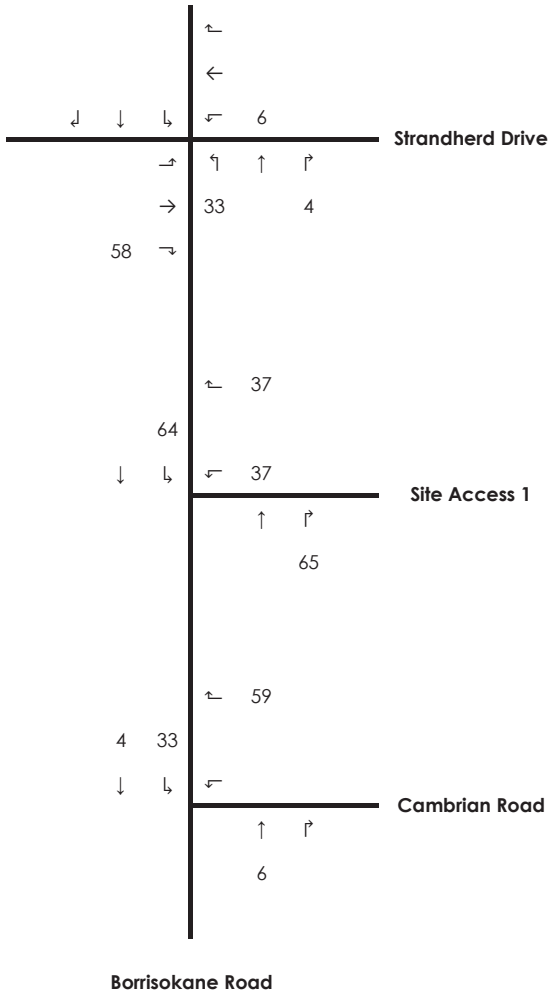
| CARDINAL DIRECTION | VIA (TO / FROM) | | | |
|---|---|---|---|---|
| | % Distribution | Borrisokane North | Borrisokane South | Existing Greenbank North |
| North | 25% | 20% | | 5% |
| East | 25% | 12.5% | | 12.5% |
| South | 5% | | 5% | |
| West | 5% | 5% | | |
| Internal (South Nepean) | 40% | 12% | | 28% |
| **Total** | **100%** | **49.5%** | **5%** | **45.5%** |

**Figure 8** illustrates the assignment of total site traffic volumes to the boundary road network.

## AM Peak Hour




## PM Peak Hour




Stantec

Glenview

3387 Borrisokane Road

Figure 8: 3387 Borrisokane Road Site Traffic

# 3 DEMAND FORECASTING

## 3.1 Background Traffic Growth

To account for background traffic growth along Strandherd Drive, several planned developments have been considered. This includes volumes generated by the 4401 Fallowfield and the Citi-Gate developments. These volumes account for the majority of additional auto trips on Strandherd Drive. **Appendix D** contains excerpts from each report, detailing the site generated traffic for each proposed development.

This study assumes that the mode share will remain stable (a conservative estimate) as the City of Ottawa is targeting growth in transit ridership, particularly in neighbourhoods South of the Jock River. If there is to be a shift in mode share (i.e. increase in transit), then the number of vehicle trips would have to decrease to accomplish this goal. To account for this effect, the background growth rate in addition to the developments explicitly added to the network, is considered negligible in the following analysis.

A portion of the South Nepean Town Centre traffic demand was a third component of the background traffic model. It was estimated that 10% of the total traffic from the SNTC would be assigned to Chapman Mills Drive between Longfields Drive and Strandherd Drive. This was derived by examining the Chapman Mills EA Needs Assessment.

The implementation of the Chapman Mills Drive Extension will also impact existing traffic on Strandherd Drive. Existing traffic on Strandherd Drive was reassigned to estimate the impact of the diversion of traffic away from Strandherd Drive.

**Figure 12** shows the projected Chapman Mills Drive Extension traffic volumes and the diverted traffic from Strandherd Drive onto Chapman Mills Drive

**Figure 13** shows the future background traffic volumes for the 2025 horizon.

## 3.2 Site Trip Generation

The number of vehicle trips has been estimated, based on the proposed land uses, to project the impact of the proposed development on the surrounding road network.

**Table 3** documents the proposed land uses, the ITE Land Use Codes, and the independent variables that are being proposed for the Clarke Development.

**Table 3: Clarke Development Proposed Land Uses**

| Land Use | Data Source | Independent Variable |
|---|---|---|
| Single Family Homes (Stage 1) | ITE 210 | 146 Units |
| Townhouse / Condominium (Stage 1) | ITE 230 | 262 Units |
| Back to Back Townhouse (Stage 1) | | 12 Units |
| Condominium (Stage 1) | | 24 Units |
| Townhouse / Condominium (Stage 2) | | 132 Units |
| Single Family Homes (Stage 2) | ITE 210 | 25 Units |
| Elementary School (Stage 1) | ITE 520 | 585 Students |
| Shopping Centre (Local Commercial east of Chapman Mills) (Stage 1) | ITE 820 | 8,000 $ft^2$ |

The ITE Land Use Codes and independent variables described above were used to develop the baseline automobile trip generation. The baseline automobile trip generation is multiplied by 1.30 to estimate the number of peak hour person trips that could be generated by the proposed development. The 2011 NCR Household Origin – Destination Survey was reviewed to determine the mode share characteristics of the subject area, specifically, the South Nepean Area.

**Table 4** documents the mode share based on O-D survey.

| Table 4: South Nepean Existing Mode Share | |
|---|---|
| **Travel Modes** | **Mode Share** |
| Auto Driver | 60% |
| Auto Passenger | 15% |
| Transit | 15% |
| Non-motorized | 10% |
| Total Person Trips | 100% |

As described above, the gross total trip generation was derived based on the ITE Trip Generation Manual, 9th Edition, the proposed land uses, and the existing mode share.

**Table 5** summarizes the total site trip generation.

**Appendix E** contains a detailed trip generation breakdown.

| Table 5: Site Trip Generation | | | | | | |
|---|---|---|---|---|---|---|
| **Travel Mode** | **AM Peak (veh/hr)** | | | **PM Peak (veh/hr)** | | |
| | **In** | **Out** | **Total** | **In** | **Out** | **Total** |
| Single Family Homes | 24 | 72 | 96 | 77 | 47 | 124 |
| Elementary School | 113 | 93 | 206 | 33 | 36 | 69 |
| Townhouse / Condominium | 20 | 99 | 119 | 93 | 46 | 139 |
| Shopping Centre | 16 | 11 | 27 | 41 | 45 | 86 |
| Townhouse / Condominium – Stage 2 | 9 | 42 | 51 | 39 | 20 | 59 |
| Single Family Homes – Stage 2 | 6 | 18 | 24 | 17 | 10 | 27 |
| Shopping Centre Pass-by (35%) | -5 | -5 | -10 | -15 | -15 | -30 |
| **Total 'New' Auto Trips** | **183** | **330** | **513** | **285** | **189** | **474** |

## 3.3 Vehicle Traffic Distribution and Assignment

The vehicle traffic distribution and assignment was developed using The 2011 NCR Household Origin – Destination Survey, South Nepean section. The resultant distribution is outlined in **Table 6.**

| Table 6: Traffic Distribution | |
|---|---|
| **To/From** | **Percentage** |
| North | 80% |
| South | 5% |
| East | 5% |
| West | 10% |
| Total | 100% |

The new site generated trips were assigned to the study area intersections using the above distributions, the existing turning movement patterns, and the proposed access locations. **Figure 10** and **Figure 11** document the site generated traffic of Stage 1 and Stage 2, respectively.

## 3.4 Projected Intersection Volumes

The background traffic volumes were combined with the site traffic volumes to determine the weekday AM and PM peak hour total traffic forecasts. The future total traffic volumes for the 2025 horizon years with Stage 1 and with both Stage 1 and Stage 2 are shown in **Figure 14** and **Figure 15**, respectively.

## Table 3 Trips Generated by the Proposed Development

| ***Step 1: ITE Trip Generation Rates*** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Land Parcel** | **Land Use Code** | **Units / GFA (1000's SF)** | **AM Peak Hour** | | | **PM Peak Hour** | | |
| | | | **Inbound** | **Outbound** | **Rate** | **Inbound** | **Outbound** | **Rate** |
| Residential - Singles | 210 - Single Detached Houses | 552 | 25% | 75% | 0.72 | 63% | 37% | 0.89 |
| Residential - Towns | 230 - Residential Condo / Townhouse | 464 | 17% | 83% | 0.38 | 67% | 33% | 0.46 |
| Commercial | 820 - Shopping Centre | 35 | 62% | 38% | 2.36 | 48% | 52% | 8.50 |

| ***Step 2: Conversion to Person Trips*** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Parcel** | **Land Use Code** | | **AM Peak Hour** | | | **PM Peak Hour** | | |
| | | | **Inbound** | **Outbound** | **Total** | **Inbound** | **Outbound** | **Total** |
| Residential - Singles | 210 - Single Detached Houses | Trip Gen | 99 | 297 | 396 | 308 | 181 | 489 |
| | | Transit Share 10% | 10 | 30 | 40 | 31 | 18 | 49 |
| | | Auto Occupancy 1.1 | 10 | 30 | 40 | 31 | 18 | 49 |
| | | Total Person Trips | 119 | 357 | 476 | 370 | 217 | 587 |
| Residential - Towns | 230 - Residential Condo / Townhouse | Trip Gen | 30 | 146 | 176 | 142 | 70 | 212 |
| | | Transit Share 10% | 3 | 15 | 18 | 14 | 7 | 21 |
| | | Auto Occupancy 1.1 | 3 | 15 | 18 | 14 | 7 | 21 |
| | | Total Person Trips | 36 | 176 | 212 | 170 | 84 | 254 |
| Commercial | 820 - Shopping Centre | Trip Gen | 51 | 31 | 82 | 141 | 153 | 294 |
| | | Transit Share 10% | 5 | 3 | 8 | 14 | 15 | 29 |
| | | Auto Occupancy 1.1 | 5 | 3 | 8 | 14 | 15 | 29 |
| | | Total Person Trips | 61 | 37 | 98 | 169 | 183 | 352 |

| ***Step 3: Modal Share Adjustments*** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Parcel** | **Land Use Code** | | **AM Peak Hour** | | | **PM Peak Hour** | | |
| | | | **Inbound** | **Outbound** | **Total** | **Inbound** | **Outbound** | **Total** |
| Residential - Singles | 210 - Single Detached Houses | Auto 60% | 71 | 214 | 285 | 222 | 130 | 352 |
| | | Passenger 10% | 12 | 36 | 48 | 37 | 22 | 59 |
| | | Transit 30% | 36 | 107 | 143 | 111 | 65 | 176 |
| | | Walk / Bike 0% | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential - Towns | 230 - Residential Condo / Townhouse | Trip Gen 60% | 21 | 105 | 126 | 102 | 50 | 152 |
| | | Transit Share 10% | 4 | 18 | 22 | 17 | 8 | 25 |
| | | Auto Occupancy 30% | 11 | 53 | 64 | 51 | 26 | 77 |
| | | Total Person Trips 0% | 0 | 0 | 0 | 0 | 0 | 0 |
| Commercial | 820 - Shopping Centre | Auto 60% | 37 | 22 | 59 | 101 | 110 | 211 |
| | | Passenger 10% | 6 | 4 | 10 | 17 | 18 | 35 |
| | | Transit 30% | 18 | 11 | 29 | 51 | 55 | 106 |
| | | Walk / Bike 0% | 0 | 0 | 0 | 0 | 0 | 0 |

| ***Step 4: Pass-By and Internal Capture*** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Parcel** | **Land Use Code** | | **AM Peak Hour** | | | **PM Peak Hour** | | |
| | | | **Inbound** | **Outbound** | **Total** | **Inbound** | **Outbound** | **Total** |
| Residential - Singles | 210 - Single Detached Houses | Auto Trips | 71 | 214 | 285 | 222 | 130 | 352 |
| | | Pass-By 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Internal Capture 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Auto Trips | 71 | 214 | 285 | 222 | 130 | 352 |
| Residential - Towns | 230 - Residential Condo / Townhouse | Auto Trips | 21 | 105 | 126 | 102 | 50 | 152 |
| | | Pass-By 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Internal Capture 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Auto Trips | 21 | 105 | 126 | 102 | 50 | 152 |
| Commercial | 820 - Shopping Centre | Auto Trips | 37 | 22 | 59 | 101 | 110 | 211 |
| | | Pass-By 15 | 15 | 30 | 53 | 53 | 106 | 106 |
| | | Net New Auto Trips | 22 | 7 | 30 | 48 | 57 | 106 |

| ***Step 5: Net New Auto Trips*** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Land Parcel** | **Land Use Code** | **AM Peak Hour** | | | **PM Peak Hour** | | |
| | | **Inbound** | **Outbound** | **Total** | **Inbound** | **Outbound** | **Total** |
| Residential | | 92 | 319 | 411 | 324 | 180 | 504 |
| Commercial | | 22 | 7 | 30 | 48 | 57 | 106 |

### 3.3.2 Conversion of ITE Rates to Person Trips

The notion of quantifying the volume of "person" trips expected to be generated by a given development is becoming a commonly accepted practice. It is aimed at quantifying the expected demands across the primary modes of transportation.

In order to convert ITE rates to person trips, the rates obtained from the ITE Trip Generation Manual were adjusted to account for the transit modal share and auto occupancy thought to be inherent within the ITE rates. An assumed transit share of 10% was thought to be inherent within the ITE rates and an auto occupancy rate of 1.1 persons per vehicle was also assumed to be inherent within the ITE rates. The proposed development is anticipated to generate 786 and 1193 person trips during the AM and PM peak hours, respectively.

Step 2 of **Table 3** outlines the conversion from auto trips to person trips.

### 3.3.3 Modal Share Adjustments

To reflect local Ottawa travel characteristics, the person trips were assigned to the four primary modal shares (i.e. auto, passenger, transit, and active moves) according to the TRANS Committee's 2011 Origin-Destination (O-D) Survey for the South Nepean District. In terms of auto trips, the proposed development is anticipated to generate 470 and 715 auto trips (two-way) during the AM and PM peak hours, respectively.

Step 3 of **Table 3** summarizes the expected person trips by modal share.

### 3.3.4 Pass-By Trips

Pass-by trips are considered intermediate stops between an origin and a destination. They are site trips that are drawn from existing traffic volumes on the road network that are "passing-by" the site. While the total number of trips generated by a given development remains the same, the turning movements at study area intersections / site accesses require adjustments to reflect pass-by traffic. The rate of pass-by traffic is based on the specific land use, and in this case, a pass-by rate was applied to the commercial portion of the development. As outlined in the *ITE Trip Generation Manual*, the pass-by rate for a commercial development of approximately 35,000 $ft^2$ is 50%.

Following the application of the pass-by rates, the proposed development is expected to generate approximately 441 and 610 net new auto trips (two-way) during the AM and PM peak hours, respectively.

Step 4 of **Table 3** summarizes the expected pass-by trips.

**Figure 7** illustrates the site trips the proposed development is anticipated to generate prior to accounting for pass-by trips.

**Figure 8** illustrates the pass-by trips the proposed development is anticipated to generate.

### 3.3.5 Traffic Distribution and Assignment

The distribution of traffic to / from the study area was determined through examination of the TRANS Committee's *2011 Origin-Destination (O-D) Survey* for the South Nepean District.

**Table 4** and **Table 5** provide a summary of the estimated distribution for the traffic generated by the proposed development.

The anticipated site traffic generated by the proposed development was assigned to the boundary road network using a logical pattern of primary roads (i.e. along arterials and collectors) and in consideration of the future road network (i.e. the future Realigned Greenbank Road) which can be seen in both tables below.

**Table 4 Residential Traffic Distribution from the South Nepean District**

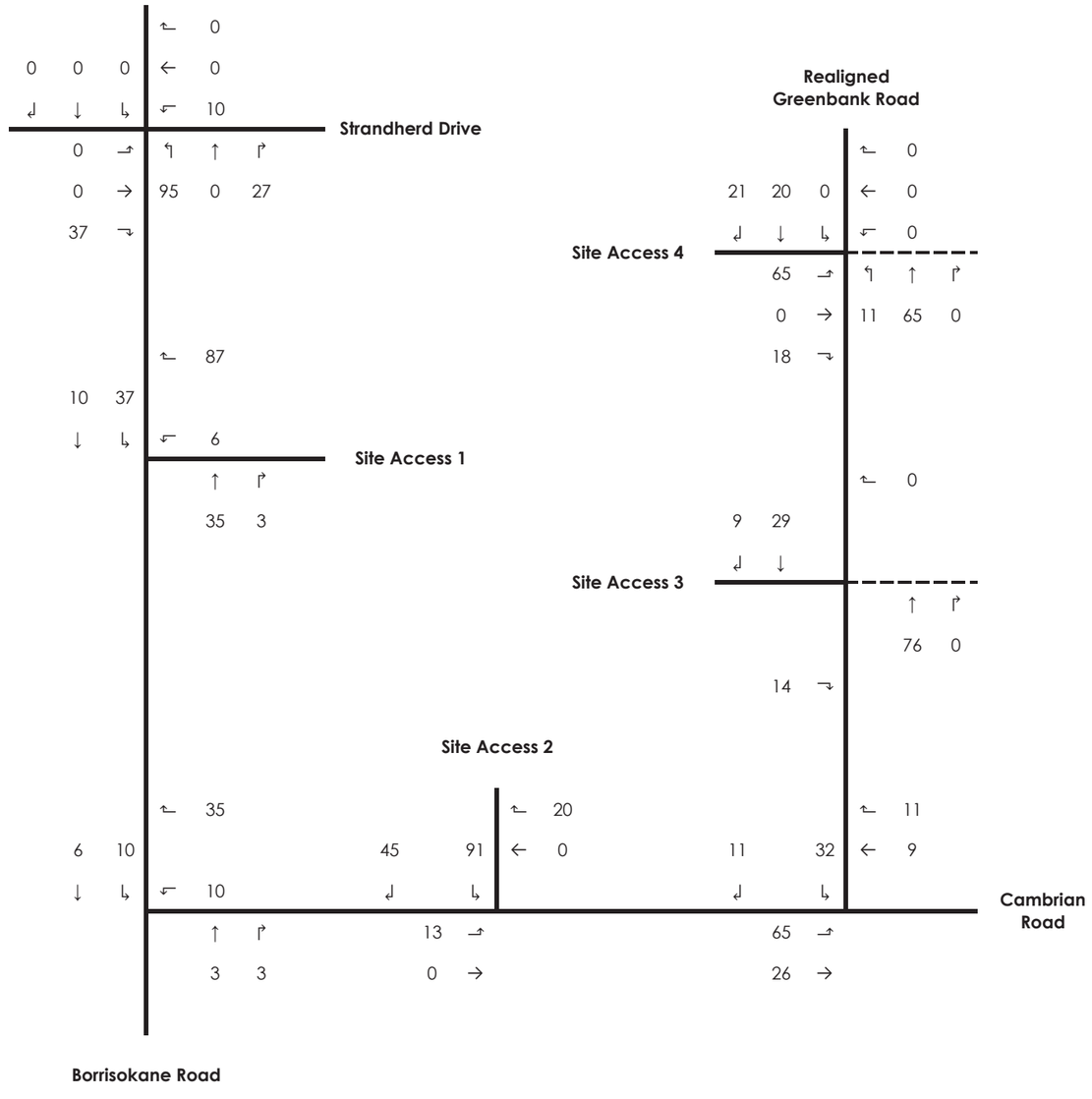
| Cardinal Direction | Via (to / from) | | | | |
|---|---|---|---|---|---|
| | % Distribution | Borrisokane North | Borrisokane South | Cambrian Road East | Realigned Greenbank North |
| North | 25% | 10% | | | 15% |
| East | 25% | 12.5% | | 7.5% | 5% |
| South | 5% | | 5% | | |
| West | 5% | 4.5% | | | 0.5% |
| Internal (South Nepean) | 40% | 10% | | 10% | 20% |
| **Total** | 100% | 37% | 5% | 17.5% | 40.5% |

**Table 5 Commercial Traffic Distribution from the South Nepean District**

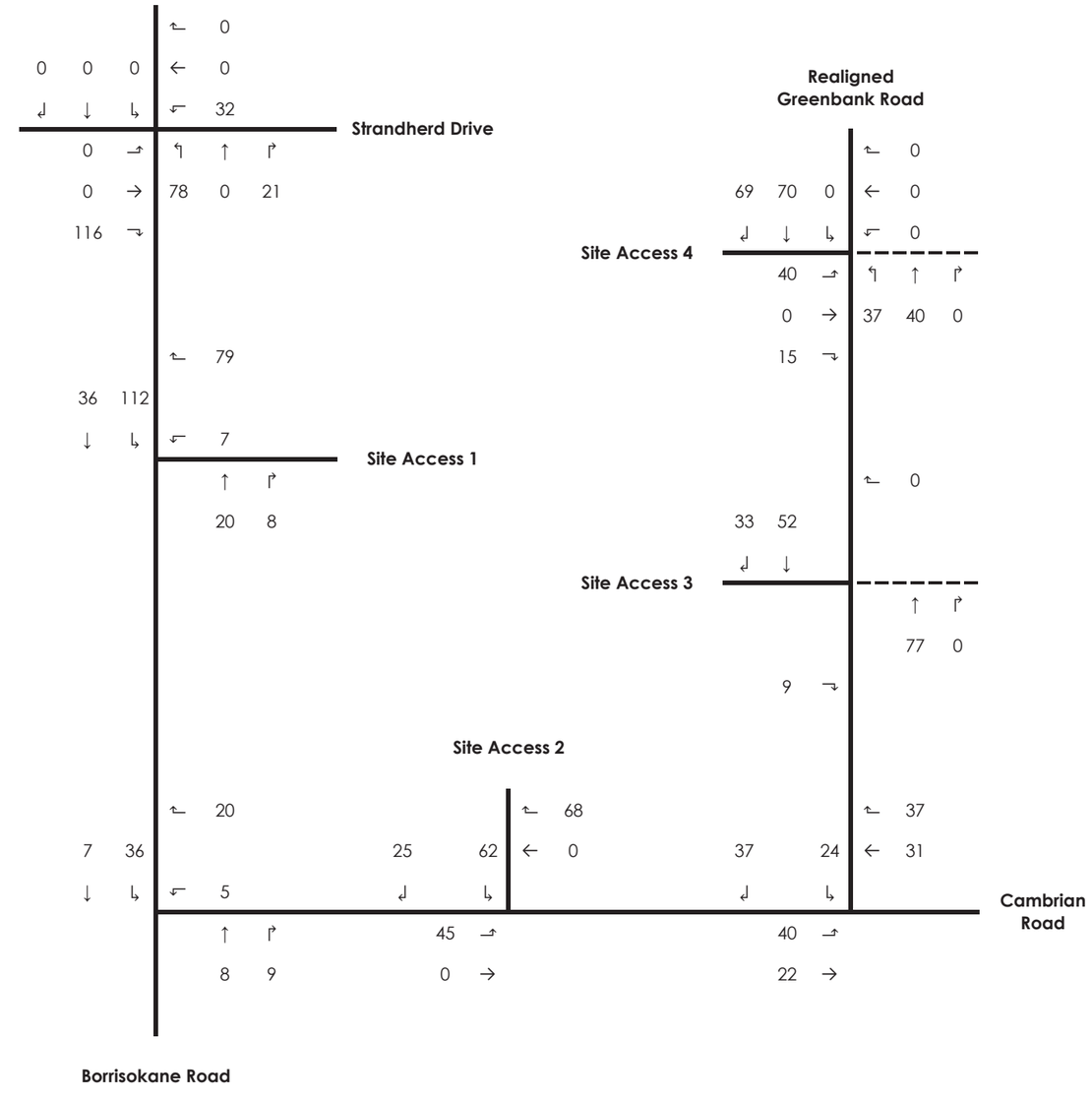
| Cardinal Direction | Via (to / from) | | | | |
|---|---|---|---|---|---|
| | % Distribution | Borrisokane North | Borrisokane South | Cambrian Road East | Realigned Greenbank North |
| North | 25% | 22.5% | | | 2.5% |
| East | 25% | 12.5% | | 7.5% | 5% |
| South | 5% | | 5% | | |
| West | 5% | 5% | | | |
| Internal (South Nepean) | 40% | 16% | | 16% | 8% |
| **Total** | 100% | 56% | 5% | 23.5% | 15.5% |

**Figure 9** illustrates the net new site traffic volumes for the proposed development.

## AM Peak Hour




## PM Peak Hour



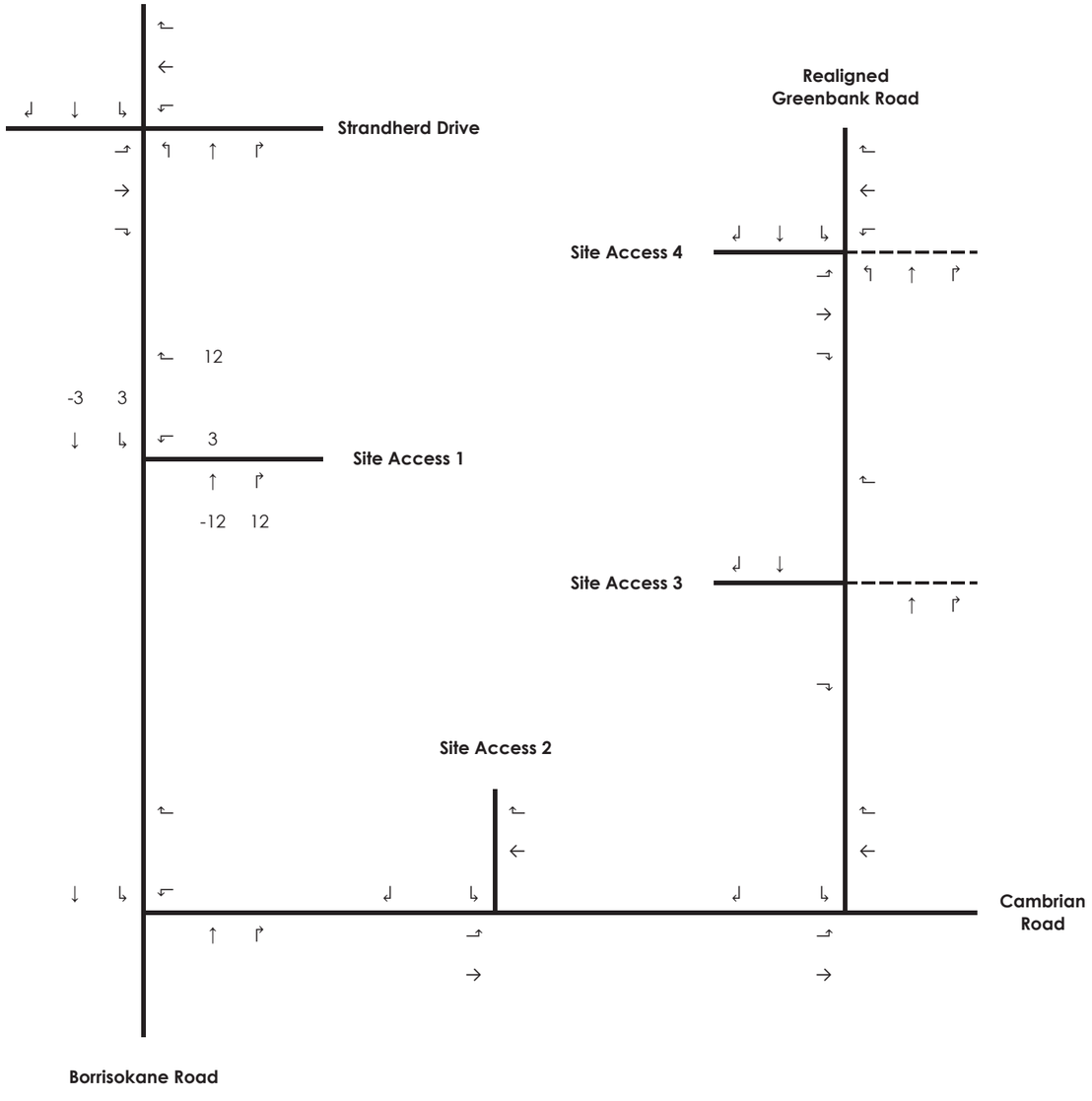

Stantec

Mattamy Homes

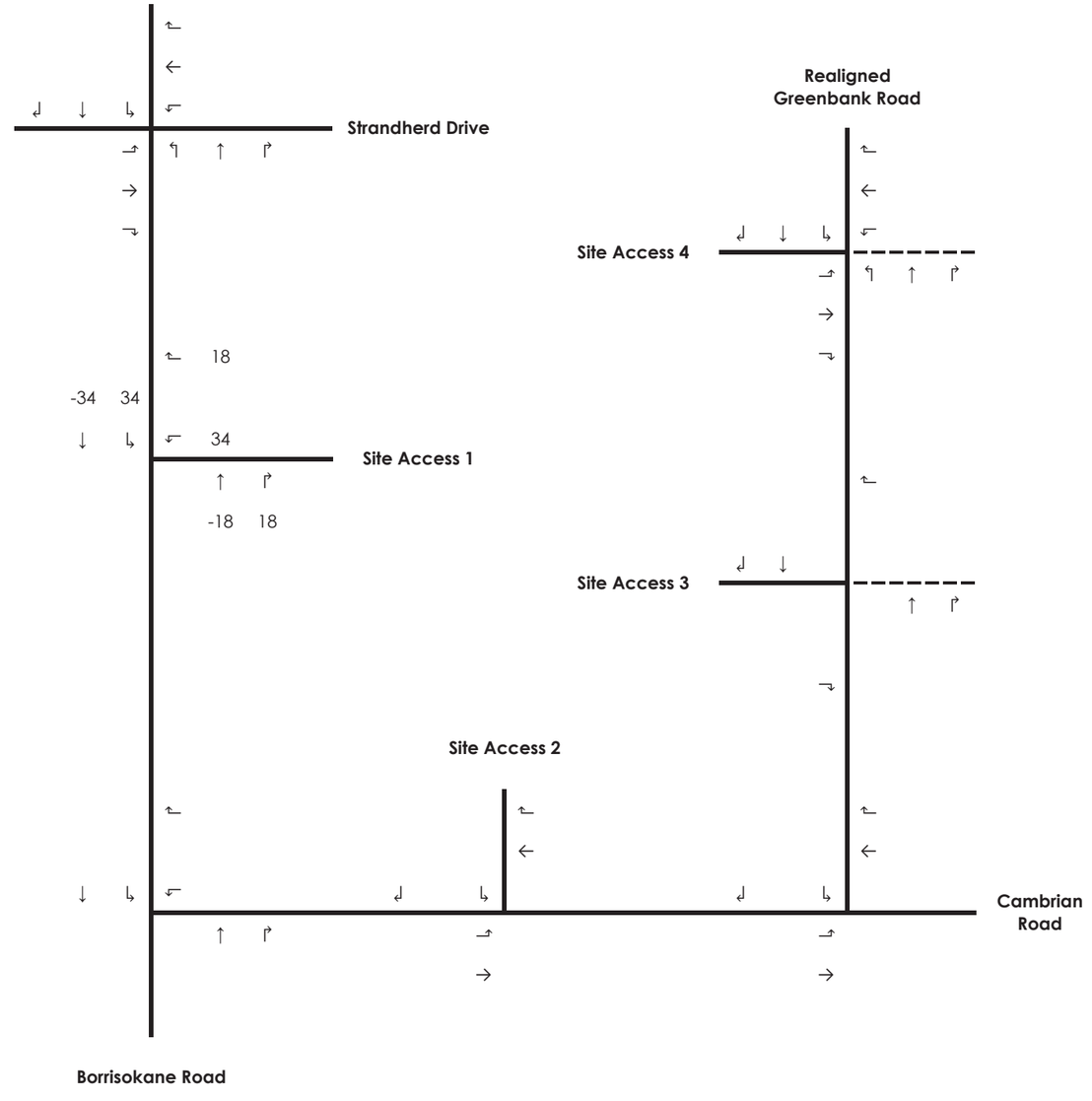
Half Moon Bay West

Figure 7: Site Traffic Volumes

## AM Peak Hour




## PM Peak Hour



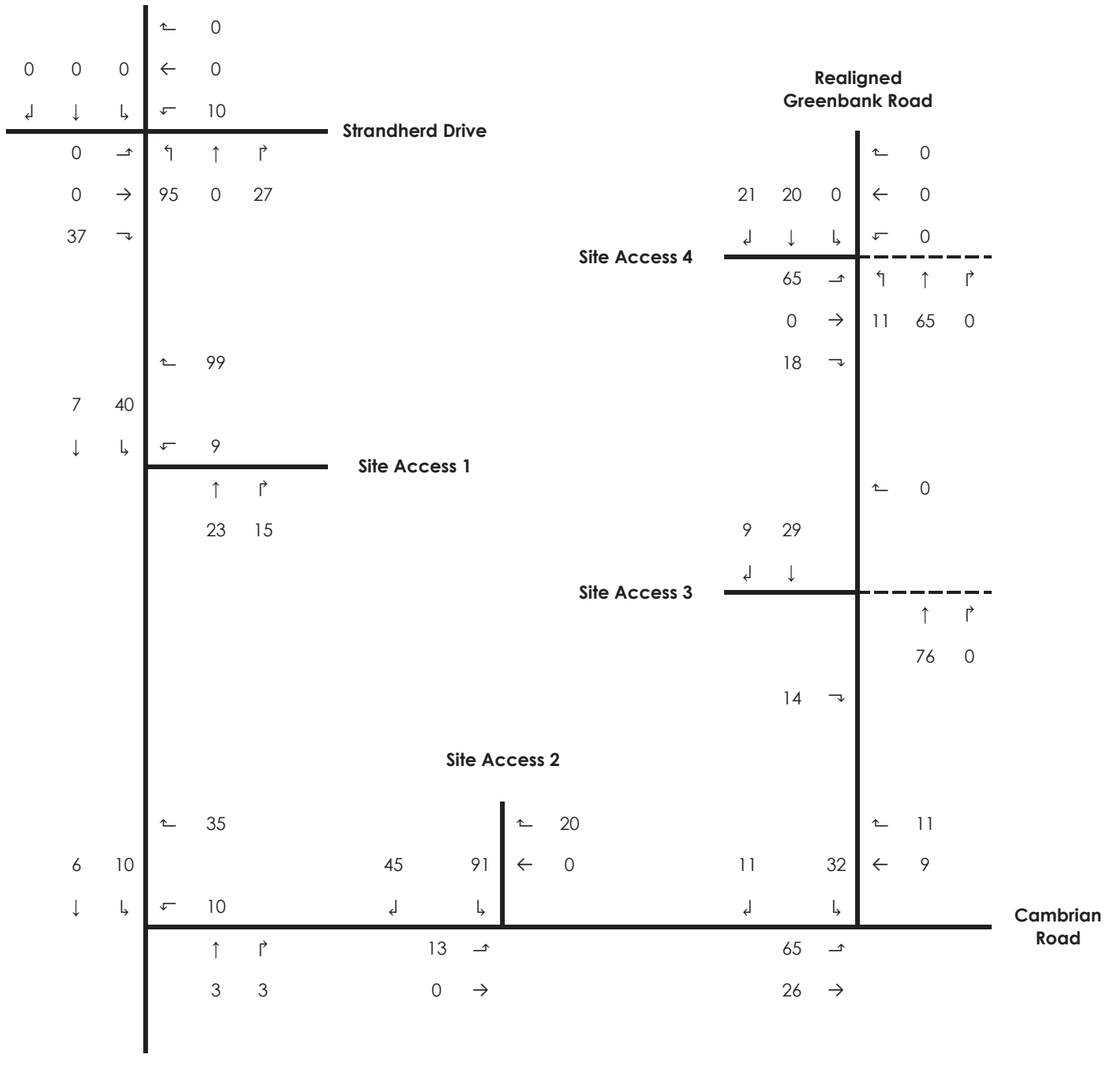

Stantec

Mattamy Homes

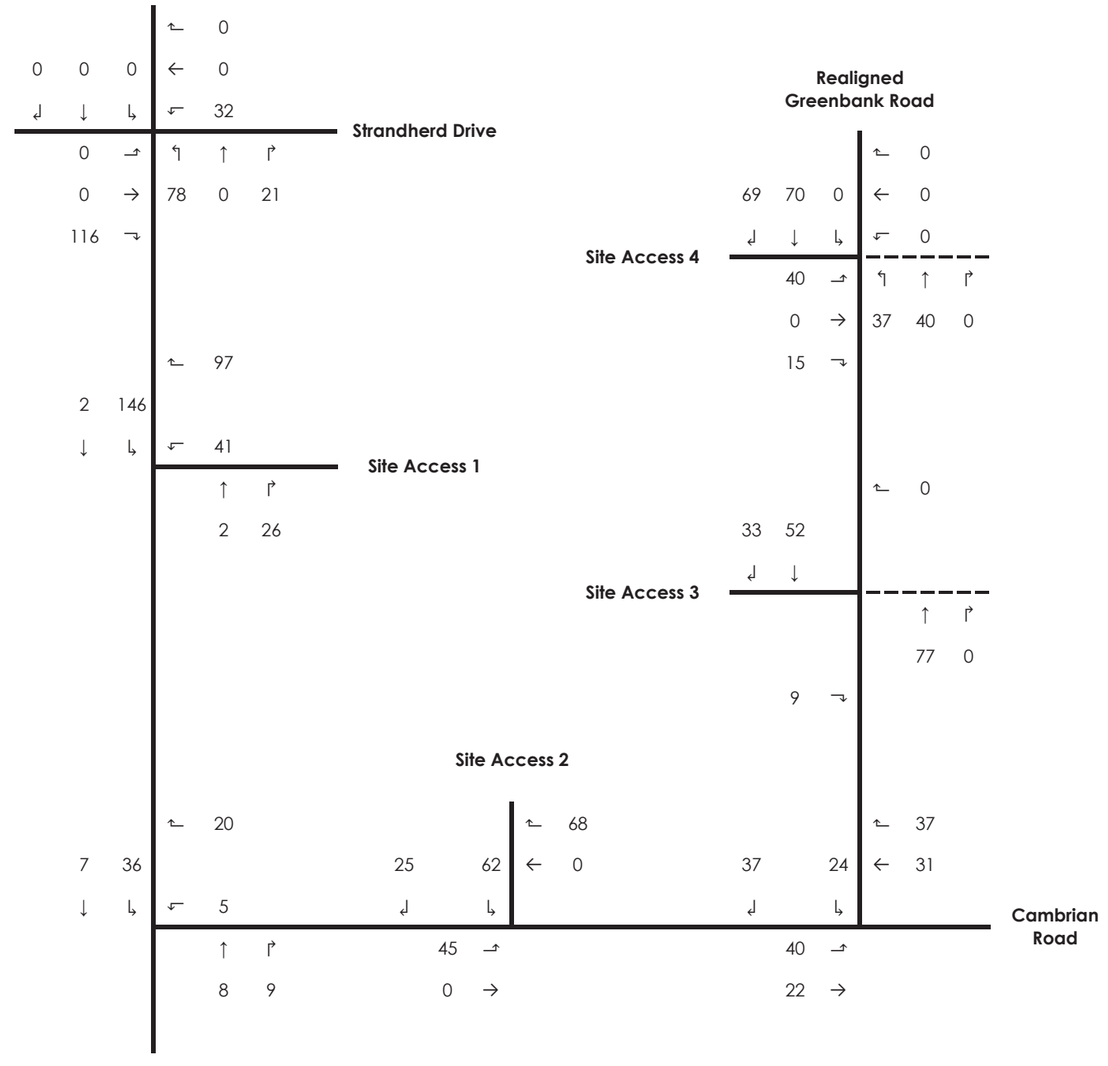
Half Moon Bay West

Figure 8: Pass-By Traffic Volumes

## AM Peak Hour




## PM Peak Hour




Stantec

Mattamy Homes

Half Moon Bay West

Figure 9: Net New Site Traffic Volumes

# 3 Forecasting

The purpose of the Forecasting section is to "generate the future transportation demand number required to analyze pre and post-development network performance to determine if a network modification is required to offset development impacts." [3]

## 3.1 Development-Generated Traffic

### 3.1.1 Base Trip Generation Rates

The peak hour vehicular traffic volumes from the subject development were determined using peak hour trip generation rates from the ITE Manual. A summary of the vehicular trip generation results for the proposed development has been summarized in Table 5.

The relevant extracts from the ITE Manual have been provided in Appendix E.

TABLE 5 – ITE Development Trip Generation Results

| LAND USE (ITE CODE) | SIZE | PERIOD | GENERATED TRIPS (VPH) | | |
|---|---|---|---|---|---|
| | | | IN | OUT | TOTAL |
| Hotel (310) | 102 rooms | AM | 32 | 22 | 54 |
| | | PM | 31 | 30 | 61 |
| | | SAT | 42 | 33 | 75 |

Note: The trip generation values indicated for the Saturday peak hour represent the peak generation of the hotel, which is not likely to coincide with the peak hour of adjacent street traffic.

vph = vehicles per hour; DU = Dwelling Units

Formula Rate and Splits for Hotels:

AM: T = 0.53(X) IN: 59%; OUT: 41%

PM: T = 0.60(X) IN: 51%; OUT: 49%

SAT: T = 0.69(X) + 4.32 IN: 56%; OUT: 44%

### 3.1.2 Person-Trips

The City's TIA Guidelines require trip generation to be expressed in terms of 'person-trips' rather than automobile trips in order to clearly identify the multi-modal demands of a development on the adjacent transportation network. Trip generation rates published by ITE are typically based on historical data from suburban areas with little to no access to public transit. The City of Ottawa TIA Guidelines suggest the use of a 1.28 conversion factor to obtain the equivalent number of person-trips when applying ITE data. This conversion factor is calculated under the assumption that a 1.15 auto occupancy rate is inherent to this data and that roughly 10% of trips are by non-auto modes and thus not captured in the rates. The results of applying these factors have been summarized in Table 6.

TABLE 6 – Development Person Trip Generation Results

| LAND USE (ITE CODE) | FACTOR | PERIOD | GENERATED TRIPS (PPH) | | |
|---|---|---|---|---|---|
| | | | IN | OUT | TOTAL |
| Hotel (310) | 1.28 | AM | 41 | 28 | 69 |
| | | PM | 40 | 38 | 78 |
| | | SAT | 54 | 42 | 96 |

[3] Ottawa 2017 Transportation Impact Assessment Guidelines, p. 27

### 3.1.3 Mode Share

#### 3.1.3.1 Existing Mode Share

The 2011 TRANS Origin-Destination Survey provides approximations of the existing modal share within the South Nepean Traffic Assessment Zone (TAZ). Of the available data, the weekday PM Peak inbound direction (i.e. To District) was determined to be the most appropriate existing mode share reference, as it coincides with the peak period of adjacent street traffic.

#### 3.1.3.2 Targeted Mode Share for the Development

Given the type of development proposed and its context, the mode share specific to this development may vary from the average mode share experienced in the South Nepean Traffic Assessment Zone. As discussed below, adjustments were made to the Auto Driver Mode and Transit Mode shares to better represent the mode shares for the proposed development.

There are no transit service improvements in the vicinity of the subject development that are planned within the horizon periods of this study. Given the distance from express, city-wide transit service providing connections to the city's regional travel hubs, there may be a decreased likelihood that guests of the proposed hotel will travel by public transportation. Therefore, the Transit Modal Split (TMS) has been reduced substantially from 24% to 5%. The difference in mode shares from the reduction in the Transit Modal Split (TMS) was shifted over to the Auto Driver Mode. This assumption should be considered conservative.

Table 7 summarizes the existing mode share for the local South Nepean area, and appropriate adjustments based on the context of the subject site. Relevant extracts from the 2011 OD Survey are provided in Appendix F.

TABLE 7 – Proposed Mode Shares for South Nepean (2011 OD Survey)

| TRAVEL MODE | EXISTING MODE SHARE (2011 OD SURVEY) | ADJUSTED MODE SHARE |
|---|---|---|
| Auto Driver | 63% | 82% |
| Transit | 24% | 5% |
| Auto Passenger | 11% | No Change |
| Cycling | 0% | |
| Walking | 0% | |
| Other (e.g. taxi) | 2% | |
| Total | 100% | 100% |

### 3.1.4 Trip Reduction Factors

#### 3.1.4.1 Deduction of Existing Development Trips

Not Applicable. The site has no existing trip generation.

#### 3.1.4.2 Pass-By Traffic

Not Applicable. The site will not generate pass-by traffic.

#### 3.1.4.3 Synergy/Internalization

Not Applicable. The site will have only one land use.

### 3.1.5 Trip Generation Summary

Table 8 summarizes the net number of person-trips the proposed development is expected to generate during the weekday morning and weekday afternoon peak hours of adjacent traffic.

The mode share target in Table 7 were applied to person trips results from Table 6 to estimate the number of development generated trips by mode, as shown in Table 8.

TABLE 8 – Development Generated Traffic by Mode

| TRAVEL MODE | PEAK PERIOD TRIPS BY MODE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AM PK HR | | | PM PK HR | | | SAT PK HR | | |
| | IN | OUT | TOTAL | IN | OUT | TOTAL | IN | OUT | TOTAL |
| Auto Driver (82%) | 33 | 23 | 56 | 33 | 31 | 64 | 44 | 34 | 78 |
| Transit (5%) | 2 | 1 | 3 | 4 | 4 | 8 | 3 | 2 | 5 |
| Auto Passenger (11%) | 4 | 3 | 7 | 4 | 4 | 8 | 6 | 5 | 11 |
| Cycling (0%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Walking (0%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other (2%) | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 |

The proposed development was expected to generate approximately 47 morning peak hour, 55 afternoon peak hour and 66 Saturday vehicular trips at full buildout, based on the ITE Trip Generation Manual and modal share assumptions.

### 3.1.6 Trip Distribution

The trip distribution shown below was applied to development traffic (both background and site generated) within the study area. The distribution was based on previous studies and competed roadway infrastructure projects, and is summarized in Table 9.

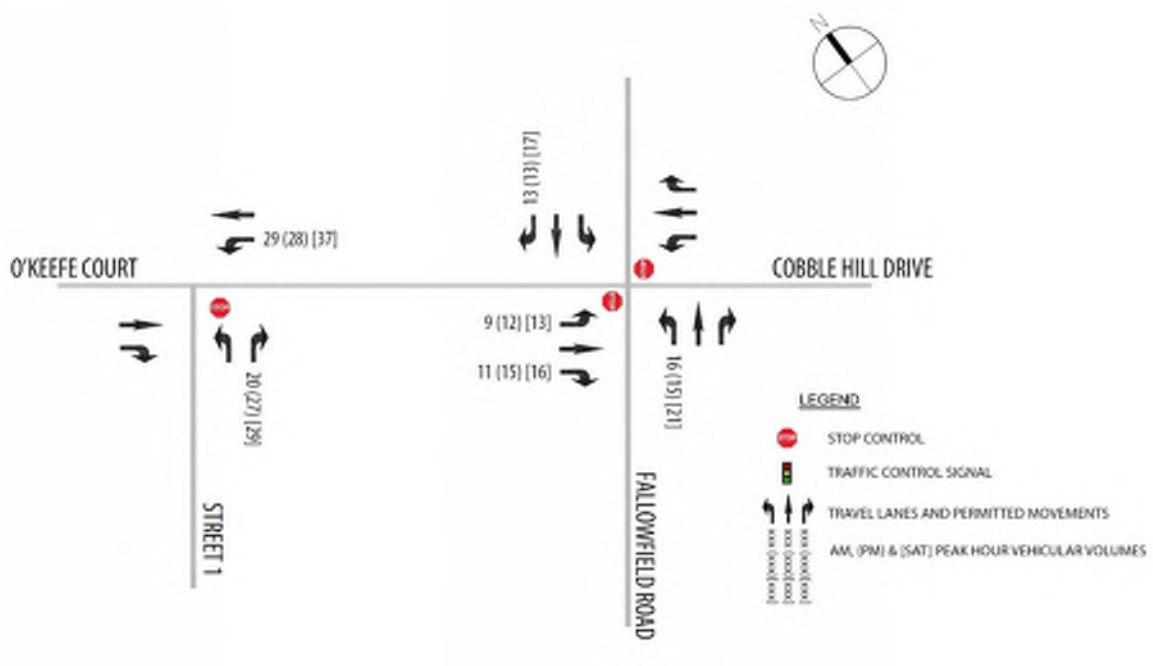
TABLE 9 – Development Generated Traffic by Mode

| TO/ FROM | DISTRIBUTION |
|---|---|
| Fallowfield Road, North of O'Keefe Court | 45% |
| Fallowfield Road, South of O'Keefe Court | 55% |
| Total | 100% |

### 3.1.7 Trip Assignment

Utilizing the estimated number of new auto trips and applying the above distribution, future site-generated traffic volumes are illustrated in Exhibit 10 as follows:

EXHIBIT 10 - Site-Generated Traffic




- Based on the anticipated turning movement volumes illustrated in Exhibit 10 above, it was not expected that there will be any operational impacts at either of the proposed site access driveways or the O'Keefe Court and Street 1 intersection. All of the site generated traffic will be required to access/ egress the subject site via the Street 1 and O'Keefe Court intersection, and will be distributed between the two (2) driveways, thereby further reducing the risk of traffic operational issues.

## 3.2 Background Network Traffic

The purpose of this module of the TIA Guidelines is to develop future background traffic volumes by building on existing volumes through the application of site generated traffic volumes from the application of an annual growth rate to capture any non-specific background traffic growth that the study area may experience.

### 3.2.1 Transportation Network Plans

There are no changes to the transportation network planned within the study area in the Transportation Master Plan's (TMP) Affordable Network, and no background network road modifications are expected to be required to accommodate traffic generated from the subject site.

### 3.2.2 Background Growth

Two future background horizons were analyzed in the report, as required by City staff:

1. Year 2019 – Opening Day; Full occupancy of the proposed development
2. Year 2024 – Opening Day plus 5 years

A 2% background growth rate along Fallowfield Road was used in this study to account for regional growth along the adjacent road network. This growth rate was applied to through movements along Fallowfield Road to assess the need for interim modifications at the intersection of Fallowfield Road and O'Keefe Court that may be required in advance of the further development within the study area. Once the future adjacent developments discussed in Section 2.4.3 are

using land use code 310 for a Hotel in the ITE *Trip Generation Manual*, 10th Edition. Person trips were calculated using an ITE Trip to Person Trip factor of 1.28, consistent with the TIA Guidelines. The Person Trips generated by the proposed development are summarized in **Table 3**.

**Table 3: Person Trip Generation (using the ITE Trip Generation Manual)**

| Land Use | ITE Code | Units/ GFA | AM Peak (PPH) | | | PM Peak (PPH) | | | Sat (PPH) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IN | OUT | TOT | IN | OUT | TOT | IN | OUT | TOT |
| *Proposed Development* | | | | | | | | | | | |
| Hotel | 310 | 99 Rooms | 34 | 23 | 57 | 32 | 30 | 62 | 51 | 40 | 91 |

The modal shares for the proposed development are anticipated to be consistent with the modal shares outlined in the 2011 *Trans O-D Survey Report*, for the South Nepean area. The modal share values applied to the trips generated by the proposed development are based on all trips to/from the South Nepean district with an origin or destination beyond that area. As discussed below, adjustments have been made to the Auto Driver Mode and Transit Mode shares to better represent the mode shares for the proposed development.

There are no transit service improvements in the vicinity of the subject site that are planned within the horizon year of this study. Given the distance from express, city-wide transit service providing connections to the city's regional travel hubs, there may be a decreased likelihood that guests of the proposed hotel will travel by public transportation. Therefore, the Transit Mode share has been reduced substantially from 25% to 5%. The difference in mode shares from the reduction in Transit Mode was added to the Auto Driver Mode. This assumption is considered conservative.

A full breakdown of the projected person trips by modal share are shown in **Table 4**.

**Table 4: Person Trips by Modal Share**

| Travel Mode | Modal Share | AM Peak | | | PM Peak | | | Saturday | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | IN | OUT | TOT | IN | OUT | TOT | IN | OUT | TOT |
| *Proposed Development* | | | | | | | | | | |
| Hotel Person Trips | | *34* | *23* | *57* | *32* | *30* | *62* | *51* | *40* | *91* |
| Auto Driver | 85% | **29** | **20** | **48** | **27** | **26** | **53** | **43** | **34** | **77** |
| Auto Passenger | 10% | 3 | 2 | 6 | 3 | 3 | 6 | 5 | 4 | 9 |
| Transit | 5% | 2 | 1 | 3 | 2 | 1 | 3 | 3 | 2 | 5 |
| Non-Auto | 0% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

From the previous table, the proposed development is projected to generate an additional 48 vehicle trips during the AM peak hour, 53 vehicle trips during the PM peak hour and 77 vehicle trips during the Saturday peak.

### 5.1.2 Trip Distribution

The distribution of trips generated by the hotel has been estimated based on the AADT along the study area roadways, consistent with the 2012 CitiGate CTS. The trip distribution for the proposed development is as follows:

- 30% to/from the north via Highway 416
- 10% to/from the east via Fallowfield Road
- 15% to/from the east via Strandherd Drive
- 25% to/from the south via Highway 416
- 20% to/from the west via Fallowfield Road

All trips coming from the north or south via Highway 416, and from the east or west via Fallowfield Road have been assigned to CitiGate Drive at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection. Of the 15% of the trips from the east via Strandherd Drive, 5% have been assumed to turn left onto CrossKeys Place at the Strandherd Drive/CrossKeys Place/Hélène Campbell Road intersection and use the roundabout at CrossKeys Place/CitiGate Drive, and 10% have been assigned to the left turning movement onto CitiGate Drive at the Strandherd Drive/CitiGate Drive/Fallowfield Road intersection.

Site generated traffic volumes are shown in **Figure 4**.

## 5.2 Background Traffic

### 5.2.1 General Background Growth Rate

A review of other recent transportation studies in the vicinity of the subject site was conducted in order to establish a base background growth rate.

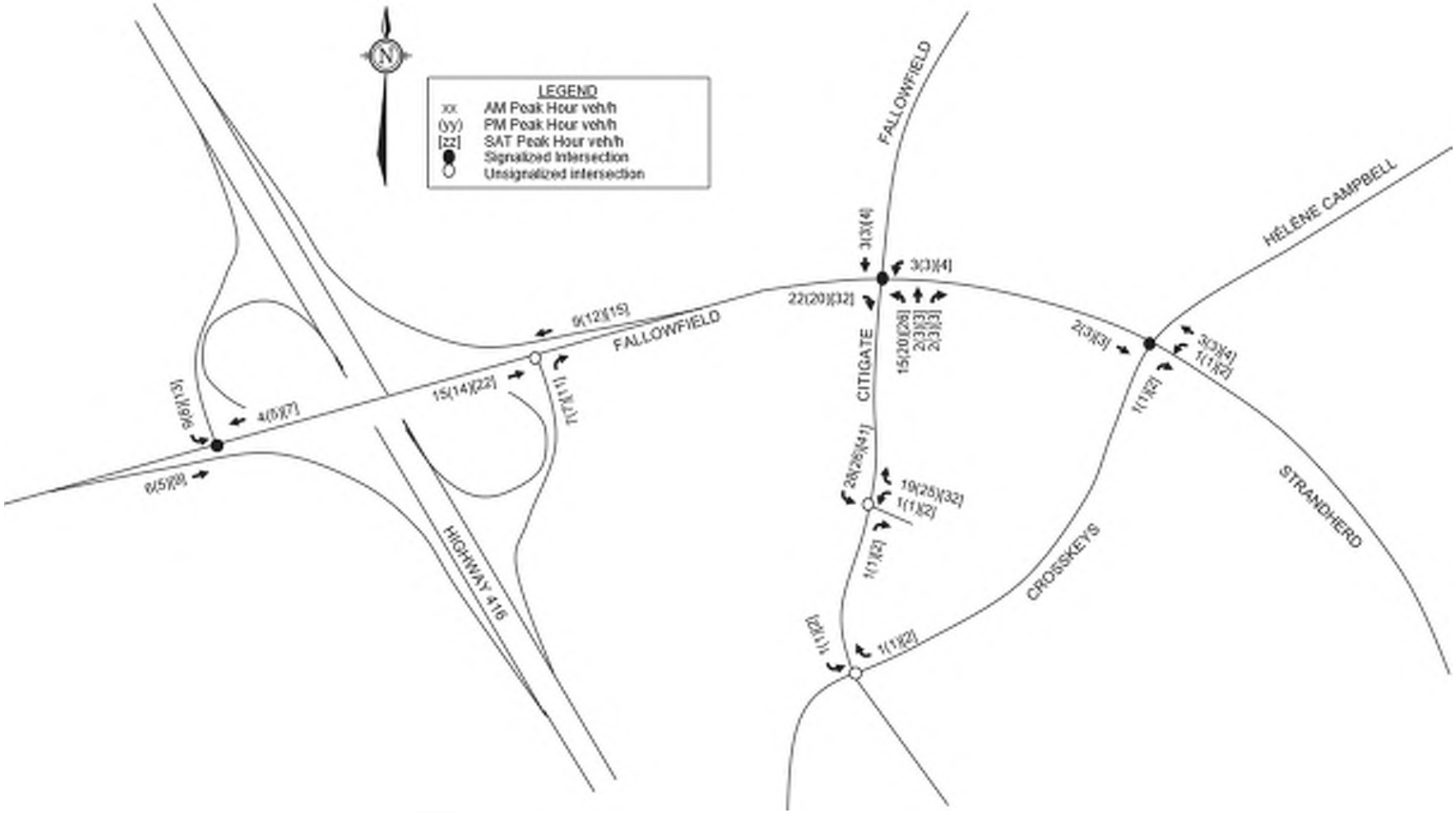
The CitiGate CTS completed by Novatech in 2012 assumed a background growth rate of 1% as a significant portion of adjacent development traffic was accounted for separately. This approach was consistent with the 4401 Fallowfield Road CTS published by IBI Group in 2015, and the CitiGate Retail Development TIS published by Parsons in 2015.

A 1% background growth factor is assumed for the purpose of this report, in light of the other study area developments that have been accounted for separately. This approach is consistent with other recent transportation studies in the area.

The 1% growth rate was applied to Strandherd Drive, Fallowfield Road, and the Highway 416 ramps. It was not applied to Hélène Campbell Road as the background growth rate is intended to account for growth in regional traffic which is not anticipated on lower class roads. The background growth rate was not applied to CitiGate Drive and CrossKeys Place, as growth on these roads is highly development-driven and has been accounted for separately.

Background growth within the study area for the 2020 build-out and 2025 horizon years is shown in **Figures 5** and **6**.

**Figure 4: Site Generated Traffic Volumes**



# 5.0 FORECASTING

## 5.1 Development-Generated Traffic

### 5.1.1 Trip Generation

The site is currently approved for a 3.15-hectare corporate campus (office space with an estimated 121,275 square feet). The previous Transportation Studies for this development estimated the office trip generation as an Office Park (ITE Land Use 750) using rates of 110 employees per acre and 350 $ft^2$ of GFA per employee.

The proposed development is planned to consist of:

- 38,600 square foot auto dealership;
- 84,300 square foot office; and,
- A future (up to) 120-room hotel.

Initial plans for the office included 86,100 square feet of GFA and this larger area has been carried into the trip generation for the site.

Trips for the proposed Office and Hotel were estimated using *Trip Generation*, *10th Edition* (Institute of Transportation Engineers, Washington, 2017). Person trips were estimated using an ITE Trip to Person Trip conversion factor of 1.28, consistent with the TIA Guidelines (See **Table 3**).

**Table 3: Person Trip Generation (Office and Hotel Development)**

| Land Use | Units[3] | Person Trips Generated[4] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
| | | In | Out | Total | In | Out | Total | In | Out | Total |
| **Person Trip Generation for approved site (3.15 ha of corporate campus)[1]** | | | | | | | | | | |
| Block 4 Office | 121.275 | 350 | 43 | 393 | 46 | 283 | 329 | 17 | 6 | 23 |
| **Person Trip Generation for Proposed Office and Hotel Sites[2]** | | | | | | | | | | |
| Office (ITE 710) | 86.1 | 118 | 19 | 137 | 20 | 106 | 126 | 32 | 27 | 59 |
| Hotel (ITE 310) | 120 | 41 | 29 | 70 | 42 | 40 | 82 | 63 | 49 | 112 |
| Total Person Trips (Proposed Office and Hotel Sites) | | 159 | 48 | 207 | 62 | 146 | 208 | 95 | 76 | 171 |

Notes:
1. Person trips generated by the approved site taken from *Citigate Blocks 3 & 4 Transportation Overview* (Novatech 2015)
2. Trip Generation for the associated Land Use from *Trip Generation 10th Edition* (Institute of Transportation Engineers, Washington, 2017). Trips have been increased by 28% to account for 10% non-auto mode share and average vehicle occupancy of 1.15.
3. Units are '1000 sq ft of GFA' for Block 4 and Office; Estimated Rooms for Hotel.
4. Person trips per hour for peak hours.

AM and PM peak hour trips for the auto dealership were estimated using *Trip Generation*, *10th Edition* (Institute of Transportation Engineers, Washington, 2017).

Since the number of Saturday ITE studies for an auto dealership is low (4), Saturday traffic counts at an Ottawa area auto dealership from 2017 were used to estimate the Saturday peak hour trips generated by the proposed auto dealership.

Traffic counts were conducted by Novatech on Saturday May 27th, 2017 at the Myers Hyundai Bells Corners automobile dealership (2164 Robertson Road, See **Appendix D**). These counts were used to estimate a Saturday auto dealership trip generation rate per 1000 square feet of GFA. The estimated trips generated by the proposed auto dealership are summarized in **Table 4**. As the auto dealership land use is largely auto dependent, it is assumed that the observed modal share at the Myers Hyundai Bells Corners site will be consistent with the subject site, and further adjustments are not required.

While the Saturday peak hour for auto dealership, office, and hotel are not expected to be simultaneous, this is considered conservative.

**Table 4: Trip Generation (Auto Dealership)**

| Land Use | Units[2] | Vehicle Trips Generated[3] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
| | | In | Out | Total | In | Out | Total | In | Out | Total |
| Automobile Sales (New)[1] (ITE 840) | 38.6 | 53 | 19 | 72 | 37 | 56 | 93 | 59 | 41 | 100 |

Notes:
1. AM and PM peak hour trip generation for the auto dealership taken from *Trip Generation 10th Edition* (Institute of Transportation Engineers, Washington, 2017). Saturday peak hour trip generation has been taken from recent count at the Myers Bells Corners site (See Appendix D).
2. Units are '1000 sq ft of GFA'.
3. Trips per hour for peak hours.

**Trips by Modal Share**

*2011 Trans O-D Survey Report*, for the South Nepean area identifies the current modal share values for the area and are based on all trips to/from the South Nepean district with an origin or destination beyond that area.

The modal shares for the proposed hotel are anticipated to be in line with the modal shares outlined in the O-D Survey, however, with lower transit use considering:

- There are no transit service improvements in the vicinity of the subject site that are planned within the horizon year of this study; and,
- The distance from express, city-wide transit service providing connections to the city's regional travel hubs.

Therefore, the Transit Mode share for the hotel development has been reduced to 5% with the difference added to the Auto Driver Mode. This assumption is considered conservative.

The modal share identified in the 2015 Transportation Overview has been applied to the proposed office development.

A full breakdown of the projected modal share trips is shown in **Table 5**.

**Table 5: Person Trips by Modal Share**

| Travel Mode | Modal Share | AM Peak | | | PM Peak | | | Saturday Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | IN | OUT | TOT | IN | OUT | TOT | IN | OUT | TOT |
| ***Auto Dealership (See Table 4)*** | | | | | | | | | | |
| Vehicle Trips | | *53* | *19* | *72* | *37* | *56* | *93* | *59* | *41* | *100* |
| Auto Driver | Obs. | **53** | **19** | **72** | **37** | **56** | **93** | **59** | **41** | **100** |
| ***Office (See Table 3)*** | | | | | | | | | | |
| Person Trips | | *118* | *19* | *137* | *20* | *106* | *126* | *32* | *27* | *59* |
| Auto Driver | 64% | **75** | **12** | **87** | **13** | **68** | **81** | **20** | **18** | **38** |
| Auto Passenger | 16% | 19 | 3 | 22 | 3 | 17 | 20 | 5 | 4 | 9 |
| Transit | 15% | 18 | 3 | 21 | 3 | 16 | 19 | 5 | 4 | 9 |
| Walking | 2% | 2 | 0 | 2 | 0 | 2 | 2 | 1 | 0 | 1 |
| Bicycling | 3% | 4 | 1 | 5 | 1 | 3 | 4 | 1 | 1 | 2 |
| ***Hotel (See Table 3)*** | | | | | | | | | | |
| Person Trips | | *41* | *29* | *70* | *42* | *40* | *82* | *63* | *49* | *112* |
| Auto Driver | 85% | **35** | **25** | **60** | **36** | **34** | **70** | **54** | **42** | **96** |
| Auto Passenger | 10% | 4 | 3 | 7 | 4 | 4 | 8 | 6 | 5 | 11 |
| Transit | 5% | 2 | 1 | 3 | 2 | 2 | 4 | 3 | 2 | 5 |
| Walking | 0% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bicycling | 0% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | | | | | | | | | | |
| Auto Driver | | **163** | **56** | **219** | **86** | **158** | **244** | **133** | **101** | **234** |
| Auto Passenger | | 23 | 6 | 29 | 7 | 21 | 28 | 11 | 9 | 20 |
| Transit | | 20 | 4 | 24 | 5 | 18 | 23 | 8 | 6 | 14 |
| Walking | | 2 | 0 | 2 | 0 | 2 | 2 | 1 | 0 | 1 |
| Bicyling | | 4 | 1 | 5 | 1 | 3 | 4 | 1 | 1 | 2 |

The proposed development is estimated to generate 219 vehicle trips during the AM peak hour, 244 vehicle trips during the PM peak hour and 234 vehicle trips during the Saturday peak hour.

### 5.1.2 Trip Distribution / Assignment

The distribution of trips generated by the development has been estimated based on the observed and projected volumes along the study area roadways, particularly the observed traffic at the Dealership Drive intersection and at the Tomlinson office site.

The expected trip distributions for each development use are summarized in **Table 6**.

**Table 6: Trip Distribution for Each Use**

| | Dealership | Office | Hotel |
|---|---|---|---|
| **to/from the North** | 45% | 60% | 85% |
| **to/from the East** | 10% | 10% | 0% |
| **to/from the South** | 45% | 30% | 15% |

Auto dealership trips: 83% of the trips entering from the north have been assigned to the right-in, access on Strandherd.

Office trips: 100% of the trips entering from the north and exiting to the south have been assigned to the right-in, right-out access on Strandherd.

Hotel trips: 30% of the trips entering from the north and 0% of the trips exiting to the south have been assigned to the right-in, right-out access on Strandherd. 20% of site trips have been assigned to the west driveway on Dealership Drive with the balance assigned to the central site driveway on Dealership Drive.

Site generated traffic volumes have been assigned to the study area intersections and are shown in **Figure 4**.

## 5.2 Background Traffic

### 5.2.1 General Background Growth Rate

A 2% background growth rate has been applied to through traffic on Strandherd Drive as requested by City of Ottawa staff. The background growth rate is intended to account for growth in regional traffic which is not anticipated on lower class roads.

Projected 2024 and 2029 traffic volumes (with 2% background growth of through traffic along Strandherd Drive) are shown in **Figures 5** and **6**, respectively.

**Figure 4: Site Generated Traffic Volumes**

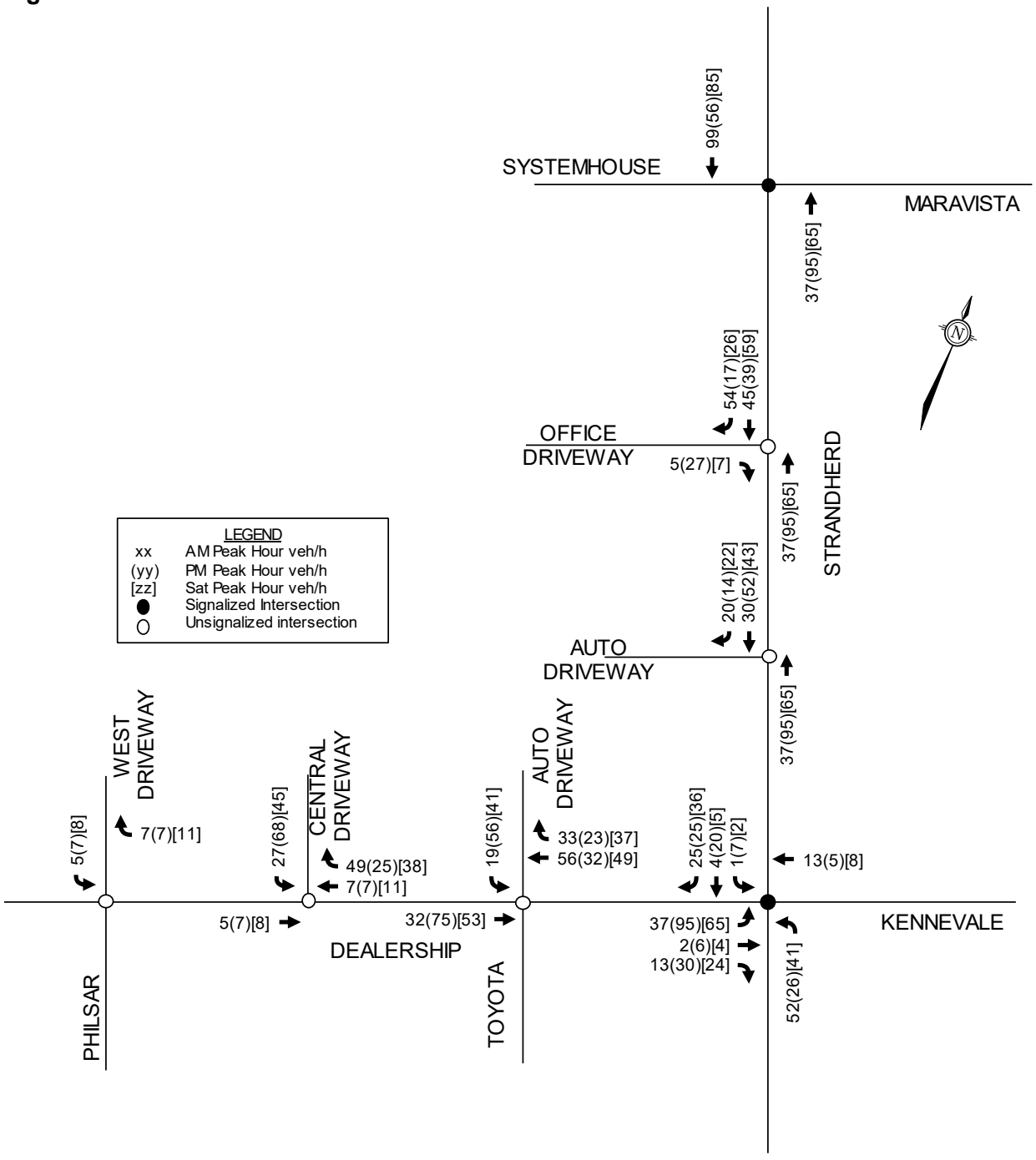


**Table 5: Intersection Operations – 2029 Background Traffic**

| Intersection | AM Peak | | | PM Peak | | | Saturday Peak | | |
|---|---|---|---|---|---|---|---|---|---|
| | max. v/c or delay | LOS | move-ment | max. v/c or delay | LOS | move-ment | max. v/c or delay | LOS | move-ment |
| Fallowfield/ 416 SB off-ramp | 0.68 | B | SBL | 0.84 | D | SBL | 0.64 | B | SBL |
| Fallowfield/ 416 NB off-ramp | 0.52 | A | EB | 0.74 | C | EB | 0.37 | A | EB |
| Fallowfield/ Strandherd | **1.02** | **F** | **WBT** | 0.66 | B | EBL | | | |
| Fallowfield/ Cedarview | 0.65 | B | EBT | 0.71 | C | SBT/R | | | |
| Strandherd/ Jockvale | 0.76 | C | WBR | 0.55 | A | SBT | | | |
| Strandherd/ Maravista | 0.60 | A | WBR | 0.54 | A | SBT | | | |
| Strandherd/ Kennevale | 0.66 | B | WBT/R | 0.61 | B | SBT | | | |
| Strandherd/ Cedarview | 0.74 | C | NBL | 0.68 | B | EBT/R | | | |

Notes:
1. Reassignment of the previously recommended shared left/right turn lane to a second left turn lane and construction of a dedicated right turn assumed at the 416 SB off-ramp/Fallowfield Road intersection.
2. A channelized westbound right turn lane assumed at the Fallowfield Road/Strandherd Drive intersection.

Acceptable operating conditions are expected for all movements with the exception of the westbound approach of the Fallowfield Road/Strandherd Drive intersection in the a.m. peak.

The City defines the overall v/c ratio for an intersection as the sum of equivalent volumes for all critical movements divided by the sum of capacities for all critical movements, assuming the that v/c ratios for critical movements can be equalized. The eastbound left and westbound through movements are considered critical at the Fallowfield Road/Strandherd Drive intersection. The overall v/c for the intersection is 0.82 in the a.m. peak, which is an acceptable level of service based on the City's criteria and no mitigation measures are required.

### 3.8. Trip Generation

Trips generated by the proposed development have been estimated using the peak hour rates identified in the *ITE Trip Generation Manual, 8th Edition* for the following land uses and sizes:

**Table 6: Proposed Land Uses and Sizes**

| Land Use | ITE Code | Interim | Ultimate |
|---|---|---|---|
| Shopping centre | 820 | 350, 000 $ft^2$ | 350, 000 $ft^2$ |
| Hotel | 310 | N/A | 200 rooms |
| Gas Station | 946 | 8 fuel positions | 8 fuel positions |

| Land Use | ITE Code | Interim | Ultimate |
|---|---|---|---|
| Business Park | 770 | N/A | 16.56 ha |
| Office Park | 750 | 6.07 ha (15 ac) | 67.65 ha |
| New Car Sales | 841 | 8.6 ha | 10.5 ha |

Employment projections for the Business Park and Prestige Business Park lands were estimated using rates of 75 employees/ha and 110 employees/ha respectively. The employment projections were converted to gross floor area (GFA) using the following assumptions, which are based on figures identified in the City's 2009 *Development Charges Background Study*: a square foot per employee figure of 350 for commercial uses and 900 for industrial uses. The ITE Business Park land use represents an average mix of 20 to 30 percent office/commercial and 70 to 80 percent industrial/warehousing. A 30/70 mix was assumed for this study and the 350 $ft^2$ per employee figure was applied for the office/commercial component and the 900 $ft^2$ figure was applied for the industrial/warehousing component.

The existing woodlot comprises 6 hectares of the Prestige Business Park lands and 7.3 hectares of the Business Park lands. Half of the woodlot lands are assumed to be developed for the purpose of this assessment. Three hectares have been deducted from the Prestige Business Park land area and approximately 3.6 hectares have been deducted from the Business Park land area.

GFA for the Prestige Business Park is estimated at 2,488,500 $ft^2$ for the buildout condition and 233,800 $ft^2$ in the interim. GFA for the Business Park lands is estimated at 711,700 $ft^2$ at full buildout, with no Business Park development anticipated in the interim.

GFA for the car dealerships has been estimated assuming a 20% building coverage. This results in a GFA of 226,040 $ft^2$ at full buildout and 185,145 $ft^2$ in the interim, assuming seven hectares of land owned by Strandherd Drive Inc. and 4 acres of land owned by others.

The trip generation surveys compiled in the *ITE Trip Generation Manual* only record vehicle trips, and the sites surveyed are typically located in suburban locations in the United States where non-auto modes of transportation typically have a modal share of 10% or less. Where multiple modes of transportation are readily available, it is considered good practice to express projected trip generation volumes in terms of person trips, instead of vehicle trips. To convert ITE vehicle trip rates to person trip rates, two adjustment factors have been applied:

- Vehicle occupancy factor: **1.23** (taken from the TRANS 2005 O-D Survey Report)
- Non-auto usage factor: **1.1** (non-auto trips not counted in ITE surveys, assumed 10%)

Combining the two factors gives an overall vehicle trip to person trip adjustment factor of approximately 1.35. The conversion of vehicle trips into person trips for each land use is shown in the following table.

**Table 7: Site-Generated Person Trips**

| Land Use | Size | AM Peak | | | PM Peak | | | Saturday Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total | In | Out | Total |
| *Interim* | | | | | | | | | | |
| Shopping centre | 350, 000 $ft^2$ | 289 | 184 | 473 | 975 | 1014 | 1989 | 1358 | 1254 | 2612 |
| Gas Station | 8 fuel pos. | 48 | 47 | 95 | 57 | 55 | 112 | 81 | 81 | 162 |
| Office Park | 233,800 $ft^2$ | 535 | 66 | 601 | 72 | 442 | 514 | 33 | 12 | 45 |
| New Car Sales | 185,145 $ft^2$ | 376 | 132 | 508 | 253 | 395 | 648 | 379 | 364 | 743 |
| **Interim** | | **1248** | **429** | **1677** | **1357** | **1906** | **3263** | **1851** | **1711** | **3562** |
| *Ultimate Concept* | | | | | | | | | | |
| Shopping centre | 350, 000 $ft^2$ | 289 | 184 | 473 | 975 | 1014 | 1989 | 1358 | 1254 | 2612 |
| Hotel | 200 rooms | 59 | 38 | 97 | 63 | 55 | 118 | 79 | 62 | 141 |
| Gas Station | 8 fuel pos. | 48 | 47 | 95 | 57 | 55 | 112 | 81 | 81 | 162 |
| Business Park | 711,700 $ft^2$ | 1110 | 212 | 1322 | 285 | 954 | 1239 | 110 | 110 | 220 |
| Office Park | 2,488,500 $ft^2$ | 4246 | 525 | 4771 | 592 | 3636 | 4228 | 348 | 122 | 470 |
| New Car Sales | 226,040 $ft^2$ | 459 | 161 | 620 | 308 | 482 | 790 | 462 | 444 | 906 |
| **Ultimate Concept** | | **6211** | **1167** | **7378** | **2280** | **6196** | **8476** | **2438** | **2073** | **4511** |

The number of car trips that the site will generate has been estimated by categorizing the person trips by modal share. The modal share assumptions used in this study are based on the BS CTS, which are as follows for the ultimate and interim development scenarios:

- Ultimate modal share: 23% transit, 2.5% cycling, 5% walking, and 69.5% auto
- Interim modal share: 15% transit, 2% cycling, 3% walking, and 80% auto

As noted in the BS CTS, these assumptions reflect a number of planned City improvements that will promote a higher transit modal share within the study area, including the following projects:

- Southwest Transitway Extension (Barrhaven Town Centre to Cambrian Road)
- Barrhaven-Riverside South Transitway, and
- Connection of the North-South LRT line to the Southwest Transitway.

Trips generated by the gas station and the hotel are assumed to be auto trips given the nature of the land use.

A breakdown of the projected number of trips by modal share is shown in the following table.

**Table 8: Site-Generated Trips by Modal Share**

| Travel Mode | Modal Share | AM Peak | | | PM Peak | | | Saturday Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total | In | Out | Total |
| *Interim* | | | | | | | | | | |
| Total Person Trips | | 1248 | 429 | 1677 | 1357 | 1906 | 3263 | 1851 | 1711 | 3562 |
| **Auto Driver** | **64%** | **816** | **291** | **1107** | **889** | **1240** | **2129** | **1214** | **1125** | **2339** |
| Auto Passenger | 16% | 192 | 61 | 253 | 208 | 296 | 504 | 283 | 261 | 544 |
| Transit | 15% | 180 | 57 | 237 | 195 | 278 | 473 | 265 | 245 | 510 |
| Non-Auto | 5% | 60 | 20 | 80 | 65 | 92 | 157 | 89 | 80 | 169 |
| *Ultimate Concept* | | | | | | | | | | |
| Total Person Trips | | 6211 | 1167 | 7378 | 2280 | 6196 | 8476 | 2438 | 2073 | 4511 |
| **Auto Driver** | **56%** | **3563** | **704** | **4267** | **1330** | **3518** | **4848** | **1436** | **1224** | **2660** |
| Auto Passenger | 13.5% | 824 | 146 | 970 | 292 | 822 | 1113 | 308 | 261 | 568 |
| Transit | 23% | 1404 | 249 | 1653 | 497 | 1400 | 1897 | 524 | 444 | 968 |
| Non-Auto | 7.5% | 420 | 68 | 488 | 161 | 456 | 618 | 170 | 144 | 315 |

The *ITE Trip Generation Handbook* outlines a method for determining the number of internal trips generated at mixed-use developments. Internal trips are trips that are made on-site without using the external roadway system. The ITE Handbook provides internal capture rates for various combinations of office, retail and residential land uses. The number of internal trips is limited by the land use with the lower internal capture rate, which in this case is the retail component. Tables 7.1 and 7.2 of the ITE Handbook suggest that the internal capture rate of trips from a retail use to an office use and trips to a retail use from an office use is in the order of 2 to 3%. For the purpose of this assessment, the number of internal trips generated by the development is considered insignificant.

The ITE Handbook also outlines a method for determining the number of pass-by trips that are generated by certain types of developments. Pass-by trips are made as an intermediate stop on the way to another destination and primary trips are made for the specific purpose of visiting the site. The retail and gas station land uses are expected to generate both pass-by and primary trips. The pass-by trips are only added at the access points and not the study area intersections as they are already accounted for on the adjacent road system. The number of pass-by trips generated by the development has been estimated using percentages identified in the ITE Handbook. A rate of 30% has been assumed for the retail component of development and a rate of 60% has been assumed for the gas station.

Primary and pass-by trips generated by the proposed development are summarized in the following table for the weekday and Saturday peak hours.

**Table 9: Pass-by and Primary Trips**

| Trip Type | AM Peak | | | PM Peak | | | Saturday Peak | | |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total | In | Out | Total |
| *Interim* | | | | | | | | | |
| **Total Vehicle Trips** | **816** | **291** | **1107** | **889** | **1240** | **2129** | **1214** | **1125** | **2339** |
| Pass-by Trips | 75 | 75 | 150 | 225 | 225 | 450 | 300 | 300 | 600 |
| Primary Trips | 741 | 216 | 957 | 664 | 1015 | 1679 | 914 | 825 | 1739 |
| *Ultimate Concept* | | | | | | | | | |
| **Total Vehicle Trips** | **3563** | **704** | **4267** | **1330** | **3518** | **4848** | **1436** | **1224** | **2660** |
| Pass-by Trips | 69 | 69 | 138 | 202 | 202 | 404 | 269 | 269 | 538 |
| Primary Trips | 3494 | 635 | 4129 | 1128 | 3316 | 4444 | 1167 | 955 | 2122 |

### 3.9. Vehicle Trip Distribution

The distribution of new vehicle trips generated by the development has been estimated based on the existing pattern of traffic entering the study area in the a.m. peak and leaving the study area in the p.m. peak. The trip distribution assumptions for the interim development scenario are summarized as follows.

- 10% to/from the north via Highway 416
- 20% to/from the east via Fallowfield Road and Jockvale Road
- 15% to/from the east via Maravista Drive, Kennevale Drive and Tartan Drive
- 20% to/from the east via Strandherd Drive
- 10% to/from the south via Cedarview Road and Highway 416
- 25% to/from the west via Fallowfield Road

For the ultimate development scenario, 5% of traffic has been redistributed from Fallowfield Road to the McKenna Casey Drive connection at the 416 underpass. This route may become an attractive alternative for site traffic in the event of congested traffic conditions on Strandherd Drive.

The distribution of trips generated by the hotel has been estimated based on the Average Annual Daily Traffic (AADT) of the arterial study area roads. The trip distribution assumptions for hotel trips are as follows:

- 30% to/from the north via Highway 416
- 10% to/from the east via Fallowfield Road
- 15% to/from the east via Strandherd Drive
- 25% to/from the south via Highway 416
- 20% to/from the west via Fallowfield Road

The distribution of pass-by trips generated by the retail and gas station components has been estimated based on the existing peak hour traffic patterns adjacent to the site.

Trips generated by the shopping centre have been assigned equally between the Street Three, Right-in Right-out driveway and Street Four accesses.

The hotel, the gas station and the interim Prestige Business Park area will all be located at the north end of the site near the Street One/Fallowfield Road/Strandherd Drive access. Trips generated by these uses have been assigned as follows:

- Trips to/from the north or west will use the Street One access
- Trips to/from the south will use the Street Three access
- Trips to/from the east will use Fallowfield Road or Jockvale Road

The trip assignment for the ultimate Business Park and Prestige Business Park areas is based on the site layout, the proposed road pattern, and logical routing assumptions. Trips with origins and destinations north or south of the subject site have been assigned as follows:

- 40% of trips will use Street One or Street Three
- 35% of trips will use Street Four
- 25% of trips will use Street Five

Trips to and from the east via Fallowfield Road, Jockvale Road, Maravista Drive, and Kennevale Drive have been assigned according to the trip distribution assumptions noted above.

Trips generated by the car dealerships have been assigned to the Street Five access.

Interim and ultimate site traffic is shown in **Figures 9** and **10** for the weekday and Saturday peak hours.

Total traffic for the 2019 and 2029 horizon years has been calculated by adding the peak hour site traffic with the projected background traffic. The 2019 and 2029 total traffic volumes are shown in **Figures 11** and **12**.

### 3.10. Transit Trip Distribution

The distribution of transit trips generated by the interim development has been derived from the data presented in Exhibits 6-2 and 6-3 of the *2005 Trans O-D Survey Report.* Copies of these exhibits are included in **Appendix G**.

The top origins and destinations for all arrivals and departures within the South Nepean District are summarized in Table 10.

**Table 10: Top Origins/Destinations of South Nepean District**

| AM Peak Origin of Arrivals | % Trips | PM Peak Destination of Departures | % Trips |
|---|---|---|---|
| South Nepean | 65% | South Nepean | 55% |
| Merivale | 6% | Merivale | 12% |

# APPENDIX G

TDM Checklists

# TDM-Supportive Development Design and Infrastructure Checklist:
*Non-Residential Developments (office, institutional, retail or industrial)*

***Legend***

| | |
|---|---|
| REQUIRED | The Official Plan or Zoning By-law provides related guidance that must be followed |
| BASIC | The measure is generally feasible and effective, and in most cases would benefit the development and its users |
| BETTER | The measure could maximize support for users of sustainable modes, and optimize development performance |

| | | TDM-supportive design & infrastructure measures: *Non-residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **1.** | **WALKING & CYCLING: ROUTES** | |
| | **1.1** | **Building location & access points** | |
| BASIC | 1.1.1 | Locate building close to the street, and do not locate parking areas between the street and building entrances | ☐ |
| BASIC | 1.1.2 | Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations | ✓ |
| BASIC | 1.1.3 | Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort | ✓ |
| | **1.2** | **Facilities for walking & cycling** | |
| REQUIRED | 1.2.1 | Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)* | ☐ N/A - no rapid transit within 600m |
| REQUIRED | 1.2.2 | Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)* | ✓ |

| | | TDM-supportive design & infrastructure measures: *Non-residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| REQUIRED | 1.2.3 | Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)* | ✓ |
| REQUIRED | 1.2.4 | Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)* | ✓ |
| REQUIRED | 1.2.5 | Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)* | ✓ |
| BASIC | 1.2.6 | Provide safe, direct and attractive walking routes from building entrances to nearby transit stops | ✓ |
| BASIC | 1.2.7 | Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible | ☐ |
| BASIC | 1.2.8 | Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility | ☐ |
| | **1.3** | **Amenities for walking & cycling** | |
| BASIC | 1.3.1 | Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails | ☐ |
| BASIC | 1.3.2 | Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious) | ☐ |

| | | TDM-supportive design & infrastructure measures: *Non-residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **2.** | **WALKING & CYCLING: END-OF-TRIP FACILITIES** | |
| | **2.1** | **Bicycle parking** | |
| REQUIRED | 2.1.1 | Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)* | ✓ |
| REQUIRED | 2.1.2 | Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)* | ✓ |
| REQUIRED | 2.1.3 | Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)* | ✓ |
| BASIC | 2.1.4 | Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists | ☐ |
| BETTER | 2.1.5 | Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season | ☐ |
| | **2.2** | **Secure bicycle parking** | |
| REQUIRED | 2.2.1 | Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)* | ✓ |
| BETTER | 2.2.2 | Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met) | ☐ |
| | **2.3** | **Shower & change facilities** | |
| BASIC | 2.3.1 | Provide shower and change facilities for the use of active commuters | ☐ |
| BETTER | 2.3.2 | In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters | ☐ |
| | **2.4** | **Bicycle repair station** | |
| BETTER | 2.4.1 | Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided) | ☐ |

| | | TDM-supportive design & infrastructure measures: *Non-residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **3.** | **TRANSIT** | |
| | **3.1** | **Customer amenities** | |
| BASIC | 3.1.1 | Provide shelters, lighting and benches at any on-site transit stops | ☐ |
| BASIC | 3.1.2 | Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter | ☐ |
| BETTER | 3.1.3 | Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building | ☐ |
| | **4.** | **RIDESHARING** | |
| | **4.1** | **Pick-up & drop-off facilities** | |
| BASIC | 4.1.1 | Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones | ✓ |
| | **4.2** | **Carpool parking** | |
| BASIC | 4.2.1 | Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools | ☐ |
| BETTER | 4.2.2 | At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement | ☐ |
| | **5.** | **CARSHARING & BIKESHARING** | |
| | **5.1** | **Carshare parking spaces** | |
| BETTER | 5.1.1 | Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces *(see Zoning By-law Section 94)* | ☐ |
| | **5.2** | **Bikeshare station location** | |
| BETTER | 5.2.1 | Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection | ☐ |

| | | TDM-supportive design & infrastructure measures: *Non-residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **6.** | **PARKING** | |
| | **6.1** | **Number of parking spaces** | |
| REQUIRED | 6.1.1 | Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for | ✓ |
| BASIC | 6.1.2 | Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking | ☐ |
| BASIC | 6.1.3 | Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)* | ☐ |
| BETTER | 6.1.4 | Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)* | ☐ |
| | **6.2** | **Separate long-term & short-term parking areas** | |
| BETTER | 6.2.1 | Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa) | ☐ |
| | **7.** | **OTHER** | |
| | **7.1** | **On-site amenities to minimize off-site trips** | |
| BETTER | 7.1.1 | Provide on-site amenities to minimize mid-day or mid-commute errands | ☐ |

# TDM Measures Checklist:
*Non-Residential Developments (office, institutional, retail or industrial)*

***Legend***

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

| | | TDM measures: *Non-residential developments* | Check if proposed & add descriptions |
|---|---|---|---|
| | **1.** | **TDM PROGRAM MANAGEMENT** | |
| | **1.1** | **Program coordinator** | |
| BASIC ★ | 1.1.1 | Designate an internal coordinator, or contract with an external coordinator | ✓ |
| | **1.2** | **Travel surveys** | |
| BETTER | 1.2.1 | Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress | ✓ |
| | **2.** | **WALKING AND CYCLING** | |
| | **2.1** | **Information on walking/cycling routes & destinations** | |
| BASIC | 2.1.1 | Display local area maps with walking/cycling access routes and key destinations at major entrances | ✓ |
| | **2.2** | **Bicycle skills training** | |
| | | *Commuter travel* | |
| BETTER ★ | 2.2.1 | Offer on-site cycling courses for commuters, or subsidize off-site courses | ✓ |
| | **2.3** | **Valet bike parking** | |
| | | *Visitor travel* | |
| BETTER | 2.3.1 | Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games) | ✓ |

| | | | TDM measures: *Non-residential developments* | Check if proposed & add descriptions |
|---|---|---|---|---|
| | | **3.** | **TRANSIT** | |
| | | **3.1** | **Transit information** | |
| BASIC | | 3.1.1 | Display relevant transit schedules and route maps at entrances | ✓ |
| BASIC | | 3.1.2 | Provide online links to OC Transpo and STO information | ✓ |
| BETTER | | 3.1.3 | Provide real-time arrival information display at entrances | ☐ |
| | | **3.2** | **Transit fare incentives** | |
| | | | *Commuter travel* | |
| BETTER | | 3.2.1 | Offer preloaded PRESTO cards to encourage commuters to use transit | ☐ |
| BETTER | ★ | 3.2.2 | Subsidize or reimburse monthly transit pass purchases by employees | ☐ |
| | | | *Visitor travel* | |
| BETTER | | 3.2.3 | Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games) | ☐ |
| | | **3.3** | **Enhanced public transit service** | |
| | | | *Commuter travel* | |
| BETTER | | 3.3.1 | Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends) | ☐ |
| | | | *Visitor travel* | |
| BETTER | | 3.3.2 | Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games) | ☐ |
| | | **3.4** | **Private transit service** | |
| | | | *Commuter travel* | |
| BETTER | | 3.4.1 | Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends) | ☐ |
| | | | *Visitor travel* | |
| BETTER | | 3.4.2 | Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games) | ☐ |

| | | TDM measures: *Non-residential developments* | Check if proposed & add descriptions |
|---|---|---|---|
| | | **4. RIDESHARING** | |
| | | **4.1 Ridematching service** | |
| | | *Commuter travel* | |
| BASIC | ★ | 4.1.1 Provide a dedicated ridematching portal at OttawaRideMatch.com | ✓ |
| | | **4.2 Carpool parking price incentives** | |
| | | *Commuter travel* | |
| BETTER | | 4.2.1 Provide discounts on parking costs for registered carpools | ☐ |
| | | **4.3 Vanpool service** | |
| | | *Commuter travel* | |
| BETTER | | 4.3.1 Provide a vanpooling service for long-distance commuters | ☐ |
| | | **5. CARSHARING & BIKESHARING** | |
| | | **5.1 Bikeshare stations & memberships** | |
| BETTER | | 5.1.1 Contract with provider to install on-site bikeshare station for use by commuters and visitors | ✓ |
| | | *Commuter travel* | |
| BETTER | | 5.1.2 Provide employees with bikeshare memberships for local business travel | ☐ |
| | | **5.2 Carshare vehicles & memberships** | |
| | | *Commuter travel* | |
| BETTER | | 5.2.1 Contract with provider to install on-site carshare vehicles and promote their use by tenants | ✓ |
| BETTER | | 5.2.2 Provide employees with carshare memberships for local business travel | ☐ |
| | | **6. PARKING** | |
| | | **6.1 Priced parking** | |
| | | *Commuter travel* | |
| BASIC | ★ | 6.1.1 Charge for long-term parking (daily, weekly, monthly) | ☐ |
| BASIC | | 6.1.2 Unbundle parking cost from lease rates at multi-tenant sites | ☐ |
| | | *Visitor travel* | |
| BETTER | | 6.1.3 Charge for short-term parking (hourly) | ☐ |

| | | | TDM measures: *Non-residential developments* | Check if proposed & add descriptions |
|---|---|---|---|---|
| | | **7.** | **TDM MARKETING & COMMUNICATIONS** | |
| | | **7.1** | **Multimodal travel information** | |
| | | | *Commuter travel* | |
| BASIC | ★ | 7.1.1 | Provide a multimodal travel option information package to new/relocating employees and students | ☐ |
| | | | *Visitor travel* | |
| BETTER | ★ | 7.1.2 | Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games) | ✓ |
| | | **7.2** | **Personalized trip planning** | |
| | | | *Commuter travel* | |
| BETTER | ★ | 7.2.1 | Offer personalized trip planning to new/relocating employees | ☐ |
| | | **7.3** | **Promotions** | |
| | | | *Commuter travel* | |
| BETTER | | 7.3.1 | Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes | ✓ |
| | | **8.** | **OTHER INCENTIVES & AMENITIES** | |
| | | **8.1** | **Emergency ride home** | |
| | | | *Commuter travel* | |
| BETTER | ★ | 8.1.1 | Provide emergency ride home service to non-driving commuters | ☐ |
| | | **8.2** | **Alternative work arrangements** | |
| | | | *Commuter travel* | |
| BASIC | ★ | 8.2.1 | Encourage flexible work hours | ☐ |
| BETTER | | 8.2.2 | Encourage compressed workweeks | ☐ |
| BETTER | ★ | 8.2.3 | Encourage telework | ☐ |
| | | **8.3** | **Local business travel options** | |
| | | | *Commuter travel* | |
| BASIC | ★ | 8.3.1 | Provide local business travel options that minimize the need for employees to bring a personal car to work | ☐ |
| | | **8.4** | **Commuter incentives** | |
| | | | *Commuter travel* | |
| BETTER | | 8.4.1 | Offer employees a taxable, mode-neutral commuting allowance | ☐ |
| | | **8.5** | **On-site amenities** | |
| | | | *Commuter travel* | |
| BETTER | | 8.5.1 | Provide on-site amenities/services to minimize mid-day or mid-commute errands | ✓ |

# APPENDIX H

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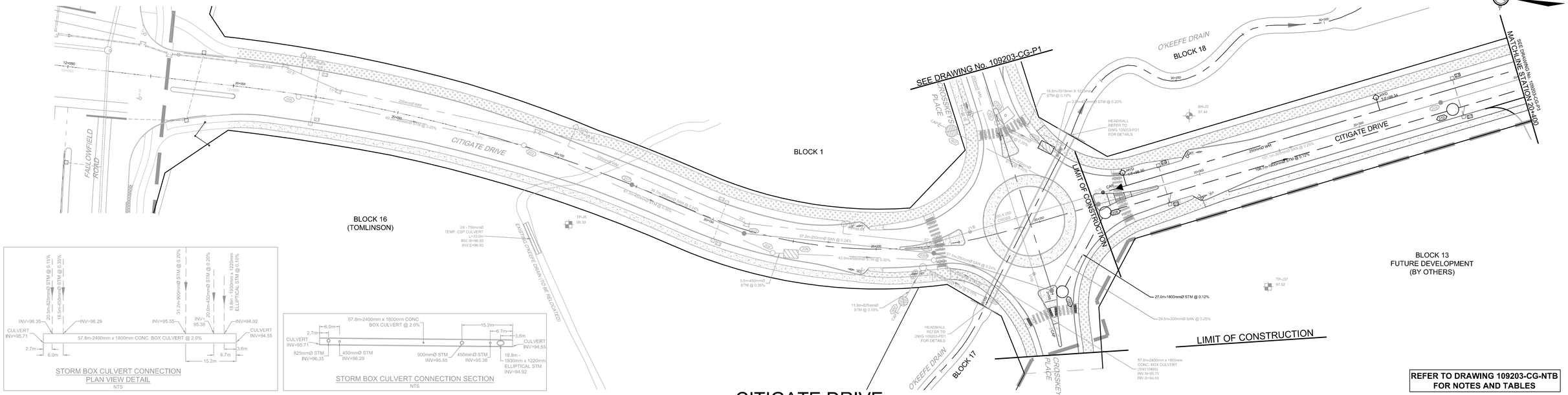
Plan and Profile – CitiGate Drive


FALLOWFIELD ROAD
CITIGATE DRIVE
BLOCK 1
BLOCK 16
(TOMLINSON)
SEE DRAWING No. 109203-CG-P1
CROSSKEYS PLACE
O'KEEFE DRAIN
BLOCK 18
BLOCK 17
MATCHLINE STATION 20+400
SEE DRAWING No. 109203-CG-P3
LIMIT OF CONSTRUCTION
BLOCK 13
FUTURE DEVELOPMENT
(BY OTHERS)
EXISTING O'KEEFE DRAIN (TO BE RELOCATED)
HEADWALL REFER TO DWG 109203-P01 FOR DETAILS
2X - 750mmØ TEMP. CSP CULVERT L=10.0m INV.W=96.93 INV.E=96.93
TP-J5 98.39
TP-J7 97.52
BH-J3 97.44
200mmØ WM
200mmØ STM
69.7m-200mmØ SAN @ 0.24%
57.2m-250mmØ SAN @ 0.24%
42.9m-450mmØ STM @ 0.36%
5.5m-450mmØ STM @ 0.36%
11.8m-825mmØ STM @ 0.15%
27.0m-1800mmØ STM @ 0.12%
29.5m-300mmØ SAN @ 0.25%
57.8m-2400mm x 1800mm CONC. BOX CULVERT (SN1104853) INV.N=95.71 INV.S=94.55
15.8m-1918mm X 1220mm STM @ 0.10%
3.0m-2100mm STM @ 0.20%
102.7m-1800mmØ STM @ 0.12%
HYD 12+98.34
HYD 12+98.30
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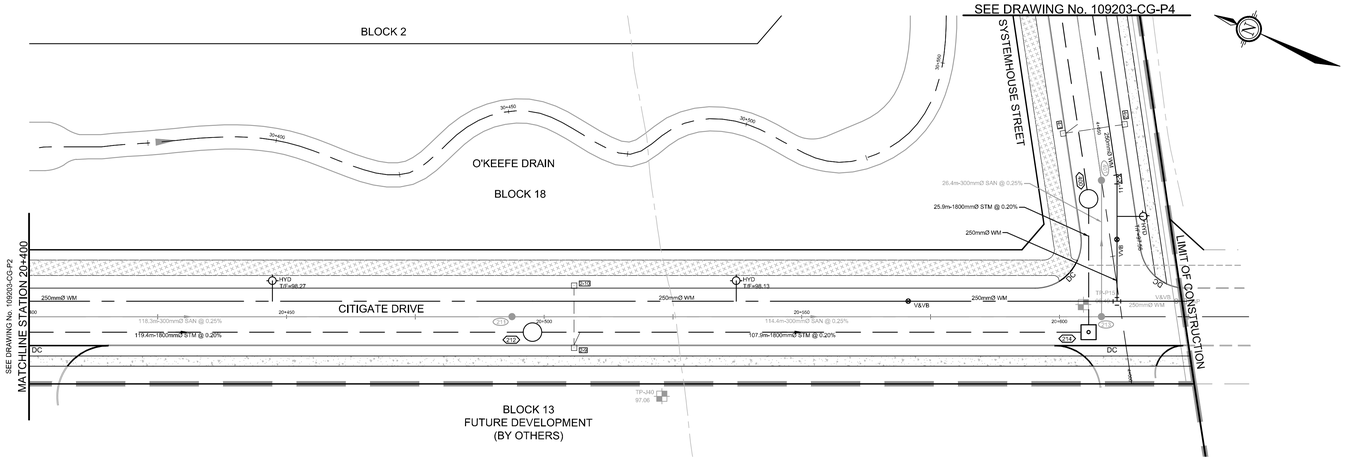
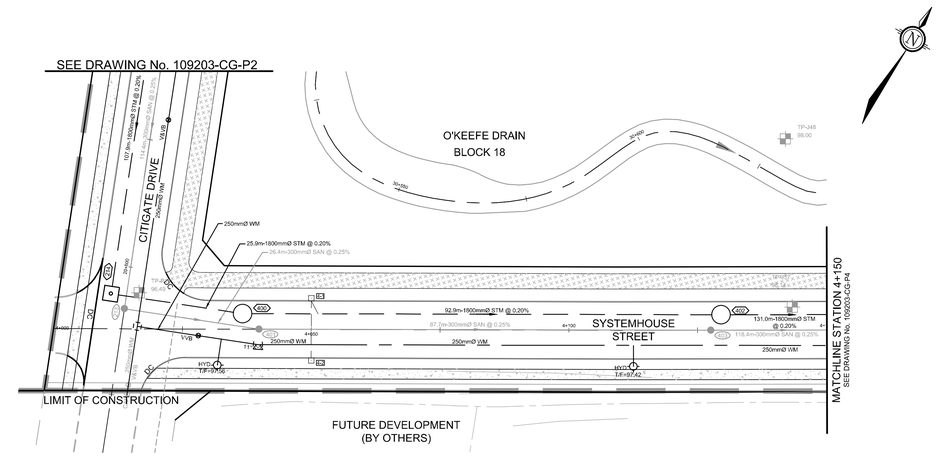
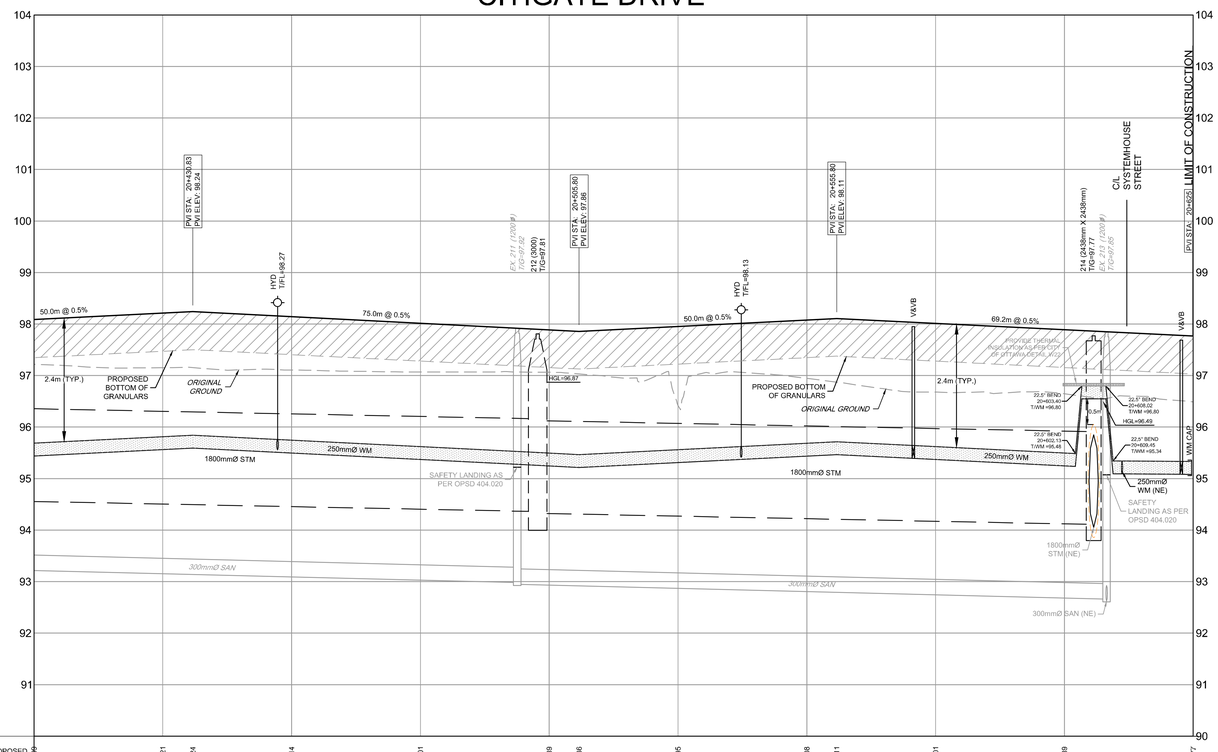


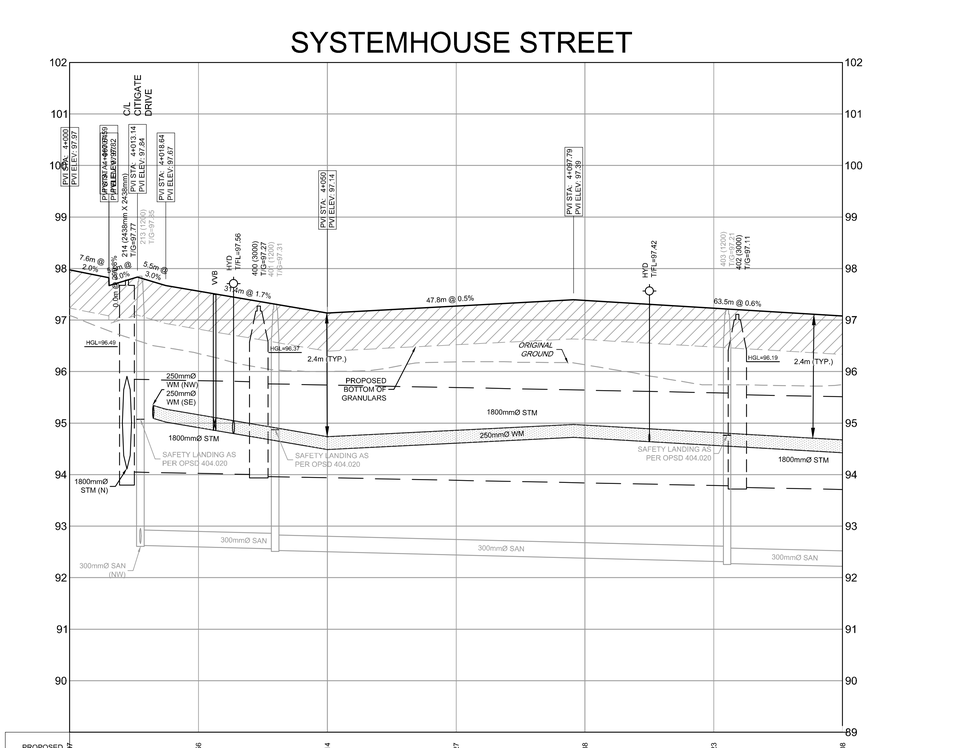




**REFER TO DRAWING 109203-CG-NTB FOR NOTES AND TABLES**

## CITIGATE DRIVE




## SYSTEMHOUSE STREET




NOTE:
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CITI GATE 416 CORPORATE CAMPUS

REGIONAL

| No. | REVISION | DATE | BY |
|---|---|---|---|
| 9. | ISS. FOR CITY REVIEW / STORM AND WM EXTENSION | MAR 17/20 | MSP |
| 7. | RE-ISSUED FOR CONSTRUCTION | SEPT 26/14 | MER |
| 6. | ISSUED FOR CONSTRUCTION | SEPT 03/14 | MER |
| 5. | ISSUED FOR SWM APPROVAL | AUG. 10/14 | MER |
| 4. | ISSUED FOR MOE PIPE APPROVALS | JUL 23/14 | MER |
| 3. | ISSUED FOR TENDER - PHASE 1 | JUN 27/14 | MER |
| 2. | REV. PER CITY COMMENTS / ISS. FOR MOE APPROVAL | JUN 27/14 | MER |
| 1. | ISSUED FOR CITY REVIEW | MAR 31/14 | MER |

SCALE
1:500
0 5 10 15 20
HORIZONTAL
1:50
0 0.5 1.0 1.5 2.0
VERTICAL

DESIGN CH
CHECKED MER
DRAWN CH/BET
CHECKED MER
APPROVED JGR

LICENSED PROFESSIONAL ENGINEER M.E. RIDDELL 100040125 PROVINCE OF ONTARIO

REGISTERED PROFESSIONAL ENGINEER J.G. RIDDELL PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

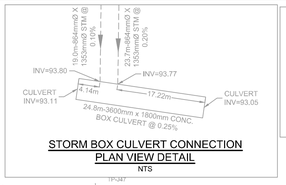
LOCATION
CITY OF OTTAWA
CITI GATE 416 CORPORATE CAMPUS

DRAWING NAME
PLAN AND PROFILE
CITIGATE DRIVE-STA. 20+400 TO 20+625
SYSTEMHOUSE STREET-
STA. 4+000 TO 4+150

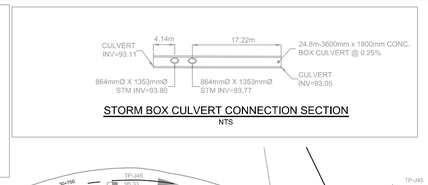
PROJECT No. 109203-00
REV REV # 8
DRAWING No. 109203-CG-P3

M:\2020\109203\Civil\Data\CAD\Design\109203-CG-P3.dwg CG-P3, Mar 20, 2020 - 5:48pm, cnanna
PLANPROFILE - REGIONAL STYLE

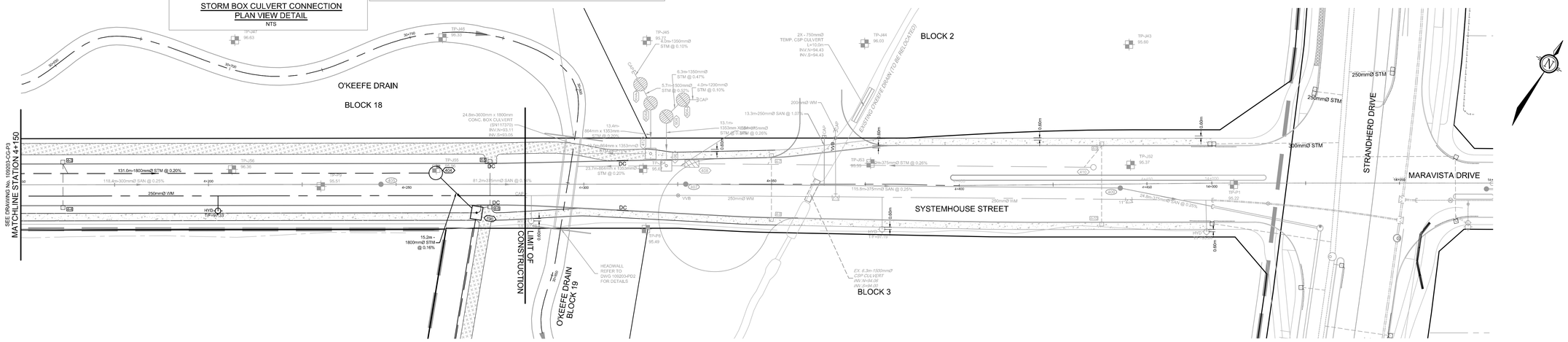
**REFER TO DRAWING 109203-CG-NTB FOR NOTES AND TABLES**



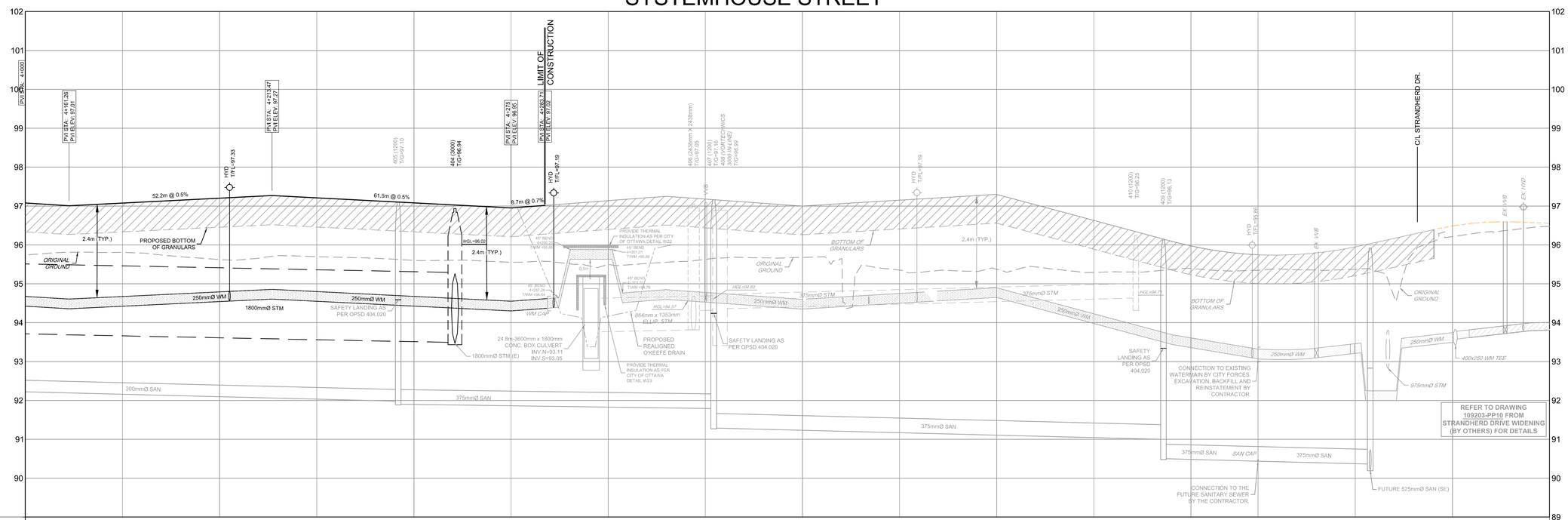

STORM BOX CULVERT CONNECTION
PLAN VIEW DETAIL
NTS




STORM BOX CULVERT CONNECTION SECTION
NTS




# SYSTEMHOUSE STREET

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CITI GATE 416 CORPORATE CAMPUS

REGIONAL

| No. | REVISION | DATE | BY |
|---|---|---|---|
| 9. | ISS. FOR CITY REVIEW / STORM AND WM EXTENSION | MAR 17/20 | MSP |
| 8. | RE-ISSUED FOR CONSTRUCTION | SEPT 26/14 | MER |
| 7. | ISSUED FOR CONSTRUCTION | SEPT 03/14 | MER |
| 6. | REVISED PER CITY COMMENTS | AUG 21/14 | MER |
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| 3. | ISSUED FOR TENDER - PHASE 1 | JUN 27/14 | MER |
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| 1. | ISSUED FOR CITY REVIEW | MAR 31/14 | MER |

SCALE
1:500
0 5 10 15 20
HORIZONTAL
1:50
0 0.5 1.0 1.5 2.0
VERTICAL

DESIGN CH
CHECKED MER
DRAWN CH/BET
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LICENSED PROFESSIONAL ENGINEER M.E. RIDDELL 100040125 PROVINCE OF ONTARIO

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LOCATION
CITY OF OTTAWA
CITI GATE 416 CORPORATE CAMPUS

DRAWING NAME
PLAN AND PROFILE
SYSTEMHOUSE STREET
STA. 4+150 TO 14+075

PROJECT No. 109203-00
REV REV # 9
DRAWING No. 109203-CG-P4

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PLAN/PROFILE - 1500mm/75mm

# APPENDIX I

Signal Timing Plans

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

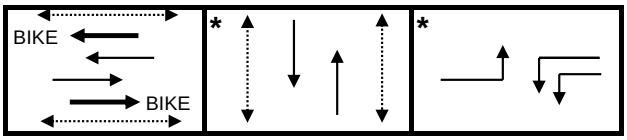
| | | | |
|---|---|---|---|
| **Intersection:** | **Main:** Strandherd | **Side:** | Helene Campbell |
| **Controller:** | **ATC-3** | **TSD:** | **5319** |
| **Author:** | Karson Blank | **Date:** | 03-Mar-2020 |

## Existing Timing Plans†

| | Plan | | | | | | Ped Minimum Time | | |
|---|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | **Evening** 12 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 110 | 120 | 100 | 110 | 105 | | | |
| **Offset** | 73 | 108 | 85 | X | 108 | X | | | |
| EB Thru | 56 | 46 | 56 | 35 | 46 | 35 | 7 | 18 | 4.6+2.2 |
| WB Thru | 56 | 46 | 56 | 35 | 46 | 35 | 7 | 18 | 4.6+2.2 |
| NB Thru | 49 | 49 | 49 | 49 | 49 | 49 | 7 | 34 | 3.3+4.4 |
| SB Thru | 49 | 49 | 49 | 49 | 49 | 49 | 7 | 34 | 3.3+4.4 |
| *EB Left (fp)* | 15 | 15 | 15 | 16 | 15 | 21 | - | - | 4.6+2.3 |
| *WB Left (fp)* | 15 | 15 | 15 | 16 | 15 | 21 | - | - | 4.6+2.3 |

## Phasing Sequence‡

**Plan: All**




## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 6:00 | 1 |
| 9:30 | 2 |
| 15:00 | 3 |
| 18:30 | 2 |
| 20:00 | 12 |
| 22:30 | 4 |

**Weekend**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:30 | 12 |
| 10:00 | 5 |
| 18:00 | 12 |
| 22:30 | 4 |

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Public Works Department*

**Traffic Operations Unit**

| | | | | | |
|---|---|---|---|---|---|
| **Intersection:** | **Main:** | Fallowfield Rd | **Side:** | Moodie Dr | |
| **Controller:** | **MS-3200** | | | **TSD:** | 5501 |
| **Author:** | Karson Blank | | | **Date:** | 03-Mar-20 |

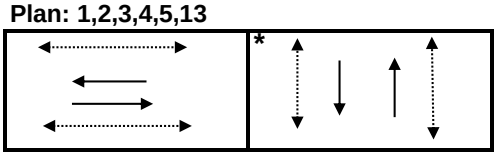
## Existing Timing Plans†

| | **Plan** | | | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | **PM Heavy** 13 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 75 | 120 | FREE | 75 | 120 | | | |
| **Offset** | 78 | 67 | 7 | X | 67 | 15 | | | |
| EB Thru | 80 | 41 | 68 | Max: 37 | 41 | 65 | 7 | 18 | 4.6 + 2.0 |
| WB Thru | 80 | 41 | 68 | Max: 37 | 41 | 65 | 7 | 18 | 4.6 + 2.0 |
| NB Thru | 40 | 34 | 52 | Max: 28 | 34 | 55 | 7 | 20 | 4.6 + 2.0 |
| SB Thru | 40 | 34 | 52 | Max: 28 | 34 | 55 | 7 | 20 | 4.6 + 2.0 |

**Notes:**

## Phasing Sequence‡

**Plan: 1,2,3,4,5,13**




**Note:** The pedestrian movements in all directions are actuated all times of day. The vehicle movement East-West has Max recalls for plans 1,2,3,5,13 and a min recall for plan 4.

## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:10 | 4 |
| 6:30 | 1 |
| 9:30 | 2 |
| 15:00 | 13 |
| 15:45 | 3 |
| 18:30 | 2 |
| 22:30 | 4 |

**Weekend**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:00 | 5 |
| 22:00 | 4 |

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Operations Unit**

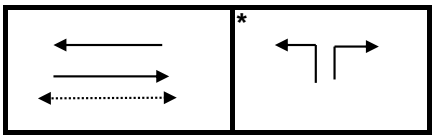
| | | | |
|---|---|---|---|
| **Intersection:** | ***Main:*** Fallowfield Road | ***Side:*** Hwy 416 NB Off Ramp | |
| **Controller:** | ATC-3 | **TSD:** | 6106 |
| **Author:** | Karson Blank | **Date:** | 19-Mar-20 |

## Existing Timing Plans†

| | **Plan** | | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 75 | 120 | 65 | 75 | | | |
| **Offset** | 81 | 0 | 108 | X | 0 | | | |
| EB-Thru | 80 | 50 | 85 | 35 | 39 | 7 | 17 | 4.6+2.1 |
| WB-Thru | 80 | 50 | 85 | 35 | 39 | 7 | 17 | 4.6+2.1 |
| NB | 40 | 25 | 35 | 30 | 36 | - | - | 3.7+1.6 |

## Phasing Sequence‡

**Plans: All**




**Notes:** 1) The NB movement has a minimum initial time of 10 seconds, which is extended by 3 seconds for each vehicle that passes the setback detection to a maximum initial of 40 seconds.

## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 6:00 | 1 |
| 9:30 | 2 |
| 15:00 | 3 |
| 18:30 | 2 |
| 22:30 | 4 |

**Weekend**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:30 | 5 |
| 22:30 | 4 |

## Notes

*†: Time for each direction includes amber and all red intervals*

*‡: Start of first phase should be used as reference point for offset*

*Asterisk (*) Indicates actuated phase*

*(fp): Fully Protected Left Turn*

◄·····► *Pedestrian signal*

*Cost is $58.78 ($52.02 + HST)*

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Operations Unit**

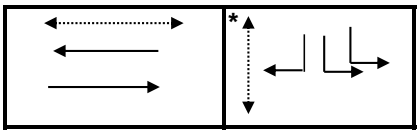
| | | | |
|---|---|---|---|
| **Intersection:** | ***Main:*** Fallowfield Road | ***Side:*** Hwy 416 SB Off Ramp | |
| **Controller:** | ATC-3 | **TSD:** | 6107 |
| **Author:** | Karson Blank | **Date:** | 19-Mar-20 |

## Existing Timing Plans†

| | **Plan** | | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 75 | 120 | FREE | 75 | | | |
| **Offset** | 87 | 1 | 4 | X | 1 | | | |
| EB-Thru | 70 | 39 | 70 | Min: 36.8 | 39 | 13 | 9 | 4.6+2.2 |
| WB-Thru | 70 | 39 | 70 | Min: 36.8 | 39 | 13 | 9 | 4.6+2.2 |
| SB | 50 | 36 | 50 | Max: 41.3 | 36 | 7 | 17 | 3.3+3.0 |

## Phasing Sequence‡

**Plans: All**




**Notes:** 1) The SB movement has a minimum initial time of 10 seconds, which is extended by 3 seconds for each vehicle that passes the setback detection to a maximum initial of 30 seconds.

## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:10 | 5 |
| 6:30 | 1 |
| 9:30 | 2 |
| 15:00 | 3 |
| 18:30 | 2 |
| 22:30 | 4 |

**Weekend**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:00 | 5 |
| 22:00 | 4 |

## Notes

*†: Time for each direction includes amber and all red intervals*

*‡: Start of first phase should be used as reference point for offset*

*Asterisk (*) Indicates actuated phase*

*(fp): Fully Protected Left Turn*

◄·····► *Pedestrian signal*

*Cost is $58.78 ($52.02 + HST)*

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

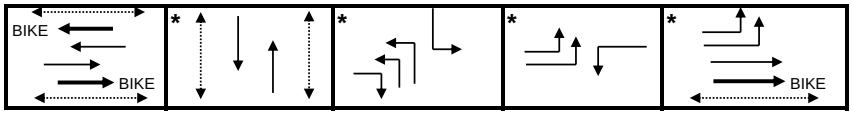
| | | | |
|---|---|---|---|
| **Intersection:** | **Main:** Strandherd | **Side:** | Fallowfield |
| **Controller:** | **MS-3200** | **TSD:** | **6252** |
| **Author:** | Karson Blank | **Date:** | 03-Mar-2020 |

## Existing Timing Plans†

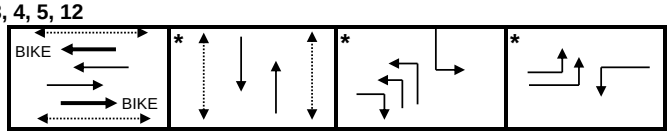
| | Plan | | | | | | Ped Minimum Time | | |
|---|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | **Evening** 12 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 110 | 120 | 110 | 110 | 120 | | | |
| **Offset** | 101 | 15 | 115 | X | 15 | X | | | |
| EB Thru | 46 | 31 | 34 | 30 | 31 | 30 | 7 | 16 | 4.6+2.3 |
| WB Thru | 31 | 31 | 34 | 30 | 31 | 30 | 7 | 16 | 4.6+2.3 |
| NB Thru | 48 | 48 | 48 | 48 | 48 | 48 | 7 | 34 | 3.7+3.3 |
| SB Thru | 48 | 48 | 48 | 48 | 48 | 48 | 7 | 34 | 3.7+3.3 |
| *NB Left (fp)* | 13 | 12 | 14 | 14 | 12 | 17 | - | - | 3.7+2.8 |
| *SB Left (fp)* | 13 | 12 | 14 | 14 | 12 | 17 | - | - | 3.7+2.8 |
| *EB Right* | 13 | 12 | 14 | 14 | 12 | 17 | - | - | 3.7+2.8 |
| *EB Left (fp)* | 28 | 19 | 24 | 18 | 19 | 25 | - | - | 4.6+2.5 |
| *WB Left (fp)* | 13 | 19 | 24 | 18 | 19 | 25 | - | - | 4.6+2.5 |

## Phasing Sequence‡

**Plan: 1**




**Plan: 2, 3, 4, 5, 12**




**Notes:** 1) For all plans, if there is no pedestrian crossing actuation for the NS movements, the NS thru movements will be forced off 26s early.

## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 6:00 | 1 |
| 9:30 | 2 |
| 15:00 | 3 |
| 18:30 | 2 |
| 20:00 | 12 |
| 22:30 | 4 |

**Weekend**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:30 | 12 |
| 10:00 | 5 |
| 18:00 | 12 |
| 22:30 | 4 |

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

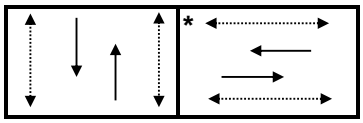
| | | | | | |
|---|---|---|---|---|---|
| **Intersection:** | **Main:** | Strandherd | **Side:** | Kennevale / Dealership | |
| **Controller:** | **ATC3** | | **TSD:** | **6715** | |
| **Author:** | Matthew Anderson | | **Date:** | 22-Oct-2019 | |

## Existing Timing Plans†

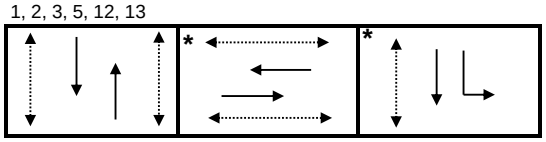
| | **Plan** | | | | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | **Evening** 12 | **PM Heavy** 13 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 110 | 120 | 80 | 110 | 95 | 120 | | | |
| **Offset** | 29 | 93 | 57 | X | 93 | X | 57 | | | |
| NB Thru | 75 | 65 | 72 | 47 | 65 | 47 | 62 | 7 | 17 | 4.6+1.8 |
| SB Thru | 87 | 77 | 87 | 47 | 77 | 62 | 77 | 7 | 17 | 4.6+1.8 |
| EB Thru | 33 | 33 | 33 | 33 | 33 | 33 | 43 | 7 | 19 | 3.3+3.3 |
| WB Thru | 33 | 33 | 33 | 33 | 33 | 33 | 43 | 7 | 19 | 3.3+3.3 |
| *SB Left* | 12 | 12 | 15 | - | 12 | 15 | 15 | - | - | 4.6+1.8 |

## Phasing Sequence‡

**Plan:** 4




**Plan:** 1, 2, 3, 5, 12, 13




**Notes:** 1) Plan 13 has a maximum recall for the EW thru movments.

## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 6:00 | 1 |
| 9:30 | 2 |
| 15:00 | 3 |
| 15:30 | 13 |
| 18:00 | 3 |
| 18:30 | 2 |
| 20:00 | 12 |
| 22:30 | 4 |

**Weekend**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:30 | 12 |
| 10:00 | 5 |
| 18:00 | 12 |
| 22:30 | 4 |

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $57.63 ($51 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

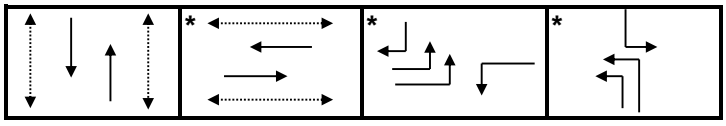
| | | | |
|---|---|---|---|
| **Intersection:** | **Main:** Strandherd | **Side:** | Maravista / Systemhouse |
| **Controller:** | **ATC-3** | **TSD:** | **6728** |
| **Author:** | Matthew Anderson | **Date:** | 22-Oct-2019 |

## Existing Timing Plans†

| | **Plan** | | | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | **Evening** 12 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 120 | 110 | 120 | 110 | 110 | 120 | | | |
| **Offset** | 83 | 0 | 82 | X | 0 | X | | | |
| NB Thru | 38 | 37 | 40 | 33 | 37 | 33 | 7 | 17 | 4.6+2.1 |
| SB Thru | 38 | 37 | 40 | 33 | 37 | 33 | 7 | 17 | 4.6+2.1 |
| EB Thru | 47 | 47 | 47 | 47 | 47 | 47 | 7 | 32 | 3.3+4.3 |
| WB Thru | 47 | 47 | 47 | 47 | 47 | 47 | 7 | 32 | 3.3+4.3 |
| *EB Left (fp)* | 20 | 13 | 15 | 15 | 13 | 20 | - | - | 3.3+4.3 |
| *WB Left (fp)* | 20 | 13 | 15 | 15 | 13 | 20 | - | - | 3.3+4.3 |
| *SB Right* | 20 | 13 | 15 | 15 | 13 | 20 | - | - | 3.3+4.3 |
| *NB Left (fp)* | 15 | 13 | 18 | 15 | 13 | 20 | - | - | 4.6+2.0 |
| *SB Left (fp)* | 15 | 13 | 18 | 15 | 13 | 20 | - | - | 4.6+2.0 |

## Phasing Sequence‡

**Plan: All**




**Notes:**
1) For Plan 1, if there are no pedestrian crossing actuations for the EW movements, the EW thru movements will be forced off 19 seconds early.
2) For Plan 3, if there are no pedestrian crossing actuations for the EW movements, the EW thru movements will be forced off 9 seconds early.

## Schedule

**Weekday**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 6:00 | 1 |
| 9:30 | 2 |
| 15:00 | 3 |
| 18:30 | 2 |
| 20:00 | 12 |
| 22:30 | 4 |

**Weekends**

| Time | Plan |
|---|---|
| 0:15 | 4 |
| 8:30 | 12 |
| 10:00 | 5 |
| 18:00 | 12 |
| 22:30 | 4 |

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

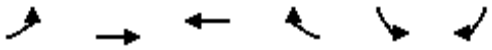
(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

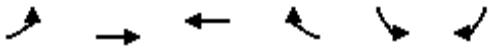
Cost is $57.63 ($51 + HST)

# APPENDIX J

Synchro Reports



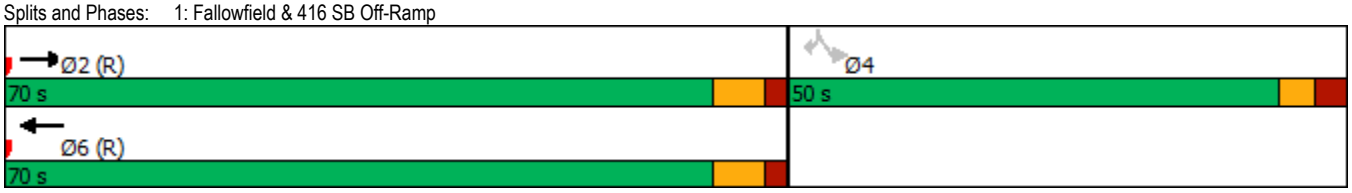
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 742 | 489 | 0 | 242 | 180 |
| Future Volume (vph) | 0 | 742 | 489 | 0 | 242 | 180 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 200 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 215.4 | 447.2 | | 179.9 | |
| Travel Time (s) | | 9.7 | 20.1 | | 13.0 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 824 | 543 | 0 | 269 | 200 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 824 | 543 | 0 | 269 | 200 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 90.8 | 90.8 | | 16.1 | 16.1 |
| Actuated g/C Ratio | | 0.76 | 0.76 | | 0.13 | 0.13 |
| v/c Ratio | | 0.35 | 0.22 | | 0.66 | 0.57 |
| Control Delay | | 5.6 | 5.3 | | 57.0 | 13.0 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 5.6 | 5.3 | | 57.0 | 13.0 |
| LOS | | A | A | | E | B |
| Approach Delay | | 5.6 | 5.3 | | 38.2 | |
| Approach LOS | | A | A | | D | |
| 90th %ile Green (s) | | 86.2 | 86.2 | | 20.7 | 20.7 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 88.9 | 88.9 | | 18.0 | 18.0 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 90.8 | 90.8 | | 16.1 | 16.1 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 92.7 | 92.7 | | 14.2 | 14.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 95.4 | 95.4 | | 11.5 | 11.5 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 231 | 111 | | 225 | 24 |
| Fuel Used(l) | | 29 | 26 | | 20 | 5 |
| CO Emissions (g/hr) | | 540 | 476 | | 368 | 101 |
| NOx Emissions (g/hr) | | 104 | 92 | | 71 | 19 |
| VOC Emissions (g/hr) | | 125 | 110 | | 85 | 23 |
| Dilemma Vehicles (#) | | 31 | 22 | | 0 | 0 |
| Queue Length 50th (m) | | 29.0 | 4.4 | | 31.4 | 0.0 |
| Queue Length 95th (m) | | 44.1 | 55.7 | | 43.4 | 20.6 |
| Internal Link Dist (m) | | 191.4 | 423.2 | | 155.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2326 | 2437 | | 1106 | 606 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.35 | 0.22 | | 0.24 | 0.33 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.66 | | | |
| Intersection Signal Delay: 13.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 40.9% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp

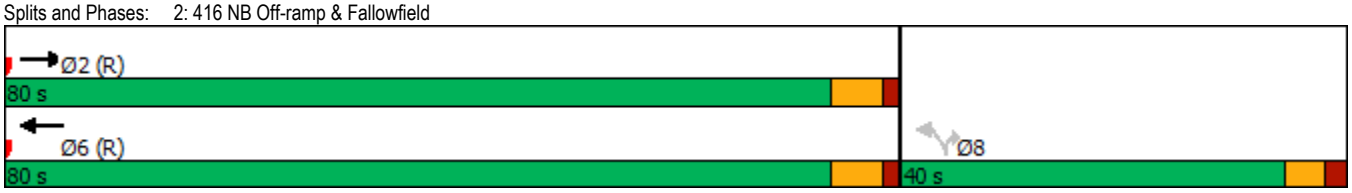


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 666 | 0 | 0 | 398 | 125 | 104 |
| Future Volume (vph) | 666 | 0 | 0 | 398 | 125 | 104 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 116 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 447.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 740 | 0 | 0 | 442 | 139 | 116 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 740 | 0 | 0 | 442 | 139 | 116 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.4 | | | 30.4 | 25.8 | 25.8 |
| Total Split (s) | 80.0 | | | 80.0 | 40.0 | 40.0 |
| Total Split (%) | 66.7% | | | 66.7% | 33.3% | 33.3% |
| Maximum Green (s) | 73.8 | | | 73.8 | 34.2 | 34.2 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 1.6 | | | 1.6 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | | | 6.2 | 5.8 | 5.8 |

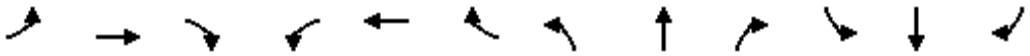
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 91.4 | | | 91.4 | 16.6 | 16.6 |
| Actuated g/C Ratio | 0.76 | | | 0.76 | 0.14 | 0.14 |
| v/c Ratio | 0.30 | | | 0.18 | 0.68 | 0.39 |
| Control Delay | 4.5 | | | 0.9 | 64.8 | 11.5 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.5 | | | 0.9 | 64.8 | 11.5 |
| LOS | A | | | A | E | B |
| Approach Delay | 4.5 | | | 0.9 | 40.6 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 84.7 | | | 84.7 | 23.3 | 23.3 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 88.6 | | | 88.6 | 19.4 | 19.4 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 91.4 | | | 91.4 | 16.6 | 16.6 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 94.1 | | | 94.1 | 13.9 | 13.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 216 | | | 19 | 116 | 16 |
| Fuel Used(l) | 38 | | | 16 | 12 | 3 |
| CO Emissions (g/hr) | 709 | | | 306 | 217 | 53 |
| NOx Emissions (g/hr) | 137 | | | 59 | 42 | 10 |
| VOC Emissions (g/hr) | 164 | | | 71 | 50 | 12 |
| Dilemma Vehicles (#) | 21 | | | 3 | 0 | 0 |
| Queue Length 50th (m) | 29.6 | | | 2.3 | 31.5 | 0.0 |
| Queue Length 95th (m) | 40.0 | | | 3.8 | 49.8 | 15.4 |
| Internal Link Dist (m) | 423.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2429 | | | 2499 | 422 | 489 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | | | 0.18 | 0.33 | 0.24 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.68 | | | |
| Intersection Signal Delay: 9.8 | | Intersection LOS: A | |
| Intersection Capacity Utilization 40.9% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 452 | 494 | 10 | 2 | 991 | 32 | 6 | 1 | 2 | 23 | 2 | 243 |
| Future Volume (vph) | 452 | 494 | 10 | 2 | 991 | 32 | 6 | 1 | 2 | 23 | 2 | 243 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.900 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1571 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1483 | 1658 | 3191 | 1459 | 3216 | 1571 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 2 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 502 | 549 | 11 | 2 | 1101 | 36 | 7 | 1 | 2 | 26 | 2 | 270 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 502 | 549 | 11 | 2 | 1101 | 36 | 7 | 3 | 0 | 26 | 2 | 270 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



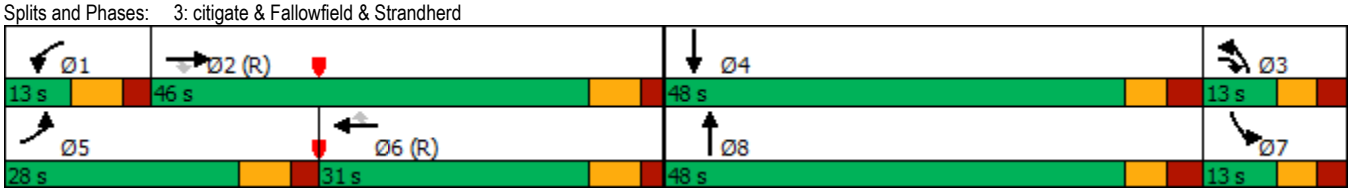
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 23.6 | 94.7 | 102.9 | 5.7 | 63.9 | 63.9 | 6.3 | 16.2 | | 7.4 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.20 | 0.79 | 0.86 | 0.05 | 0.53 | 0.53 | 0.05 | 0.14 | | 0.06 | 0.14 | 1.00 |
| v/c Ratio | 0.82 | 0.24 | 0.01 | 0.03 | 0.65 | 0.04 | 0.04 | 0.01 | | 0.25 | 0.01 | 0.19 |
| Control Delay | 60.0 | 8.5 | 0.0 | 78.5 | 21.5 | 0.1 | 50.7 | 33.3 | | 60.0 | 36.0 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.0 | 8.5 | 0.0 | 78.5 | 21.5 | 0.1 | 50.7 | 33.3 | | 60.0 | 36.0 | 0.3 |
| LOS | E | A | A | E | C | A | D | C | | E | D | A |
| Approach Delay | | 32.8 | | | 20.9 | | | 45.5 | | | 5.7 | |
| Approach LOS | | C | | | C | | | D | | | A | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Max | Coord | Coord | Hold | Ped | | Max | Ped | |
| 70th %ile Green (s) | 27.4 | 98.3 | 8.3 | 0.0 | 63.8 | 63.8 | 8.3 | 0.0 | | 8.3 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 25.8 | 96.1 | 0.0 | 0.0 | 63.2 | 63.2 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 30th %ile Green (s) | 23.6 | 113.1 | 0.0 | 0.0 | 82.4 | 82.4 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| 10th %ile Green (s) | 20.2 | 113.1 | 0.0 | 0.0 | 85.8 | 85.8 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| Stops (vph) | 409 | 113 | 0 | 3 | 659 | 0 | 8 | 5 | | 24 | 3 | 0 |
| Fuel Used(l) | 53 | 27 | 0 | 0 | 74 | 1 | 1 | 0 | | 3 | 0 | 10 |
| CO Emissions (g/hr) | 991 | 511 | 8 | 6 | 1376 | 12 | 15 | 7 | | 47 | 4 | 179 |
| NOx Emissions (g/hr) | 191 | 99 | 1 | 1 | 266 | 2 | 3 | 1 | | 9 | 1 | 35 |
| VOC Emissions (g/hr) | 229 | 118 | 2 | 1 | 317 | 3 | 3 | 2 | | 11 | 1 | 41 |
| Dilemma Vehicles (#) | 0 | 17 | 0 | 0 | 21 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 59.0 | 10.7 | 0.0 | 0.4 | 123.0 | 0.0 | 0.8 | 0.2 | | 5.8 | 0.4 | 0.0 |
| Queue Length 95th (m) | #93.9 | 48.2 | m0.0 | m1.2 | #239.3 | m0.0 | 2.8 | 2.0 | | 15.4 | 2.2 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 617 | 2281 | 1288 | 81 | 1698 | 881 | 184 | 538 | | 105 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.24 | 0.01 | 0.02 | 0.65 | 0.04 | 0.04 | 0.01 | | 0.25 | 0.00 | 0.19 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 24.2 | | Intersection LOS: C | |
| Intersection Capacity Utilization 70.0% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: citigate & Fallowfield & Strandherd



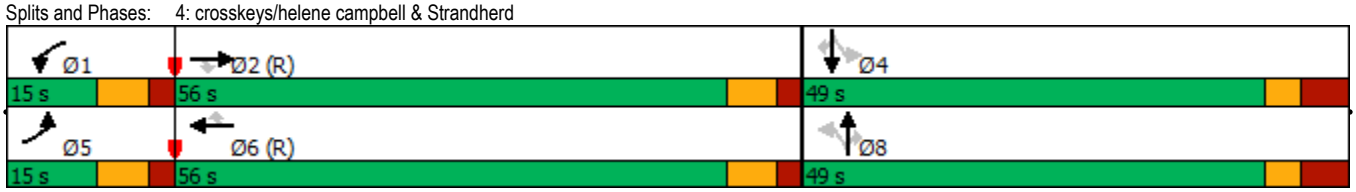
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 480 | 47 | 16 | 948 | 11 | 86 | 9 | 8 | 18 | 18 | 141 |
| Future Volume (vph) | 29 | 480 | 47 | 16 | 948 | 11 | 86 | 9 | 8 | 18 | 18 | 141 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.97 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.744 | | | 0.751 | | |
| Satd. Flow (perm) | 1656 | 2941 | 1483 | 3216 | 3221 | 1445 | 1298 | 1745 | 1483 | 1308 | 1745 | 1462 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 157 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 32 | 533 | 52 | 18 | 1053 | 12 | 96 | 10 | 9 | 20 | 20 | 157 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 32 | 533 | 52 | 18 | 1053 | 12 | 96 | 10 | 9 | 20 | 20 | 157 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

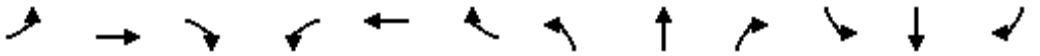
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Act Effct Green (s) | 7.4 | 81.2 | 81.2 | 6.2 | 77.6 | 77.6 | 18.8 | 18.8 | 18.8 | 18.8 | 18.8 | 18.8 |
| Actuated g/C Ratio | 0.06 | 0.68 | 0.68 | 0.05 | 0.65 | 0.65 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| v/c Ratio | 0.31 | 0.27 | 0.05 | 0.11 | 0.51 | 0.01 | 0.47 | 0.04 | 0.03 | 0.10 | 0.07 | 0.43 |
| Control Delay | 66.6 | 8.8 | 0.7 | 66.9 | 13.5 | 0.0 | 52.1 | 37.7 | 0.1 | 38.5 | 37.8 | 9.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.6 | 8.8 | 0.7 | 66.9 | 13.5 | 0.0 | 52.1 | 37.7 | 0.1 | 38.5 | 37.8 | 9.0 |
| LOS | E | A | A | E | B | A | D | D | A | D | D | A |
| Approach Delay | | 11.1 | | | 14.3 | | | 46.8 | | | 14.9 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.4 | 50.4 | 7.2 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 8.8 | 75.2 | 75.2 | 6.5 | 72.9 | 72.9 | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 7.7 | 91.2 | 91.2 | 0.0 | 76.6 | 76.6 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 93.8 | 93.8 | 0.0 | 93.8 | 93.8 | 11.7 | 11.7 | 11.7 | 11.7 | 11.7 | 11.7 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Min | Min | Min | Min | Min | Min |
| Stops (vph) | 28 | 143 | 2 | 16 | 576 | 0 | 74 | 8 | 0 | 15 | 15 | 17 |
| Fuel Used(l) | 4 | 21 | 1 | 2 | 64 | 0 | 11 | 1 | 1 | 1 | 1 | 5 |
| CO Emissions (g/hr) | 68 | 391 | 20 | 39 | 1197 | 5 | 197 | 19 | 9 | 24 | 24 | 86 |
| NOx Emissions (g/hr) | 13 | 75 | 4 | 8 | 231 | 1 | 38 | 4 | 2 | 5 | 5 | 17 |
| VOC Emissions (g/hr) | 16 | 90 | 5 | 9 | 276 | 1 | 45 | 4 | 2 | 6 | 5 | 20 |
| Dilemma Vehicles (#) | 0 | 34 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 8.1 | 16.0 | 0.2 | 2.2 | 71.5 | 0.0 | 22.4 | 2.3 | 0.0 | 4.3 | 4.3 | 0.0 |
| Queue Length 95th (m) | 18.9 | 19.6 | 1.1 | m4.8 | 158.8 | m0.0 | 29.2 | 5.6 | 0.0 | 8.7 | 8.6 | 14.1 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 114 | 1990 | 1037 | 217 | 2082 | 971 | 446 | 600 | 574 | 450 | 600 | 606 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.27 | 0.05 | 0.08 | 0.51 | 0.01 | 0.22 | 0.02 | 0.02 | 0.04 | 0.03 | 0.26 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 15.2 Intersection LOS: B
Intersection Capacity Utilization 65.5% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: crosskeys/helene campbell & Strandherd





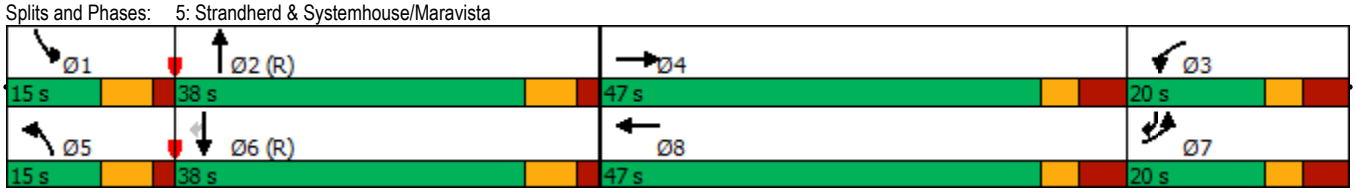
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 42 | 6 | 22 | 6 | 18 | 88 | 76 | 750 | 7 | 14 | 372 | 7 |
| Future Volume (vph) | 42 | 6 | 22 | 6 | 18 | 88 | 76 | 750 | 7 | 14 | 372 | 7 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.884 | | | 0.875 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1353 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1353 | 0 | 1656 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 24 | | | 98 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 47 | 7 | 24 | 7 | 20 | 98 | 84 | 833 | 8 | 16 | 413 | 8 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 47 | 31 | 0 | 7 | 118 | 0 | 84 | 841 | 0 | 16 | 413 | 8 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 30.7 | | 15.0 | 30.7 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 1 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.2 | 18.9 | | 12.3 | 15.8 | | 8.6 | 71.6 | | 7.1 | 65.1 | 70.3 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.10 | 0.13 | | 0.07 | 0.60 | | 0.06 | 0.54 | 0.59 |
| v/c Ratio | 0.25 | 0.13 | | 0.04 | 0.41 | | 0.38 | 0.43 | | 0.21 | 0.23 | 0.01 |
| Control Delay | 56.5 | 22.9 | | 40.7 | 15.4 | | 63.5 | 17.6 | | 49.9 | 23.1 | 0.1 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.5 | 22.9 | | 40.7 | 15.4 | | 63.5 | 17.6 | | 49.9 | 23.1 | 0.1 |
| LOS | E | C | | D | B | | E | B | | D | C | A |
| Approach Delay | | 43.1 | | | 16.8 | | | 21.7 | | | 23.7 | |
| Approach LOS | | D | | | B | | | C | | | C | |
| 90th %ile Green (s) | 9.0 | 10.0 | | 38.0 | 39.0 | | 10.9 | 34.2 | | 9.3 | 32.6 | 9.0 |
| 90th %ile Term Code | Gap | Min | | Hold | Ped | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 7.9 | 25.5 | | 0.0 | 10.0 | | 9.5 | 65.7 | | 7.9 | 64.1 | 7.9 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.2 | 24.8 | | 0.0 | 10.0 | | 8.6 | 80.9 | | 0.0 | 65.7 | 7.2 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 6.5 | 24.1 | | 0.0 | 10.0 | | 7.6 | 81.6 | | 0.0 | 67.4 | 6.5 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 0.0 | 95.7 | | 0.0 | 95.7 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Skip | Coord | | Skip | Coord | Skip |
| Stops (vph) | 39 | 13 | | 6 | 25 | | 74 | 333 | | 15 | 201 | 0 |
| Fuel Used(l) | 4 | 1 | | 0 | 3 | | 10 | 54 | | 2 | 27 | 0 |
| CO Emissions (g/hr) | 65 | 25 | | 7 | 61 | | 195 | 1010 | | 32 | 494 | 3 |
| NOx Emissions (g/hr) | 13 | 5 | | 1 | 12 | | 38 | 195 | | 6 | 95 | 1 |
| VOC Emissions (g/hr) | 15 | 6 | | 2 | 14 | | 45 | 233 | | 7 | 114 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 38 | | 0 | 9 | 0 |
| Queue Length 50th (m) | 5.5 | 1.3 | | 1.6 | 4.4 | | 10.7 | 35.2 | | 3.0 | 22.4 | 0.0 |
| Queue Length 95th (m) | 11.5 | 11.2 | | 4.6 | 16.2 | | m16.5 | #132.0 | | 12.2 | 71.3 | m0.2 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 460 | | 242 | 567 | | 240 | 1975 | | 94 | 1798 | 881 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.07 | | 0.03 | 0.21 | | 0.35 | 0.43 | | 0.17 | 0.23 | 0.01 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 22.9 Intersection LOS: C
Intersection Capacity Utilization 52.8% ICU Level of Service A
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



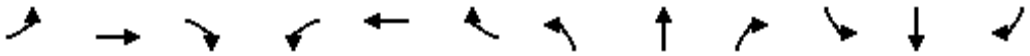
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 3 | 1 | 5 | 64 | 2 | 80 | 11 | 756 | 46 | 28 | 373 | 15 |
| Future Volume (vph) | 3 | 1 | 5 | 64 | 2 | 80 | 11 | 756 | 46 | 28 | 373 | 15 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.853 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1489 | 0 | 1398 | 1745 | 1455 | 1523 | 1728 | 1363 |
| Flt Permitted | 0.698 | | | 0.757 | | | 0.520 | | | 0.229 | | |
| Satd. Flow (perm) | 994 | 1745 | 1483 | 1321 | 1489 | 0 | 765 | 1745 | 1455 | 367 | 1728 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 89 | | | | 91 | | | 33 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 3 | 1 | 6 | 71 | 2 | 89 | 12 | 840 | 51 | 31 | 414 | 17 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 3 | 1 | 6 | 71 | 91 | 0 | 12 | 840 | 51 | 31 | 414 | 17 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | | 75.0 | 75.0 | 75.0 | 12.0 | 87.0 | 87.0 |
| Total Split (%) | 27.5% | 27.5% | 27.5% | 27.5% | 27.5% | | 62.5% | 62.5% | 62.5% | 10.0% | 72.5% | 72.5% |
| Maximum Green (s) | 26.4 | 26.4 | 26.4 | 26.4 | 26.4 | | 68.6 | 68.6 | 68.6 | 5.6 | 80.6 | 80.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | | 86.8 | 86.8 | 86.8 | 94.4 | 94.4 | 94.4 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | | 0.72 | 0.72 | 0.72 | 0.79 | 0.79 | 0.79 |
| v/c Ratio | 0.03 | 0.01 | 0.03 | 0.51 | 0.39 | | 0.02 | 0.67 | 0.05 | 0.09 | 0.30 | 0.02 |
| Control Delay | 46.7 | 46.0 | 0.2 | 63.4 | 15.1 | | 7.3 | 14.1 | 0.4 | 1.4 | 4.5 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.7 | 46.0 | 0.2 | 63.4 | 15.1 | | 7.3 | 14.1 | 0.4 | 1.4 | 4.5 | 0.1 |
| LOS | D | D | A | E | B | | A | B | A | A | A | A |
| Approach Delay | | 18.7 | | | 36.3 | | | 13.3 | | | 4.1 | |
| Approach LOS | | B | | | D | | | B | | | A | |
| 90th %ile Green (s) | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 | | 76.6 | 76.6 | 76.6 | 6.9 | 89.9 | 89.9 |
| 90th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 70th %ile Green (s) | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 | | 80.4 | 80.4 | 80.4 | 6.3 | 93.1 | 93.1 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 11.8 | 11.8 | 11.8 | 11.8 | 11.8 | | 82.8 | 82.8 | 82.8 | 6.0 | 95.2 | 95.2 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 30th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 5 | 2 | 0 | 59 | 15 | | 5 | 420 | 1 | 1 | 105 | 0 |
| Fuel Used(l) | 0 | 0 | 0 | 7 | 4 | | 1 | 46 | 1 | 1 | 20 | 0 |
| CO Emissions (g/hr) | 6 | 2 | 3 | 122 | 83 | | 10 | 855 | 17 | 19 | 365 | 9 |
| NOx Emissions (g/hr) | 1 | 0 | 1 | 24 | 16 | | 2 | 165 | 3 | 4 | 70 | 2 |
| VOC Emissions (g/hr) | 1 | 0 | 1 | 28 | 19 | | 2 | 197 | 4 | 4 | 84 | 2 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 32 | 0 | 0 | 6 | 0 |
| Queue Length 50th (m) | 0.7 | 0.2 | 0.0 | 16.2 | 0.4 | | 0.8 | 106.9 | 0.0 | 0.2 | 4.7 | 0.0 |
| Queue Length 95th (m) | 3.5 | 1.9 | 0.0 | 30.0 | 15.1 | | 3.3 | 181.3 | 1.0 | 0.9 | 50.5 | 0.2 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 218 | 383 | 395 | 290 | 397 | | 553 | 1261 | 1077 | 347 | 1359 | 1079 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.00 | 0.02 | 0.24 | 0.23 | | 0.02 | 0.67 | 0.05 | 0.09 | 0.30 | 0.02 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 29 (24%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.67 | | | |
| Intersection Signal Delay: 13.0 | | Intersection LOS: B | |
| Intersection Capacity Utilization 63.2% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale

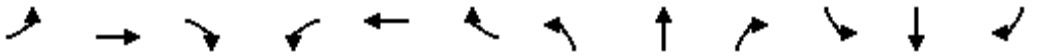




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 2 | 18 | 37 | 3 | 50 | 11 | 458 | 17 | 16 | 378 | 4 |
| Future Volume (Veh/h) | 6 | 2 | 18 | 37 | 3 | 50 | 11 | 458 | 17 | 16 | 378 | 4 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 7 | 2 | 20 | 41 | 3 | 56 | 12 | 509 | 19 | 18 | 420 | 4 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1046 | 1008 | 420 | 1010 | 993 | 509 | 424 | | | 528 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1046 | 1008 | 420 | 1010 | 993 | 509 | 424 | | | 528 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 96 | 99 | 97 | 80 | 99 | 90 | 99 | | | 98 | | |
| cM capacity (veh/h) | 171 | 234 | 629 | 206 | 238 | 564 | 1109 | | | 1024 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 7 | 22 | 100 | 12 | 509 | 19 | 18 | 420 | 4 |
| Volume Left | 7 | 0 | 41 | 12 | 0 | 0 | 18 | 0 | 0 |
| Volume Right | 0 | 20 | 56 | 0 | 0 | 19 | 0 | 0 | 4 |
| cSH | 171 | 545 | 321 | 1109 | 1700 | 1700 | 1024 | 1700 | 1700 |
| Volume to Capacity | 0.04 | 0.04 | 0.31 | 0.01 | 0.30 | 0.01 | 0.02 | 0.25 | 0.00 |
| Queue Length 95th (m) | 1.0 | 1.0 | 9.8 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Control Delay (s) | 27.0 | 11.9 | 21.2 | 8.3 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Lane LOS | D | B | C | A | | | A | | |
| Approach Delay (s) | 15.5 | | 21.2 | 0.2 | | | 0.3 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.5 | | | | |
| Intersection Capacity Utilization | 44.3% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



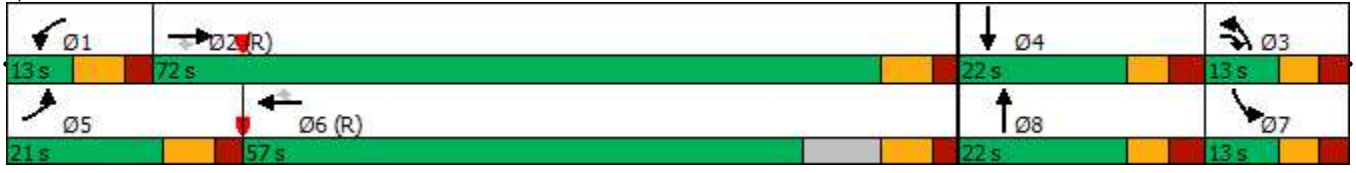
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 452 | 494 | 10 | 2 | 991 | 32 | 6 | 1 | 2 | 23 | 2 | 243 |
| Future Volume (vph) | 452 | 494 | 10 | 2 | 991 | 32 | 6 | 1 | 2 | 23 | 2 | 243 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.900 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1571 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1571 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 2 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 502 | 549 | 11 | 2 | 1101 | 36 | 7 | 1 | 2 | 26 | 2 | 270 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 502 | 549 | 11 | 2 | 1101 | 36 | 7 | 3 | 0 | 26 | 2 | 270 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 21.0 | 72.0 | 13.0 | 13.0 | 57.0 | 57.0 | 13.0 | 22.0 | | 13.0 | 22.0 | |
| Total Split (%) | 17.5% | 60.0% | 10.8% | 10.8% | 47.5% | 47.5% | 10.8% | 18.3% | | 10.8% | 18.3% | |
| Maximum Green (s) | 13.9 | 65.1 | 6.5 | 5.9 | 50.1 | 50.1 | 6.5 | 15.0 | | 6.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 30.8 | 100.2 | 109.1 | 5.8 | 62.1 | 62.1 | 7.0 | 10.0 | | 8.1 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.26 | 0.84 | 0.91 | 0.05 | 0.52 | 0.52 | 0.06 | 0.08 | | 0.07 | 0.08 | 1.00 |
| v/c Ratio | 0.63 | 0.23 | 0.01 | 0.03 | 0.67 | 0.04 | 0.04 | 0.02 | | 0.23 | 0.01 | 0.19 |
| Control Delay | 45.5 | 5.5 | 0.0 | 74.0 | 17.3 | 0.1 | 52.3 | 39.3 | | 57.5 | 51.0 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.5 | 5.5 | 0.0 | 74.0 | 17.3 | 0.1 | 52.3 | 39.3 | | 57.5 | 51.0 | 0.3 |
| LOS | D | A | A | E | B | A | D | D | | E | D | A |
| Approach Delay | | 24.4 | | | 16.9 | | | 48.4 | | | 5.6 | |
| Approach LOS | | C | | | B | | | D | | | A | |
| 90th %ile Green (s) | 15.6 | 66.4 | 9.8 | 6.3 | 57.1 | 57.1 | 9.8 | 10.0 | | 9.8 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Gap | Coord | Coord | Hold | Min | | Gap | Min | |
| 70th %ile Green (s) | 28.7 | 98.3 | 8.3 | 0.0 | 62.5 | 62.5 | 8.3 | 0.0 | | 8.3 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 30.5 | 96.1 | 0.0 | 0.0 | 58.5 | 58.5 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 30th %ile Green (s) | 33.7 | 113.1 | 0.0 | 0.0 | 72.3 | 72.3 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| 10th %ile Green (s) | 45.7 | 113.1 | 0.0 | 0.0 | 60.3 | 60.3 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| Stops (vph) | 347 | 115 | 0 | 4 | 737 | 0 | 8 | 3 | | 24 | 3 | 0 |
| Fuel Used(l) | 44 | 18 | 0 | 0 | 98 | 1 | 1 | 0 | | 2 | 0 | 4 |
| CO Emissions (g/hr) | 821 | 333 | 3 | 8 | 1816 | 25 | 9 | 4 | | 41 | 4 | 82 |
| NOx Emissions (g/hr) | 159 | 64 | 1 | 2 | 351 | 5 | 2 | 1 | | 8 | 1 | 16 |
| VOC Emissions (g/hr) | 189 | 77 | 1 | 2 | 419 | 6 | 2 | 1 | | 9 | 1 | 19 |
| Dilemma Vehicles (#) | 0 | 14 | 0 | 0 | 18 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 54.3 | 13.5 | 0.0 | 0.3 | 108.2 | 0.0 | 0.8 | 0.2 | | 5.8 | 0.4 | 0.0 |
| Queue Length 95th (m) | #108.8 | 47.4 | 0.0 | m1.7 | 137.2 | 0.0 | 3.1 | 3.3 | | 14.9 | 3.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 803 | 2413 | 1359 | 82 | 1652 | 867 | 201 | 198 | | 114 | 218 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | 0.23 | 0.01 | 0.02 | 0.67 | 0.04 | 0.03 | 0.02 | | 0.23 | 0.01 | 0.19 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 68.4% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 42 | 6 | 22 | 6 | 18 | 88 | 76 | 750 | 7 | 14 | 372 | 7 |
| Future Volume (vph) | 42 | 6 | 22 | 6 | 18 | 88 | 76 | 750 | 7 | 14 | 372 | 7 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.884 | | | 0.875 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1367 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1367 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 24 | | | 98 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 47 | 7 | 24 | 7 | 20 | 98 | 84 | 833 | 8 | 16 | 413 | 8 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 47 | 31 | 0 | 7 | 118 | 0 | 84 | 841 | 0 | 16 | 413 | 8 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

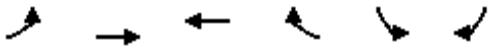
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.2 | 18.9 | | 7.2 | 10.7 | | 8.6 | 76.7 | | 7.1 | 70.2 | 75.4 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.06 | 0.09 | | 0.07 | 0.64 | | 0.06 | 0.58 | 0.63 |
| v/c Ratio | 0.25 | 0.13 | | 0.07 | 0.52 | | 0.38 | 0.40 | | 0.21 | 0.21 | 0.01 |
| Control Delay | 56.5 | 22.9 | | 52.8 | 23.0 | | 57.4 | 13.4 | | 55.8 | 12.9 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.5 | 22.9 | | 52.8 | 23.0 | | 57.4 | 13.4 | | 55.8 | 12.9 | 0.0 |
| LOS | E | C | | D | C | | E | B | | E | B | A |
| Approach Delay | | 43.1 | | | 24.7 | | | 17.4 | | | 14.2 | |
| Approach LOS | | D | | | C | | | B | | | B | |
| 90th %ile Green (s) | 9.0 | 10.0 | | 12.4 | 13.4 | | 10.9 | 59.8 | | 9.3 | 58.2 | 9.0 |
| 90th %ile Term Code | Gap | Min | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 7.9 | 25.5 | | 0.0 | 10.0 | | 9.5 | 65.7 | | 7.9 | 64.1 | 7.9 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.2 | 24.8 | | 0.0 | 10.0 | | 8.6 | 80.9 | | 0.0 | 65.7 | 7.2 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 6.5 | 24.1 | | 0.0 | 10.0 | | 7.6 | 81.6 | | 0.0 | 67.4 | 6.5 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 0.0 | 95.7 | | 0.0 | 95.7 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Skip | Coord | | Skip | Coord | Skip |
| Stops (vph) | 39 | 13 | | 8 | 29 | | 71 | 369 | | 16 | 147 | 0 |
| Fuel Used(l) | 4 | 1 | | 0 | 4 | | 9 | 41 | | 2 | 28 | 0 |
| CO Emissions (g/hr) | 65 | 25 | | 8 | 74 | | 162 | 771 | | 39 | 520 | 6 |
| NOx Emissions (g/hr) | 13 | 5 | | 2 | 14 | | 31 | 149 | | 8 | 100 | 1 |
| VOC Emissions (g/hr) | 15 | 6 | | 2 | 17 | | 37 | 178 | | 9 | 120 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 32 | | 0 | 20 | 0 |
| Queue Length 50th (m) | 5.5 | 1.3 | | 1.6 | 4.4 | | 9.8 | 41.4 | | 3.6 | 21.5 | 0.0 |
| Queue Length 95th (m) | 11.5 | 11.2 | | 6.1 | 21.9 | | 17.6 | 85.3 | | 11.3 | 28.3 | 0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 281 | | 171 | 340 | | 240 | 2116 | | 94 | 1940 | 934 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.11 | | 0.04 | 0.35 | | 0.35 | 0.40 | | 0.17 | 0.21 | 0.01 |

**Intersection Summary**

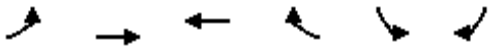
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 52.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 601 | 730 | 0 | 699 | 196 |
| Future Volume (vph) | 0 | 601 | 730 | 0 | 699 | 196 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 144 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 85.0 | 468.2 | | 171.4 | |
| Travel Time (s) | | 3.8 | 21.1 | | 12.3 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 668 | 811 | 0 | 777 | 218 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 668 | 811 | 0 | 777 | 218 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 70.2 | 70.2 | | 36.7 | 36.7 |
| Actuated g/C Ratio | | 0.58 | 0.58 | | 0.31 | 0.31 |
| v/c Ratio | | 0.37 | 0.43 | | 0.84 | 0.43 |
| Control Delay | | 14.7 | 7.4 | | 47.4 | 13.6 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 14.7 | 7.4 | | 47.4 | 13.6 |
| LOS | | B | A | | D | B |
| Approach Delay | | 14.7 | 7.4 | | 40.0 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 67.0 | 67.0 | | 39.9 | 39.9 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 69.9 | 69.9 | | 37.0 | 37.0 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 72.9 | 72.9 | | 34.0 | 34.0 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 78.2 | 78.2 | | 28.7 | 28.7 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 310 | 282 | | 632 | 56 |
| Fuel Used(l) | | 29 | 47 | | 51 | 6 |
| CO Emissions (g/hr) | | 532 | 878 | | 949 | 121 |
| NOx Emissions (g/hr) | | 103 | 170 | | 183 | 23 |
| VOC Emissions (g/hr) | | 123 | 203 | | 219 | 28 |
| Dilemma Vehicles (#) | | 25 | 10 | | 0 | 0 |
| Queue Length 50th (m) | | 41.8 | 44.2 | | 87.5 | 12.8 |
| Queue Length 95th (m) | | 62.2 | 36.6 | | 101.8 | 31.2 |
| Internal Link Dist (m) | | 61.0 | 444.2 | | 147.4 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1799 | 1885 | | 1106 | 570 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.37 | 0.43 | | 0.70 | 0.38 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.84 | | | |
| Intersection Signal Delay: 22.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 53.6% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



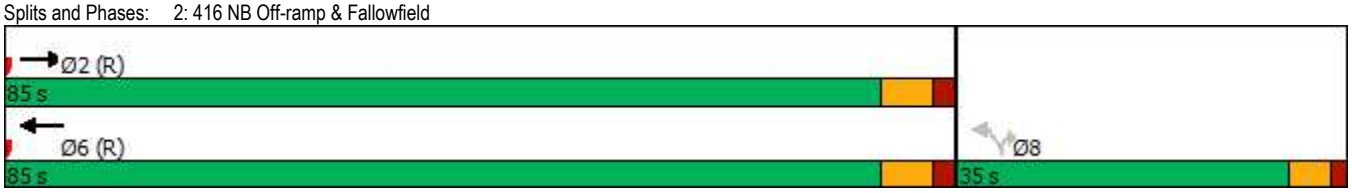


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1207 | 0 | 0 | 775 | 99 | 84 |
| Future Volume (vph) | 1207 | 0 | 0 | 775 | 99 | 84 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 70 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 468.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 21.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1341 | 0 | 0 | 861 | 110 | 93 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1341 | 0 | 0 | 861 | 110 | 93 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 93.4 | | | 93.4 | 14.6 | 14.6 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.12 | 0.12 |
| v/c Ratio | 0.54 | | | 0.34 | 0.61 | 0.40 |
| Control Delay | 3.2 | | | 2.0 | 64.0 | 21.1 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.2 | | | 2.0 | 64.0 | 21.1 |
| LOS | A | | | A | E | C |
| Approach Delay | 3.2 | | | 2.0 | 44.3 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 87.8 | | | 87.8 | 20.2 | 20.2 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 91.4 | | | 91.4 | 16.6 | 16.6 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 93.8 | | | 93.8 | 14.2 | 14.2 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 96.2 | | | 96.2 | 11.8 | 11.8 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 377 | | | 124 | 93 | 26 |
| Fuel Used(l) | 69 | | | 38 | 9 | 3 |
| CO Emissions (g/hr) | 1286 | | | 701 | 171 | 62 |
| NOx Emissions (g/hr) | 248 | | | 135 | 33 | 12 |
| VOC Emissions (g/hr) | 296 | | | 162 | 40 | 14 |
| Dilemma Vehicles (#) | 23 | | | 12 | 0 | 0 |
| Queue Length 50th (m) | 15.1 | | | 7.7 | 25.0 | 4.9 |
| Queue Length 95th (m) | 47.5 | | | 12.1 | 41.6 | 19.5 |
| Internal Link Dist (m) | 444.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2484 | | | 2556 | 367 | 405 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | | | 0.34 | 0.30 | 0.23 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.61 | | | |
| Intersection Signal Delay: 6.3 | | Intersection LOS: A | |
| Intersection Capacity Utilization 53.6% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



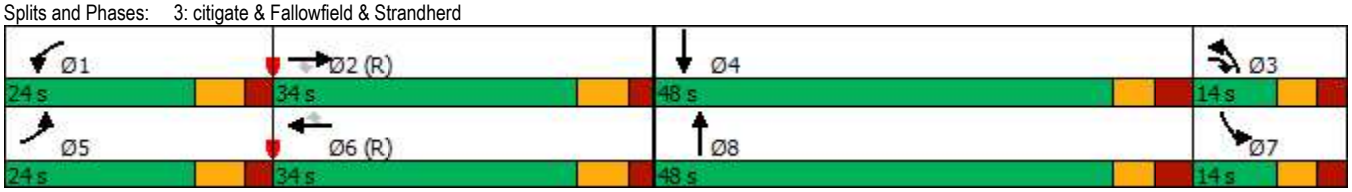
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 245 | 878 | 10 | 0 | 613 | 58 | 10 | 3 | 0 | 72 | 2 | 358 |
| Future Volume (vph) | 245 | 878 | 10 | 0 | 613 | 58 | 10 | 3 | 0 | 72 | 2 | 358 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1745 | 3191 | 1483 | 3216 | 1745 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3118 | 2891 | 1483 | 1745 | 3191 | 1460 | 3216 | 1745 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | | | | | 398 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 272 | 976 | 11 | 0 | 681 | 64 | 11 | 3 | 0 | 80 | 2 | 398 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 272 | 976 | 11 | 0 | 681 | 64 | 11 | 3 | 0 | 80 | 2 | 398 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 15.0 | 86.2 | 104.5 | | 64.0 | 64.0 | 8.8 | 16.2 | | 10.8 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.12 | 0.72 | 0.87 | | 0.53 | 0.53 | 0.07 | 0.14 | | 0.09 | 0.14 | 1.00 |
| v/c Ratio | 0.70 | 0.47 | 0.01 | | 0.40 | 0.08 | 0.05 | 0.01 | | 0.54 | 0.01 | 0.28 |
| Control Delay | 49.4 | 15.8 | 0.0 | | 15.5 | 0.8 | 46.2 | 37.3 | | 66.2 | 36.0 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.4 | 15.8 | 0.0 | | 15.5 | 0.8 | 46.2 | 37.3 | | 66.2 | 36.0 | 0.5 |
| LOS | D | B | A | | B | A | D | D | | E | D | A |
| Approach Delay | | 22.9 | | | 14.2 | | | 44.3 | | | 11.6 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 51.1 | 7.5 | 0.0 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Ped | | Max | Ped | |
| 70th %ile Green (s) | 17.4 | 93.0 | 13.6 | 0.0 | 68.5 | 68.5 | 13.6 | 0.0 | | 13.6 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 15.7 | 94.5 | 12.1 | 0.0 | 71.7 | 71.7 | 12.1 | 0.0 | | 12.1 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 13.9 | 96.1 | 0.0 | 0.0 | 75.1 | 75.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 11.3 | 96.1 | 0.0 | 0.0 | 77.7 | 77.7 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 225 | 447 | 0 | | 238 | 4 | 11 | 5 | | 61 | 3 | 0 |
| Fuel Used(l) | 27 | 62 | 0 | | 33 | 1 | 1 | 0 | | 8 | 0 | 14 |
| CO Emissions (g/hr) | 502 | 1153 | 8 | | 617 | 26 | 23 | 7 | | 146 | 4 | 265 |
| NOx Emissions (g/hr) | 97 | 223 | 1 | | 119 | 5 | 4 | 1 | | 28 | 1 | 51 |
| VOC Emissions (g/hr) | 116 | 266 | 2 | | 142 | 6 | 5 | 2 | | 34 | 1 | 61 |
| Dilemma Vehicles (#) | 0 | 78 | 0 | | 5 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 28.8 | 50.2 | 0.0 | | 21.5 | 0.0 | 1.3 | 0.7 | | 18.1 | 0.4 | 0.0 |
| Queue Length 95th (m) | 47.8 | 113.8 | m0.0 | | #121.6 | 1.9 | 4.2 | m1.9 | | #45.7 | 2.2 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 442 | 2075 | 1313 | | 1702 | 853 | 258 | 596 | | 149 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.47 | 0.01 | | 0.40 | 0.08 | 0.04 | 0.01 | | 0.54 | 0.00 | 0.28 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: citigate & Fallowfield & Strandherd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 102 | 750 | 231 | 34 | 558 | 12 | 154 | 77 | 22 | 14 | 82 | 74 |
| Future Volume (vph) | 102 | 750 | 231 | 34 | 558 | 12 | 154 | 77 | 22 | 14 | 82 | 74 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.99 | | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.698 | | | 0.701 | | |
| Satd. Flow (perm) | 1658 | 2941 | 1465 | 3216 | 3221 | 1448 | 1210 | 1745 | 1458 | 1221 | 1745 | 1449 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 167 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | | | | | | | 9 | | 2 | 2 | | 9 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 113 | 833 | 257 | 38 | 620 | 13 | 171 | 86 | 24 | 16 | 91 | 82 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 113 | 833 | 257 | 38 | 620 | 13 | 171 | 86 | 24 | 16 | 91 | 82 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | 2 | 2 | 2 | 7 | 7 | 7 |
| Act Effct Green (s) | 14.1 | 72.5 | 72.5 | 6.9 | 60.1 | 60.1 | 24.4 | 24.4 | 24.4 | 24.4 | 24.4 | 24.4 |
| Actuated g/C Ratio | 0.12 | 0.60 | 0.60 | 0.06 | 0.50 | 0.50 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| v/c Ratio | 0.58 | 0.47 | 0.27 | 0.21 | 0.38 | 0.02 | 0.70 | 0.24 | 0.06 | 0.06 | 0.26 | 0.22 |
| Control Delay | 64.8 | 21.2 | 9.5 | 70.6 | 9.8 | 0.0 | 58.2 | 39.3 | 0.3 | 33.6 | 39.0 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.8 | 21.2 | 9.5 | 70.6 | 9.8 | 0.0 | 58.2 | 39.3 | 0.3 | 33.6 | 39.0 | 5.6 |
| LOS | E | C | A | E | A | A | E | D | A | C | D | A |
| Approach Delay | | 22.8 | | | 13.0 | | | 47.5 | | | 24.0 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.2 | 49.2 | 8.4 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Max | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 16.9 | 64.7 | 64.7 | 7.5 | 55.3 | 55.3 | 26.4 | 26.4 | 26.4 | 26.4 | 26.4 | 26.4 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 16.0 | 69.3 | 69.3 | 6.8 | 60.1 | 60.1 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 15.3 | 86.8 | 86.8 | 0.0 | 64.6 | 64.6 | 18.7 | 18.7 | 18.7 | 18.7 | 18.7 | 18.7 |
| 30th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 14.1 | 92.3 | 92.3 | 0.0 | 71.3 | 71.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 78 | 475 | 113 | 35 | 174 | 0 | 139 | 60 | 0 | 12 | 64 | 8 |
| Fuel Used(l) | 12 | 54 | 13 | 5 | 27 | 0 | 20 | 9 | 1 | 1 | 6 | 2 |
| CO Emissions (g/hr) | 216 | 1013 | 238 | 86 | 498 | 5 | 368 | 159 | 26 | 18 | 108 | 41 |
| NOx Emissions (g/hr) | 42 | 195 | 46 | 17 | 96 | 1 | 71 | 31 | 5 | 3 | 21 | 8 |
| VOC Emissions (g/hr) | 50 | 234 | 55 | 20 | 115 | 1 | 85 | 37 | 6 | 4 | 25 | 10 |
| Dilemma Vehicles (#) | 0 | 51 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 23.6 | 93.2 | 12.0 | 4.9 | 27.7 | 0.0 | 38.7 | 17.8 | 0.0 | 3.1 | 18.6 | 0.0 |
| Queue Length 95th (m) | #66.2 | 58.0 | 21.8 | 11.0 | 21.0 | 0.0 | 51.3 | 26.2 | 0.0 | 7.6 | 27.0 | 8.2 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 195 | 1775 | 950 | 219 | 1613 | 777 | 416 | 600 | 565 | 420 | 600 | 562 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.58 | 0.47 | 0.27 | 0.17 | 0.38 | 0.02 | 0.41 | 0.14 | 0.04 | 0.04 | 0.15 | 0.15 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 23.1 Intersection LOS: C
Intersection Capacity Utilization 60.7% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: crosskeys/helene campbell & Strandherd

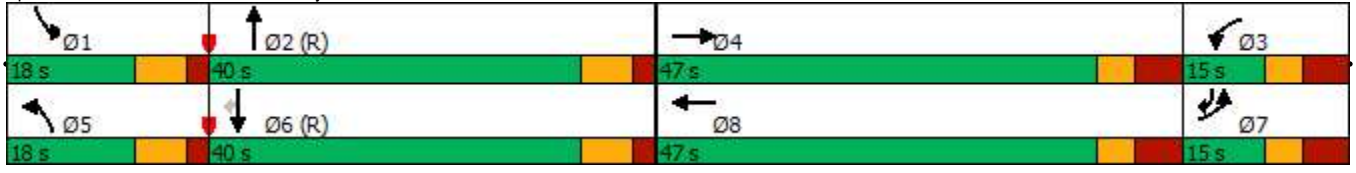


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 45 | 158 | 8 | 45 | 32 | 194 | 445 | 6 | 107 | 678 | 20 |
| Future Volume (vph) | 50 | 45 | 158 | 8 | 45 | 32 | 194 | 445 | 6 | 107 | 678 | 20 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.883 | | | 0.937 | | | 0.998 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1522 | 0 | 1658 | 1552 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1522 | 0 | 1653 | 1552 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 157 | | | 32 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 56 | 50 | 176 | 9 | 50 | 36 | 216 | 494 | 7 | 119 | 753 | 22 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 56 | 226 | 0 | 9 | 86 | 0 | 216 | 501 | 0 | 119 | 753 | 22 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 3 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.2 | 21.6 | | 9.9 | 16.2 | | 12.3 | 57.9 | | 12.9 | 58.5 | 66.3 |
| Actuated g/C Ratio | 0.06 | 0.18 | | 0.08 | 0.14 | | 0.10 | 0.48 | | 0.11 | 0.49 | 0.55 |
| v/c Ratio | 0.29 | 0.56 | | 0.07 | 0.36 | | 0.66 | 0.31 | | 0.67 | 0.47 | 0.03 |
| Control Delay | 57.6 | 20.0 | | 46.4 | 32.0 | | 72.9 | 15.0 | | 80.9 | 17.2 | 0.9 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.6 | 20.0 | | 46.4 | 32.0 | | 72.9 | 15.0 | | 80.9 | 17.2 | 0.9 |
| LOS | E | B | | D | C | | E | B | | F | B | A |
| Approach Delay | | 27.5 | | | 33.3 | | | 32.4 | | | 25.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| 90th %ile Green (s) | 7.8 | 20.9 | | 25.9 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Gap | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 8.3 | 27.7 | | 0.0 | 11.8 | | 14.9 | 54.7 | | 16.7 | 56.5 | 8.3 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.5 | 25.1 | | 0.0 | 10.0 | | 13.4 | 59.4 | | 14.6 | 60.6 | 7.5 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.7 | 24.3 | | 0.0 | 10.0 | | 11.9 | 62.4 | | 12.4 | 62.9 | 6.7 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 9.7 | 79.9 | | 9.2 | 79.4 | 0.0 |
| 10th %ile Term Code | Skip | Min | | Skip | Hold | | Gap | Coord | | Gap | Coord | Skip |
| Stops (vph) | 46 | 63 | | 9 | 42 | | 192 | 146 | | 100 | 203 | 1 |
| Fuel Used(l) | 4 | 8 | | 1 | 4 | | 28 | 28 | | 15 | 36 | 1 |
| CO Emissions (g/hr) | 79 | 158 | | 10 | 69 | | 526 | 529 | | 276 | 669 | 10 |
| NOx Emissions (g/hr) | 15 | 30 | | 2 | 13 | | 102 | 102 | | 53 | 129 | 2 |
| VOC Emissions (g/hr) | 18 | 36 | | 2 | 16 | | 121 | 122 | | 64 | 154 | 2 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 29 | | 0 | 42 | 0 |
| Queue Length 50th (m) | 6.5 | 13.6 | | 2.1 | 12.3 | | 27.9 | 12.4 | | 29.9 | 13.2 | 0.0 |
| Queue Length 95th (m) | 13.2 | 39.5 | | 6.1 | 20.8 | | m38.4 | 48.0 | | #59.1 | 73.0 | m0.1 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 206 | 605 | | 153 | 531 | | 337 | 1598 | | 183 | 1617 | 797 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.37 | | 0.06 | 0.16 | | 0.64 | 0.31 | | 0.65 | 0.47 | 0.03 |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Cycle Length: 120 | | |
| Actuated Cycle Length: 120 | | |
| Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | |
| Natural Cycle: 110 | | |
| Control Type: Actuated-Coordinated | | |
| Maximum v/c Ratio: 0.67 | | |
| Intersection Signal Delay: 28.6 | Intersection LOS: C | |
| Intersection Capacity Utilization 58.6% | ICU Level of Service B | |
| Analysis Period (min) 15 | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | |
| Queue shown is maximum after two cycles. | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | |

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



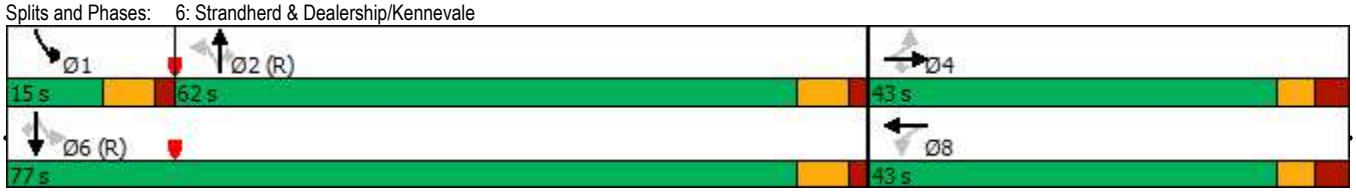
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 14 | 2 | 14 | 85 | 4 | 57 | 10 | 574 | 78 | 56 | 791 | 9 |
| Future Volume (vph) | 14 | 2 | 14 | 85 | 4 | 57 | 10 | 574 | 78 | 56 | 791 | 9 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.859 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1472 | 0 | 1658 | 1745 | 1483 | 1642 | 1745 | 1483 |
| Flt Permitted | 0.713 | | | 0.757 | | | 0.174 | | | 0.199 | | |
| Satd. Flow (perm) | 1244 | 1745 | 1483 | 1321 | 1472 | 0 | 304 | 1745 | 1483 | 344 | 1745 | 1483 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 63 | | | | 91 | | | 33 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 16 | 2 | 16 | 94 | 4 | 63 | 11 | 638 | 87 | 62 | 879 | 10 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 16 | 2 | 16 | 94 | 67 | 0 | 11 | 638 | 87 | 62 | 879 | 10 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | | 62.0 | 62.0 | 62.0 | 15.0 | 77.0 | 77.0 |
| Total Split (%) | 35.8% | 35.8% | 35.8% | 35.8% | 35.8% | | 51.7% | 51.7% | 51.7% | 12.5% | 64.2% | 64.2% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

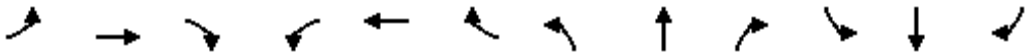
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | Max | Max | Max | Max | Max | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 59.3 | 59.3 | 59.3 | 70.6 | 70.6 | 70.6 |
| Actuated g/C Ratio | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | 0.49 | 0.49 | 0.49 | 0.59 | 0.59 | 0.59 |
| v/c Ratio | 0.04 | 0.00 | 0.03 | 0.23 | 0.14 | | 0.07 | 0.74 | 0.11 | 0.22 | 0.86 | 0.01 |
| Control Delay | 30.1 | 29.5 | 0.1 | 33.4 | 8.9 | | 19.6 | 31.9 | 3.7 | 20.9 | 40.0 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.1 | 29.5 | 0.1 | 33.4 | 8.9 | | 19.6 | 31.9 | 3.7 | 20.9 | 40.0 | 7.2 |
| LOS | C | C | A | C | A | | B | C | A | C | D | A |
| Approach Delay | | 16.0 | | | 23.2 | | | 28.3 | | | 38.4 | |
| Approach LOS | | B | | | C | | | C | | | D | |
| 90th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| 90th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Max | Coord | Coord |
| 70th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 56.1 | 56.1 | 56.1 | 8.1 | 70.6 | 70.6 |
| 70th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 56.8 | 56.8 | 56.8 | 7.4 | 70.6 | 70.6 |
| 50th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 57.5 | 57.5 | 57.5 | 6.7 | 70.6 | 70.6 |
| 30th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 10th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 70.6 | 70.6 | 70.6 | 0.0 | 70.6 | 70.6 |
| 10th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 11 | 3 | 0 | 63 | 13 | | 6 | 459 | 8 | 30 | 547 | 2 |
| Fuel Used(l) | 1 | 0 | 0 | 7 | 3 | | 1 | 51 | 2 | 4 | 82 | 0 |
| CO Emissions (g/hr) | 19 | 3 | 9 | 121 | 56 | | 13 | 944 | 39 | 83 | 1522 | 9 |
| NOx Emissions (g/hr) | 4 | 1 | 2 | 23 | 11 | | 2 | 182 | 8 | 16 | 294 | 2 |
| VOC Emissions (g/hr) | 4 | 1 | 2 | 28 | 13 | | 3 | 218 | 9 | 19 | 351 | 2 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 24 | 0 | 0 | 70 | 0 |
| Queue Length 50th (m) | 2.7 | 0.4 | 0.0 | 16.6 | 0.7 | | 1.4 | 121.6 | 0.0 | 6.7 | 157.8 | 0.0 |
| Queue Length 95th (m) | 8.0 | 2.3 | 0.0 | 30.5 | 11.0 | | 5.2 | 173.6 | 8.1 | 20.3 | #218.7 | m1.2 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 377 | 529 | 511 | 400 | 490 | | 150 | 862 | 778 | 295 | 1026 | 886 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.00 | 0.03 | 0.23 | 0.14 | | 0.07 | 0.74 | 0.11 | 0.21 | 0.86 | 0.01 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 57 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 32.7 Intersection LOS: C
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd & Dealership/Kennevale





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 19 | 5 | 27 | 14 | 2 | 30 | 14 | 263 | 25 | 29 | 309 | 14 |
| Future Volume (Veh/h) | 19 | 5 | 27 | 14 | 2 | 30 | 14 | 263 | 25 | 29 | 309 | 14 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 21 | 6 | 30 | 16 | 2 | 33 | 16 | 292 | 28 | 32 | 343 | 16 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 765 | 759 | 343 | 764 | 747 | 292 | 359 | | | 320 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 765 | 759 | 343 | 764 | 747 | 292 | 359 | | | 320 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 93 | 98 | 96 | 95 | 99 | 96 | 99 | | | 97 | | |
| cM capacity (veh/h) | 295 | 323 | 700 | 293 | 328 | 747 | 1200 | | | 1240 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 21 | 36 | 51 | 16 | 292 | 28 | 32 | 343 | 16 |
| Volume Left | 21 | 0 | 16 | 16 | 0 | 0 | 32 | 0 | 0 |
| Volume Right | 0 | 30 | 33 | 0 | 0 | 28 | 0 | 0 | 16 |
| cSH | 295 | 586 | 487 | 1200 | 1700 | 1700 | 1240 | 1700 | 1700 |
| Volume to Capacity | 0.07 | 0.06 | 0.10 | 0.01 | 0.17 | 0.02 | 0.03 | 0.20 | 0.01 |
| Queue Length 95th (m) | 1.7 | 1.5 | 2.7 | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Control Delay (s) | 18.1 | 11.5 | 13.3 | 8.0 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 |
| Lane LOS | C | B | B | A | | | A | | |
| Approach Delay (s) | 14.0 | | 13.3 | 0.4 | | | 0.7 | | |
| Approach LOS | B | | B | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.2 | | | | |
| Intersection Capacity Utilization | 40.0% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |

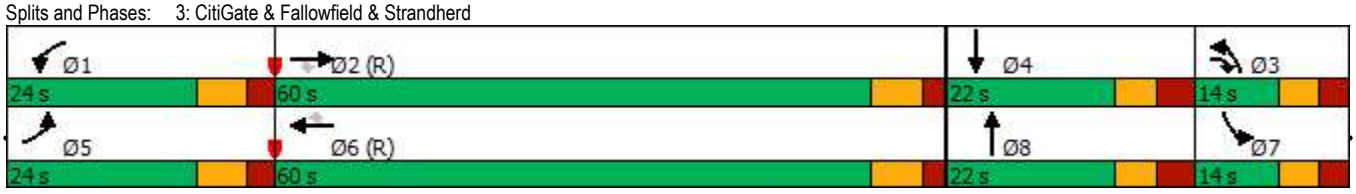
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 245 | 878 | 10 | 0 | 613 | 58 | 10 | 3 | 0 | 72 | 2 | 358 |
| Future Volume (vph) | 245 | 878 | 10 | 0 | 613 | 58 | 10 | 3 | 0 | 72 | 2 | 358 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1745 | 3191 | 1483 | 3216 | 1745 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3118 | 2891 | 1483 | 1745 | 3191 | 1460 | 3216 | 1745 | 0 | 1642 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | | | | | 398 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 272 | 976 | 11 | 0 | 681 | 64 | 11 | 3 | 0 | 80 | 2 | 398 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 272 | 976 | 11 | 0 | 681 | 64 | 11 | 3 | 0 | 80 | 2 | 398 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

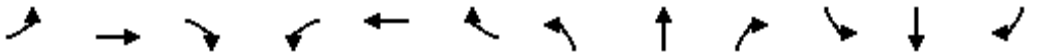
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 15.0 | 91.4 | 110.7 | | 69.2 | 69.2 | 9.8 | 10.0 | | 11.8 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.12 | 0.76 | 0.92 | | 0.58 | 0.58 | 0.08 | 0.08 | | 0.10 | 0.08 | 1.00 |
| v/c Ratio | 0.70 | 0.44 | 0.01 | | 0.37 | 0.07 | 0.04 | 0.02 | | 0.49 | 0.01 | 0.28 |
| Control Delay | 59.9 | 6.8 | 0.0 | | 12.9 | 0.8 | 48.7 | 51.0 | | 61.6 | 51.0 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.9 | 6.8 | 0.0 | | 12.9 | 0.8 | 48.7 | 51.0 | | 61.6 | 51.0 | 0.5 |
| LOS | E | A | A | | B | A | D | D | | E | D | A |
| Approach Delay | | 18.2 | | | 11.9 | | | 49.2 | | | 10.9 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 77.1 | 12.5 | 0.0 | 53.1 | 53.1 | 12.5 | 10.0 | | 12.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 17.4 | 93.0 | 13.6 | 0.0 | 68.5 | 68.5 | 13.6 | 0.0 | | 13.6 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 15.7 | 94.5 | 12.1 | 0.0 | 71.7 | 71.7 | 12.1 | 0.0 | | 12.1 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 13.9 | 96.1 | 0.0 | 0.0 | 75.1 | 75.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 11.3 | 96.1 | 0.0 | 0.0 | 77.7 | 77.7 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 230 | 306 | 0 | | 416 | 5 | 11 | 5 | | 68 | 3 | 0 |
| Fuel Used(l) | 29 | 39 | 0 | | 56 | 3 | 1 | 0 | | 7 | 0 | 7 |
| CO Emissions (g/hr) | 540 | 717 | 3 | | 1042 | 52 | 14 | 5 | | 128 | 4 | 122 |
| NOx Emissions (g/hr) | 104 | 138 | 1 | | 201 | 10 | 3 | 1 | | 25 | 1 | 24 |
| VOC Emissions (g/hr) | 125 | 165 | 1 | | 240 | 12 | 3 | 1 | | 30 | 1 | 28 |
| Dilemma Vehicles (#) | 0 | 37 | 0 | | 6 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 31.8 | 31.9 | 0.0 | | 55.8 | 0.4 | 1.2 | 0.7 | | 18.1 | 0.4 | 0.0 |
| Queue Length 95th (m) | 45.6 | 76.2 | 0.0 | | 90.3 | 2.3 | 4.1 | 3.8 | | 34.1 | 3.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 442 | 2201 | 1385 | | 1840 | 909 | 285 | 218 | | 163 | 218 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.44 | 0.01 | | 0.37 | 0.07 | 0.04 | 0.01 | | 0.49 | 0.01 | 0.28 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 45 | 158 | 8 | 45 | 32 | 194 | 445 | 6 | 107 | 678 | 20 |
| Future Volume (vph) | 50 | 45 | 158 | 8 | 45 | 32 | 194 | 445 | 6 | 107 | 678 | 20 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.883 | | | 0.937 | | | 0.998 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1521 | 0 | 1658 | 1552 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1521 | 0 | 1634 | 1552 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 141 | | | 29 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 56 | 50 | 176 | 9 | 50 | 36 | 216 | 494 | 7 | 119 | 753 | 22 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 56 | 226 | 0 | 9 | 86 | 0 | 216 | 501 | 0 | 119 | 753 | 22 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

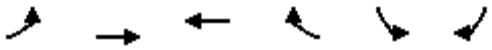
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 8.5 | 21.8 | | 6.3 | 11.4 | | 13.4 | 59.8 | | 14.4 | 60.8 | 70.0 |
| Actuated g/C Ratio | 0.07 | 0.18 | | 0.05 | 0.10 | | 0.11 | 0.50 | | 0.12 | 0.51 | 0.58 |
| v/c Ratio | 0.24 | 0.58 | | 0.10 | 0.50 | | 0.60 | 0.30 | | 0.60 | 0.45 | 0.03 |
| Control Delay | 53.9 | 22.8 | | 56.2 | 44.6 | | 57.7 | 20.8 | | 57.8 | 24.2 | 0.6 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.9 | 22.8 | | 56.2 | 44.6 | | 57.7 | 20.8 | | 57.8 | 24.2 | 0.6 |
| LOS | D | C | | E | D | | E | C | | E | C | A |
| Approach Delay | | 29.0 | | | 45.7 | | | 31.9 | | | 28.1 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| 90th %ile Green (s) | 14.6 | 21.9 | | 7.6 | 14.9 | | 17.0 | 42.8 | | 19.2 | 45.0 | 14.6 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Gap | Coord | | Gap | Coord | Hold |
| 70th %ile Green (s) | 8.3 | 27.9 | | 0.0 | 12.0 | | 14.9 | 54.5 | | 16.7 | 56.3 | 8.3 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.5 | 25.1 | | 0.0 | 10.0 | | 13.4 | 59.4 | | 14.6 | 60.6 | 7.5 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.7 | 24.3 | | 0.0 | 10.0 | | 11.9 | 62.4 | | 12.4 | 62.9 | 6.7 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 9.7 | 79.9 | | 9.2 | 79.4 | 0.0 |
| 10th %ile Term Code | Skip | Min | | Skip | Hold | | Gap | Coord | | Gap | Coord | Skip |
| Stops (vph) | 45 | 75 | | 10 | 49 | | 181 | 270 | | 101 | 395 | 1 |
| Fuel Used(l) | 4 | 9 | | 1 | 5 | | 22 | 30 | | 15 | 64 | 1 |
| CO Emissions (g/hr) | 75 | 171 | | 11 | 85 | | 413 | 561 | | 281 | 1193 | 17 |
| NOx Emissions (g/hr) | 15 | 33 | | 2 | 16 | | 80 | 108 | | 54 | 230 | 3 |
| VOC Emissions (g/hr) | 17 | 39 | | 3 | 20 | | 95 | 129 | | 65 | 275 | 4 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 19 | | 0 | 35 | 0 |
| Queue Length 50th (m) | 6.5 | 16.9 | | 2.1 | 13.0 | | 25.3 | 35.6 | | 27.1 | 52.3 | 0.0 |
| Queue Length 95th (m) | 12.4 | 43.2 | | 7.3 | 28.4 | | 36.6 | 61.8 | | 45.7 | 92.6 | m0.3 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 242 | 490 | | 103 | 414 | | 367 | 1649 | | 205 | 1681 | 835 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.46 | | 0.09 | 0.21 | | 0.59 | 0.30 | | 0.58 | 0.45 | 0.03 |

Intersection Summary

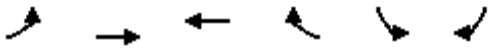
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 30.4 Intersection LOS: C
Intersection Capacity Utilization 56.1% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 815 | 543 | 0 | 291 | 184 |
| Future Volume (vph) | 0 | 815 | 543 | 0 | 291 | 184 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 184 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 215.4 | 447.2 | | 179.9 | |
| Travel Time (s) | | 9.7 | 20.1 | | 13.0 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 815 | 543 | 0 | 291 | 184 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 815 | 543 | 0 | 291 | 184 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 89.9 | 89.9 | | 17.0 | 17.0 |
| Actuated g/C Ratio | | 0.75 | 0.75 | | 0.14 | 0.14 |
| v/c Ratio | | 0.35 | 0.23 | | 0.68 | 0.53 |
| Control Delay | | 5.9 | 5.7 | | 56.8 | 12.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 5.9 | 5.7 | | 56.8 | 12.3 |
| LOS | | A | A | | E | B |
| Approach Delay | | 5.9 | 5.7 | | 39.5 | |
| Approach LOS | | A | A | | D | |
| 90th %ile Green (s) | | 85.1 | 85.1 | | 21.8 | 21.8 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 88.0 | 88.0 | | 18.9 | 18.9 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 89.9 | 89.9 | | 17.0 | 17.0 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 91.9 | 91.9 | | 15.0 | 15.0 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 94.7 | 94.7 | | 12.2 | 12.2 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 261 | 128 | | 270 | 25 |
| Fuel Used(l) | | 33 | 29 | | 24 | 5 |
| CO Emissions (g/hr) | | 605 | 536 | | 442 | 101 |
| NOx Emissions (g/hr) | | 117 | 103 | | 85 | 20 |
| VOC Emissions (g/hr) | | 139 | 124 | | 102 | 23 |
| Dilemma Vehicles (#) | | 34 | 26 | | 0 | 0 |
| Queue Length 50th (m) | | 29.7 | 5.0 | | 34.0 | 0.0 |
| Queue Length 95th (m) | | 45.2 | 58.9 | | 46.3 | 19.5 |
| Internal Link Dist (m) | | 191.4 | 423.2 | | 155.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2304 | 2413 | | 1106 | 596 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.35 | 0.23 | | 0.26 | 0.31 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.68 | | | |
| Intersection Signal Delay: 14.6 | | Intersection LOS: B | |
| Intersection Capacity Utilization 43.5% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



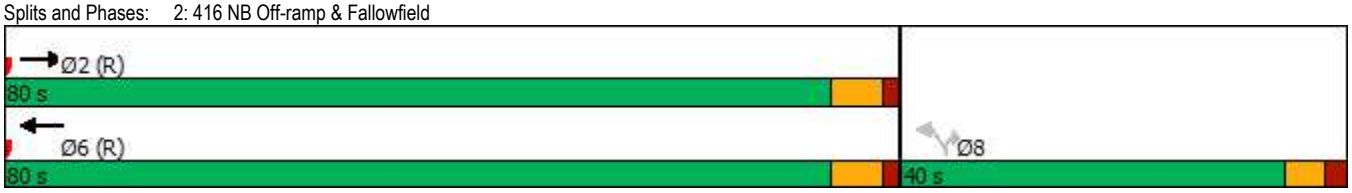


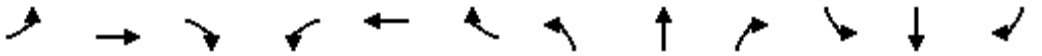
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 781 | 0 | 0 | 460 | 125 | 124 |
| Future Volume (vph) | 781 | 0 | 0 | 460 | 125 | 124 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 124 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 447.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 781 | 0 | 0 | 460 | 125 | 124 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 781 | 0 | 0 | 460 | 125 | 124 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.4 | | | 30.4 | 25.8 | 25.8 |
| Total Split (s) | 80.0 | | | 80.0 | 40.0 | 40.0 |
| Total Split (%) | 66.7% | | | 66.7% | 33.3% | 33.3% |
| Maximum Green (s) | 73.8 | | | 73.8 | 34.2 | 34.2 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 1.6 | | | 1.6 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | | | 6.2 | 5.8 | 5.8 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.3 | | | 92.3 | 15.7 | 15.7 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.32 | | | 0.18 | 0.65 | 0.42 |
| Control Delay | 4.2 | | | 0.8 | 64.2 | 12.0 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.2 | | | 0.8 | 64.2 | 12.0 |
| LOS | A | | | A | E | B |
| Approach Delay | 4.2 | | | 0.8 | 38.2 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 86.1 | | | 86.1 | 21.9 | 21.9 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 89.9 | | | 89.9 | 18.1 | 18.1 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 92.5 | | | 92.5 | 15.5 | 15.5 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 95.1 | | | 95.1 | 12.9 | 12.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 261 | | | 20 | 116 | 20 |
| Fuel Used(l) | 45 | | | 19 | 12 | 3 |
| CO Emissions (g/hr) | 837 | | | 351 | 216 | 65 |
| NOx Emissions (g/hr) | 162 | | | 68 | 42 | 12 |
| VOC Emissions (g/hr) | 193 | | | 81 | 50 | 15 |
| Dilemma Vehicles (#) | 24 | | | 8 | 0 | 0 |
| Queue Length 50th (m) | 24.8 | | | 2.1 | 28.4 | 0.0 |
| Queue Length 95th (m) | 43.4 | | | 3.5 | 45.7 | 16.1 |
| Internal Link Dist (m) | 423.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2454 | | | 2525 | 422 | 495 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | | | 0.18 | 0.30 | 0.25 |

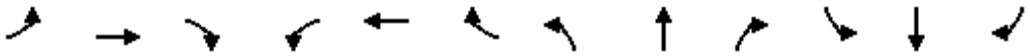
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.65 | | | |
| Intersection Signal Delay: 8.9 | | Intersection LOS: A | |
| Intersection Capacity Utilization 43.5% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 3 | 4 | 42 | 4 | 255 |
| Future Volume (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 3 | 4 | 42 | 4 | 255 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1483 | 1658 | 3191 | 1459 | 3216 | 1595 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 3 | 4 | 42 | 4 | 255 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 7 | 0 | 42 | 4 | 255 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 22.1 | 90.0 | 102.9 | 5.8 | 62.0 | 62.0 | 7.2 | 16.2 | | 8.1 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.18 | 0.75 | 0.86 | 0.05 | 0.52 | 0.52 | 0.06 | 0.14 | | 0.07 | 0.14 | 1.00 |
| v/c Ratio | 0.82 | 0.28 | 0.02 | 0.05 | 0.66 | 0.05 | 0.09 | 0.03 | | 0.38 | 0.02 | 0.18 |
| Control Delay | 62.2 | 9.2 | 0.0 | 74.8 | 22.6 | 0.1 | 53.4 | 34.4 | | 63.5 | 37.0 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 62.2 | 9.2 | 0.0 | 74.8 | 22.6 | 0.1 | 53.4 | 34.4 | | 63.5 | 37.0 | 0.3 |
| LOS | E | A | A | E | C | A | D | C | | E | D | A |
| Approach Delay | | 31.8 | | | 22.0 | | | 48.1 | | | 9.6 | |
| Approach LOS | | C | | | C | | | D | | | A | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 25.9 | 96.8 | 9.8 | 0.0 | 63.8 | 63.8 | 9.8 | 0.0 | | 9.8 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 23.9 | 98.2 | 8.4 | 0.0 | 67.2 | 67.2 | 8.4 | 0.0 | | 8.4 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 21.6 | 96.1 | 0.0 | 0.0 | 67.4 | 67.4 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 18.3 | 113.1 | 0.0 | 0.0 | 87.7 | 87.7 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| Stops (vph) | 434 | 172 | 0 | 6 | 730 | 0 | 20 | 13 | | 40 | 5 | 0 |
| Fuel Used(l) | 57 | 35 | 1 | 1 | 82 | 1 | 2 | 1 | | 5 | 0 | 10 |
| CO Emissions (g/hr) | 1052 | 647 | 22 | 12 | 1530 | 15 | 43 | 17 | | 86 | 7 | 188 |
| NOx Emissions (g/hr) | 203 | 125 | 4 | 2 | 295 | 3 | 8 | 3 | | 17 | 1 | 36 |
| VOC Emissions (g/hr) | 243 | 149 | 5 | 3 | 353 | 3 | 10 | 4 | | 20 | 2 | 43 |
| Dilemma Vehicles (#) | 0 | 25 | 0 | 0 | 23 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 55.8 | 10.3 | 0.0 | 0.9 | 93.9 | 0.0 | 2.3 | 0.6 | | 9.6 | 0.9 | 0.0 |
| Queue Length 95th (m) | #85.4 | 52.0 | 0.3 | m2.6 | #233.4 | m0.0 | 5.1 | 3.4 | | #21.7 | 3.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 589 | 2169 | 1288 | 82 | 1649 | 863 | 202 | 547 | | 115 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.28 | 0.02 | 0.05 | 0.66 | 0.05 | 0.09 | 0.01 | | 0.37 | 0.01 | 0.18 |

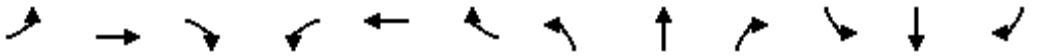
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 25.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 74.0% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 602 | 47 | 17 | 1047 | 11 | 86 | 9 | 9 | 18 | 18 | 144 |
| Future Volume (vph) | 30 | 602 | 47 | 17 | 1047 | 11 | 86 | 9 | 9 | 18 | 18 | 144 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.97 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.746 | | | 0.752 | | |
| Satd. Flow (perm) | 1656 | 2941 | 1483 | 3216 | 3221 | 1445 | 1302 | 1745 | 1483 | 1310 | 1745 | 1462 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 144 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 30 | 602 | 47 | 17 | 1047 | 11 | 86 | 9 | 9 | 18 | 18 | 144 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 30 | 602 | 47 | 17 | 1047 | 11 | 86 | 9 | 9 | 18 | 18 | 144 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

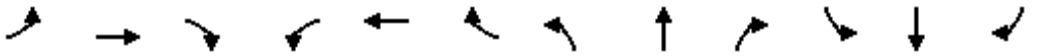
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Act Effct Green (s) | 7.3 | 81.8 | 81.8 | 6.2 | 78.2 | 78.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 |
| Actuated g/C Ratio | 0.06 | 0.68 | 0.68 | 0.05 | 0.65 | 0.65 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| v/c Ratio | 0.30 | 0.30 | 0.05 | 0.10 | 0.50 | 0.01 | 0.44 | 0.03 | 0.03 | 0.09 | 0.07 | 0.42 |
| Control Delay | 68.8 | 9.1 | 0.6 | 65.6 | 13.6 | 0.0 | 53.0 | 39.4 | 0.2 | 38.6 | 38.0 | 9.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 68.8 | 9.1 | 0.6 | 65.6 | 13.6 | 0.0 | 53.0 | 39.4 | 0.2 | 38.6 | 38.0 | 9.2 |
| LOS | E | A | A | E | B | A | D | D | A | D | D | A |
| Approach Delay | | 11.2 | | | 14.3 | | | 47.3 | | | 15.1 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.5 | 50.5 | 7.1 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 8.7 | 76.3 | 76.3 | 6.5 | 74.1 | 74.1 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 7.6 | 92.2 | 92.2 | 0.0 | 77.7 | 77.7 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 94.7 | 94.7 | 0.0 | 94.7 | 94.7 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Hold | Hold | Hold | Min | Min | Min |
| Stops (vph) | 32 | 184 | 2 | 17 | 649 | 0 | 73 | 9 | 0 | 15 | 15 | 18 |
| Fuel Used(l) | 4 | 27 | 1 | 2 | 72 | 0 | 11 | 1 | 1 | 1 | 1 | 5 |
| CO Emissions (g/hr) | 75 | 499 | 20 | 41 | 1336 | 5 | 197 | 19 | 11 | 24 | 24 | 89 |
| NOx Emissions (g/hr) | 14 | 96 | 4 | 8 | 258 | 1 | 38 | 4 | 2 | 5 | 5 | 17 |
| VOC Emissions (g/hr) | 17 | 115 | 5 | 10 | 308 | 1 | 46 | 4 | 2 | 6 | 5 | 21 |
| Dilemma Vehicles (#) | 0 | 48 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 7.7 | 20.3 | 0.1 | 2.1 | 75.6 | 0.0 | 20.0 | 2.0 | 0.1 | 3.9 | 3.9 | 0.0 |
| Queue Length 95th (m) | 17.7 | 24.6 | 1.0 | m4.4 | 158.2 | m0.0 | 26.3 | 5.1 | 0.2 | 8.0 | 7.9 | 13.6 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 114 | 2005 | 1044 | 217 | 2099 | 978 | 448 | 600 | 574 | 450 | 600 | 597 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.30 | 0.05 | 0.08 | 0.50 | 0.01 | 0.19 | 0.01 | 0.02 | 0.04 | 0.03 | 0.24 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Crosskeys/Helene Campbell & Strandherd





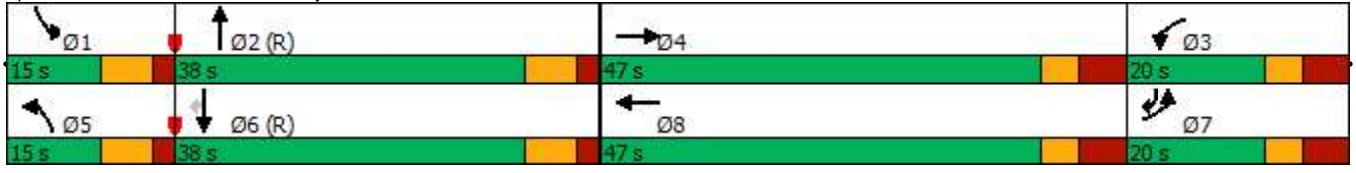
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 43 | 6 | 22 | 6 | 18 | 90 | 76 | 850 | 7 | 14 | 466 | 7 |
| Future Volume (vph) | 43 | 6 | 22 | 6 | 18 | 90 | 76 | 850 | 7 | 14 | 466 | 7 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.882 | | | 0.875 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1355 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1355 | 0 | 1656 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 22 | | | 90 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 43 | 6 | 22 | 6 | 18 | 90 | 76 | 850 | 7 | 14 | 466 | 7 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 43 | 28 | 0 | 6 | 108 | 0 | 76 | 857 | 0 | 14 | 466 | 7 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 30.7 | | 15.0 | 30.7 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

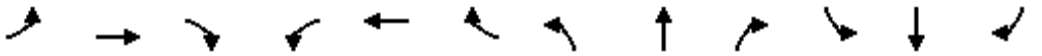
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 1 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.1 | 18.8 | | 12.2 | 15.8 | | 8.3 | 71.9 | | 6.9 | 65.5 | 70.6 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.10 | 0.13 | | 0.07 | 0.60 | | 0.06 | 0.55 | 0.59 |
| v/c Ratio | 0.23 | 0.12 | | 0.04 | 0.39 | | 0.35 | 0.43 | | 0.18 | 0.26 | 0.01 |
| Control Delay | 56.3 | 23.0 | | 40.5 | 15.3 | | 62.3 | 17.1 | | 48.6 | 23.1 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.3 | 23.0 | | 40.5 | 15.3 | | 62.3 | 17.1 | | 48.6 | 23.1 | 0.0 |
| LOS | E | C | | D | B | | E | B | | D | C | A |
| Approach Delay | | 43.2 | | | 16.6 | | | 20.7 | | | 23.5 | |
| Approach LOS | | D | | | B | | | C | | | C | |
| 90th %ile Green (s) | 8.8 | 10.0 | | 37.8 | 39.0 | | 10.5 | 34.7 | | 9.0 | 33.2 | 8.8 |
| 90th %ile Term Code | Gap | Min | | Hold | Ped | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 7.8 | 25.4 | | 0.0 | 10.0 | | 9.2 | 66.0 | | 7.7 | 64.5 | 7.8 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 8.3 | 81.1 | | 0.0 | 66.2 | 7.0 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 6.3 | 23.9 | | 0.0 | 10.0 | | 7.3 | 81.8 | | 0.0 | 67.9 | 6.3 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 0.0 | 95.7 | | 0.0 | 95.7 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Skip | Coord | | Skip | Coord | Skip |
| Stops (vph) | 41 | 12 | | 6 | 25 | | 73 | 385 | | 14 | 249 | 0 |
| Fuel Used(l) | 4 | 1 | | 0 | 3 | | 10 | 62 | | 2 | 33 | 0 |
| CO Emissions (g/hr) | 67 | 24 | | 7 | 62 | | 192 | 1146 | | 31 | 616 | 3 |
| NOx Emissions (g/hr) | 13 | 5 | | 1 | 12 | | 37 | 221 | | 6 | 119 | 1 |
| VOC Emissions (g/hr) | 16 | 6 | | 2 | 14 | | 44 | 264 | | 7 | 142 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 38 | | 0 | 11 | 0 |
| Queue Length 50th (m) | 5.0 | 1.1 | | 1.4 | 4.0 | | 9.2 | 34.2 | | 2.6 | 24.6 | 0.0 |
| Queue Length 95th (m) | 10.8 | 10.5 | | 4.1 | 15.5 | | m15.5 | #134.6 | | 10.9 | 79.1 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 459 | | 241 | 561 | | 235 | 1982 | | 93 | 1810 | 885 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.06 | | 0.02 | 0.19 | | 0.32 | 0.43 | | 0.15 | 0.26 | 0.01 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 22.3 Intersection LOS: C
Intersection Capacity Utilization 55.4% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



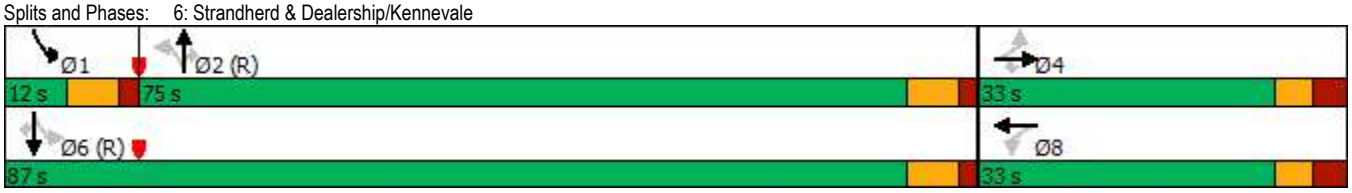


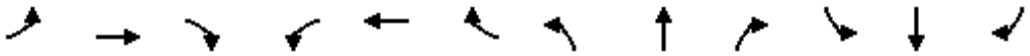
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 27 | 5 | 23 | 64 | 20 | 82 | 79 | 813 | 46 | 30 | 403 | 49 |
| Future Volume (vph) | 27 | 5 | 23 | 64 | 20 | 82 | 79 | 813 | 46 | 30 | 403 | 49 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.879 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1534 | 0 | 1398 | 1745 | 1455 | 1523 | 1728 | 1363 |
| Flt Permitted | 0.691 | | | 0.754 | | | 0.525 | | | 0.244 | | |
| Satd. Flow (perm) | 984 | 1745 | 1483 | 1316 | 1534 | 0 | 772 | 1745 | 1455 | 391 | 1728 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 82 | | | | 91 | | | 49 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 27 | 5 | 23 | 64 | 20 | 82 | 79 | 813 | 46 | 30 | 403 | 49 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 27 | 5 | 23 | 64 | 102 | 0 | 79 | 813 | 46 | 30 | 403 | 49 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | | 75.0 | 75.0 | 75.0 | 12.0 | 87.0 | 87.0 |
| Total Split (%) | 27.5% | 27.5% | 27.5% | 27.5% | 27.5% | | 62.5% | 62.5% | 62.5% | 10.0% | 72.5% | 72.5% |
| Maximum Green (s) | 26.4 | 26.4 | 26.4 | 26.4 | 26.4 | | 68.6 | 68.6 | 68.6 | 5.6 | 80.6 | 80.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | | 87.2 | 87.2 | 87.2 | 94.9 | 94.9 | 94.9 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | | 0.73 | 0.73 | 0.73 | 0.79 | 0.79 | 0.79 |
| v/c Ratio | 0.27 | 0.03 | 0.10 | 0.48 | 0.45 | | 0.14 | 0.64 | 0.04 | 0.08 | 0.30 | 0.05 |
| Control Delay | 55.8 | 47.0 | 0.9 | 62.7 | 21.4 | | 7.4 | 13.1 | 0.2 | 1.0 | 4.0 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.8 | 47.0 | 0.9 | 62.7 | 21.4 | | 7.4 | 13.1 | 0.2 | 1.0 | 4.0 | 0.1 |
| LOS | E | D | A | E | C | | A | B | A | A | A | A |
| Approach Delay | | 32.0 | | | 37.3 | | | 12.0 | | | 3.4 | |
| Approach LOS | | C | | | D | | | B | | | A | |
| 90th %ile Green (s) | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | | 77.6 | 77.6 | 77.6 | 6.8 | 90.8 | 90.8 |
| 90th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 70th %ile Green (s) | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | | 81.0 | 81.0 | 81.0 | 6.3 | 93.7 | 93.7 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 | | 83.5 | 83.5 | 83.5 | 5.9 | 95.8 | 95.8 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 30th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 26 | 7 | 0 | 59 | 30 | | 26 | 429 | 0 | 1 | 94 | 0 |
| Fuel Used(l) | 3 | 1 | 1 | 7 | 6 | | 3 | 47 | 1 | 1 | 20 | 2 |
| CO Emissions (g/hr) | 50 | 9 | 15 | 121 | 116 | | 63 | 883 | 16 | 20 | 371 | 30 |
| NOx Emissions (g/hr) | 10 | 2 | 3 | 23 | 22 | | 12 | 170 | 3 | 4 | 72 | 6 |
| VOC Emissions (g/hr) | 11 | 2 | 3 | 28 | 27 | | 14 | 204 | 4 | 5 | 86 | 7 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 34 | 0 | 0 | 6 | 0 |
| Queue Length 50th (m) | 6.0 | 1.1 | 0.0 | 14.6 | 4.4 | | 5.7 | 98.1 | 0.0 | 0.1 | 6.0 | 0.1 |
| Queue Length 95th (m) | 14.9 | 4.8 | 0.0 | 27.8 | 20.3 | | 13.5 | 165.4 | 0.4 | 0.6 | 44.5 | 0.1 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 216 | 383 | 395 | 289 | 401 | | 561 | 1268 | 1082 | 366 | 1365 | 1088 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.01 | 0.06 | 0.22 | 0.25 | | 0.14 | 0.64 | 0.04 | 0.08 | 0.30 | 0.05 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 29 (24%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.64 | | | |
| Intersection Signal Delay: 12.7 | | Intersection LOS: B | |
| Intersection Capacity Utilization 75.9% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale

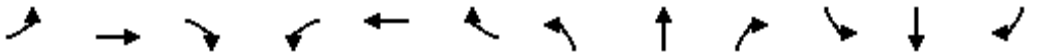




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 2 | 27 | 37 | 2 | 51 | 24 | 464 | 17 | 16 | 398 | 14 |
| Future Volume (Veh/h) | 13 | 2 | 27 | 37 | 2 | 51 | 24 | 464 | 17 | 16 | 398 | 14 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 13 | 2 | 27 | 37 | 2 | 51 | 24 | 464 | 17 | 16 | 398 | 14 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 994 | 959 | 398 | 970 | 956 | 464 | 412 | | | 481 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 994 | 959 | 398 | 970 | 956 | 464 | 412 | | | 481 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 93 | 99 | 96 | 83 | 99 | 91 | 98 | | | 98 | | |
| cM capacity (veh/h) | 188 | 248 | 647 | 215 | 249 | 598 | 1120 | | | 1066 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 13 | 29 | 90 | 24 | 464 | 17 | 16 | 398 | 14 |
| Volume Left | 13 | 0 | 37 | 24 | 0 | 0 | 16 | 0 | 0 |
| Volume Right | 0 | 27 | 51 | 0 | 0 | 17 | 0 | 0 | 14 |
| cSH | 188 | 582 | 340 | 1120 | 1700 | 1700 | 1066 | 1700 | 1700 |
| Volume to Capacity | 0.07 | 0.05 | 0.27 | 0.02 | 0.27 | 0.01 | 0.02 | 0.23 | 0.01 |
| Queue Length 95th (m) | 1.7 | 1.2 | 8.0 | 0.5 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Control Delay (s) | 25.5 | 11.5 | 19.4 | 8.3 | 0.0 | 0.0 | 8.4 | 0.0 | 0.0 |
| Lane LOS | D | B | C | A | | | A | | |
| Approach Delay (s) | 15.8 | | 19.4 | 0.4 | | | 0.3 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.6 | | | | |
| Intersection Capacity Utilization | 44.7% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



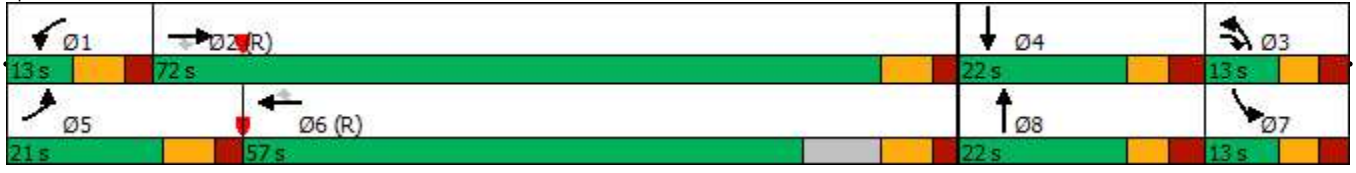
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 3 | 4 | 42 | 4 | 255 |
| Future Volume (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 3 | 4 | 42 | 4 | 255 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1595 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 3 | 4 | 42 | 4 | 255 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 471 | 597 | 28 | 4 | 1081 | 40 | 18 | 7 | 0 | 42 | 4 | 255 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 21.0 | 72.0 | 13.0 | 13.0 | 57.0 | 57.0 | 13.0 | 22.0 | | 13.0 | 22.0 | |
| Total Split (%) | 17.5% | 60.0% | 10.8% | 10.8% | 47.5% | 47.5% | 10.8% | 18.3% | | 10.8% | 18.3% | |
| Maximum Green (s) | 13.9 | 65.1 | 6.5 | 5.9 | 50.1 | 50.1 | 6.5 | 15.0 | | 6.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

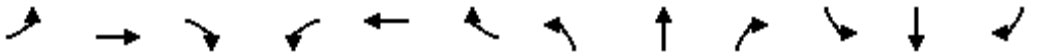
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 28.1 | 95.2 | 109.1 | 5.8 | 61.3 | 61.3 | 8.2 | 10.0 | | 9.1 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.23 | 0.79 | 0.91 | 0.05 | 0.51 | 0.51 | 0.07 | 0.08 | | 0.08 | 0.08 | 1.00 |
| v/c Ratio | 0.65 | 0.26 | 0.02 | 0.05 | 0.66 | 0.05 | 0.08 | 0.05 | | 0.33 | 0.03 | 0.18 |
| Control Delay | 47.8 | 6.3 | 0.0 | 72.5 | 17.3 | 0.1 | 51.6 | 38.9 | | 59.2 | 51.2 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.8 | 6.3 | 0.0 | 72.5 | 17.3 | 0.1 | 51.6 | 38.9 | | 59.2 | 51.2 | 0.3 |
| LOS | D | A | A | E | B | A | D | D | | E | D | A |
| Approach Delay | | 24.0 | | | 16.9 | | | 48.0 | | | 9.2 | |
| Approach LOS | | C | | | B | | | D | | | A | |
| 90th %ile Green (s) | 13.9 | 65.1 | 11.5 | 5.9 | 57.1 | 57.1 | 11.5 | 10.0 | | 11.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Max | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 27.3 | 96.8 | 9.8 | 0.0 | 62.4 | 62.4 | 9.8 | 0.0 | | 9.8 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 28.2 | 98.2 | 8.4 | 0.0 | 62.9 | 62.9 | 8.4 | 0.0 | | 8.4 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 31.1 | 96.1 | 0.0 | 0.0 | 57.9 | 57.9 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 39.8 | 113.1 | 0.0 | 0.0 | 66.2 | 66.2 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| Stops (vph) | 363 | 167 | 0 | 7 | 806 | 0 | 18 | 7 | | 39 | 6 | 0 |
| Fuel Used(l) | 47 | 24 | 1 | 1 | 107 | 2 | 1 | 0 | | 4 | 0 | 5 |
| CO Emissions (g/hr) | 873 | 439 | 10 | 15 | 1983 | 32 | 26 | 9 | | 73 | 8 | 86 |
| NOx Emissions (g/hr) | 168 | 85 | 2 | 3 | 383 | 6 | 5 | 2 | | 14 | 2 | 17 |
| VOC Emissions (g/hr) | 201 | 101 | 2 | 3 | 457 | 7 | 6 | 2 | | 17 | 2 | 20 |
| Dilemma Vehicles (#) | 0 | 21 | 0 | 0 | 19 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 51.7 | 13.2 | 0.0 | 1.0 | 97.4 | 0.0 | 2.0 | 0.7 | | 9.6 | 0.9 | 0.0 |
| Queue Length 95th (m) | #105.8 | 53.6 | 0.0 | m3.0 | 133.4 | 0.0 | 5.6 | 5.3 | | 20.6 | 4.4 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 730 | 2294 | 1360 | 82 | 1630 | 858 | 229 | 202 | | 129 | 218 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.26 | 0.02 | 0.05 | 0.66 | 0.05 | 0.08 | 0.03 | | 0.33 | 0.02 | 0.18 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 19.3 Intersection LOS: B
Intersection Capacity Utilization 72.3% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





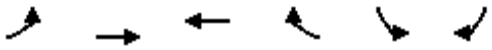
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 43 | 6 | 22 | 6 | 18 | 90 | 76 | 850 | 7 | 14 | 466 | 7 |
| Future Volume (vph) | 43 | 6 | 22 | 6 | 18 | 90 | 76 | 850 | 7 | 14 | 466 | 7 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.882 | | | 0.875 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1369 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1369 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 22 | | | 90 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 43 | 6 | 22 | 6 | 18 | 90 | 76 | 850 | 7 | 14 | 466 | 7 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 43 | 28 | 0 | 6 | 108 | 0 | 76 | 857 | 0 | 14 | 466 | 7 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.1 | 18.8 | | 7.0 | 10.6 | | 8.3 | 77.1 | | 6.9 | 70.7 | 75.8 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.06 | 0.09 | | 0.07 | 0.64 | | 0.06 | 0.59 | 0.63 |
| v/c Ratio | 0.23 | 0.12 | | 0.06 | 0.50 | | 0.35 | 0.40 | | 0.18 | 0.24 | 0.01 |
| Control Delay | 56.3 | 23.0 | | 53.0 | 23.0 | | 57.3 | 13.2 | | 55.4 | 13.9 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.3 | 23.0 | | 53.0 | 23.0 | | 57.3 | 13.2 | | 55.4 | 13.9 | 0.0 |
| LOS | E | C | | D | C | | E | B | | E | B | A |
| Approach Delay | | 43.2 | | | 24.6 | | | 16.8 | | | 14.9 | |
| Approach LOS | | D | | | C | | | B | | | B | |
| 90th %ile Green (s) | 8.8 | 10.0 | | 11.7 | 12.9 | | 10.5 | 60.8 | | 9.0 | 59.3 | 8.8 |
| 90th %ile Term Code | Gap | Min | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 7.8 | 25.4 | | 0.0 | 10.0 | | 9.2 | 66.0 | | 7.7 | 64.5 | 7.8 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 8.3 | 81.1 | | 0.0 | 66.2 | 7.0 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 6.3 | 23.9 | | 0.0 | 10.0 | | 7.3 | 81.8 | | 0.0 | 67.9 | 6.3 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 0.0 | 95.7 | | 0.0 | 95.7 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Skip | Coord | | Skip | Coord | Skip |
| Stops (vph) | 41 | 12 | | 7 | 29 | | 70 | 416 | | 17 | 188 | 0 |
| Fuel Used(l) | 4 | 1 | | 0 | 4 | | 9 | 47 | | 2 | 36 | 0 |
| CO Emissions (g/hr) | 67 | 24 | | 8 | 75 | | 160 | 869 | | 40 | 662 | 6 |
| NOx Emissions (g/hr) | 13 | 5 | | 2 | 14 | | 31 | 168 | | 8 | 128 | 1 |
| VOC Emissions (g/hr) | 16 | 6 | | 2 | 17 | | 37 | 200 | | 9 | 153 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 36 | | 0 | 32 | 0 |
| Queue Length 50th (m) | 5.0 | 1.1 | | 1.4 | 4.0 | | 8.9 | 42.2 | | 3.2 | 23.8 | 0.0 |
| Queue Length 95th (m) | 10.8 | 10.4 | | 5.5 | 21.0 | | 16.4 | 85.7 | | 10.2 | 36.9 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 279 | | 171 | 334 | | 235 | 2126 | | 93 | 1954 | 939 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.10 | | 0.04 | 0.32 | | 0.32 | 0.40 | | 0.15 | 0.24 | 0.01 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.50 | | | |
| Intersection Signal Delay: 17.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 54.6% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 667 | 807 | 0 | 754 | 200 |
| Future Volume (vph) | 0 | 667 | 807 | 0 | 754 | 200 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 145 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 85.0 | 468.2 | | 171.4 | |
| Travel Time (s) | | 3.8 | 21.1 | | 12.3 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 667 | 807 | 0 | 754 | 200 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 667 | 807 | 0 | 754 | 200 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 70.9 | 70.9 | | 36.0 | 36.0 |
| Actuated g/C Ratio | | 0.59 | 0.59 | | 0.30 | 0.30 |
| v/c Ratio | | 0.37 | 0.42 | | 0.83 | 0.40 |
| Control Delay | | 14.3 | 7.2 | | 47.3 | 11.8 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 14.3 | 7.2 | | 47.3 | 11.8 |
| LOS | | B | A | | D | B |
| Approach Delay | | 14.3 | 7.2 | | 39.8 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 63.5 | 63.5 | | 43.4 | 43.4 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 67.8 | 67.8 | | 39.1 | 39.1 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 70.7 | 70.7 | | 36.2 | 36.2 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 73.7 | 73.7 | | 33.2 | 33.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 79.0 | 79.0 | | 27.9 | 27.9 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 341 | 314 | | 678 | 48 |
| Fuel Used(l) | | 31 | 52 | | 55 | 6 |
| CO Emissions (g/hr) | | 584 | 971 | | 1021 | 114 |
| NOx Emissions (g/hr) | | 113 | 187 | | 197 | 22 |
| VOC Emissions (g/hr) | | 135 | 224 | | 236 | 26 |
| Dilemma Vehicles (#) | | 28 | 14 | | 0 | 0 |
| Queue Length 50th (m) | | 41.0 | 40.7 | | 84.8 | 9.4 |
| Queue Length 95th (m) | | 61.7 | 34.6 | | 98.4 | 26.3 |
| Internal Link Dist (m) | | 61.0 | 444.2 | | 147.4 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1817 | 1904 | | 1106 | 571 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.37 | 0.42 | | 0.68 | 0.35 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.83 | | | |
| Intersection Signal Delay: 22.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 57.2% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



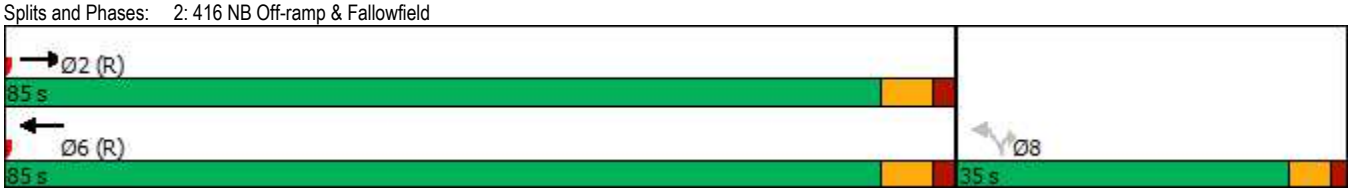


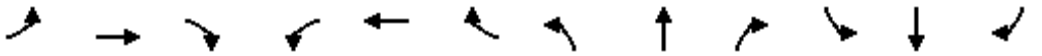
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1327 | 0 | 0 | 868 | 99 | 98 |
| Future Volume (vph) | 1327 | 0 | 0 | 868 | 99 | 98 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 72 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 468.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 21.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1327 | 0 | 0 | 868 | 99 | 98 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1327 | 0 | 0 | 868 | 99 | 98 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 94.2 | | | 94.2 | 13.8 | 13.8 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.12 | 0.12 |
| v/c Ratio | 0.53 | | | 0.34 | 0.58 | 0.43 |
| Control Delay | 2.9 | | | 1.8 | 63.5 | 22.6 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 2.9 | | | 1.8 | 63.5 | 22.6 |
| LOS | A | | | A | E | C |
| Approach Delay | 2.9 | | | 1.8 | 43.1 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 89.0 | | | 89.0 | 19.0 | 19.0 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 92.3 | | | 92.3 | 15.7 | 15.7 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 94.7 | | | 94.7 | 13.3 | 13.3 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 97.0 | | | 97.0 | 11.0 | 11.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 368 | | | 108 | 92 | 32 |
| Fuel Used(l) | 73 | | | 40 | 9 | 4 |
| CO Emissions (g/hr) | 1358 | | | 749 | 170 | 76 |
| NOx Emissions (g/hr) | 262 | | | 145 | 33 | 15 |
| VOC Emissions (g/hr) | 313 | | | 173 | 39 | 17 |
| Dilemma Vehicles (#) | 26 | | | 12 | 0 | 0 |
| Queue Length 50th (m) | 15.2 | | | 6.7 | 22.6 | 5.6 |
| Queue Length 95th (m) | 32.2 | | | 10.5 | 38.5 | 20.8 |
| Internal Link Dist (m) | 444.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2504 | | | 2577 | 367 | 407 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | | | 0.34 | 0.27 | 0.24 |

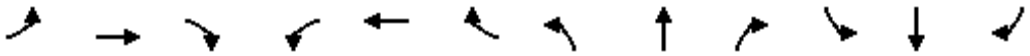
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.58 | | | |
| Intersection Signal Delay: 5.8 | | Intersection LOS: A | |
| Intersection Capacity Utilization 57.2% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 5 | 2 | 84 | 4 | 375 |
| Future Volume (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 5 | 2 | 84 | 4 | 375 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.957 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1670 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3118 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1670 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 375 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 5 | 2 | 84 | 4 | 375 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 7 | 0 | 84 | 4 | 375 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



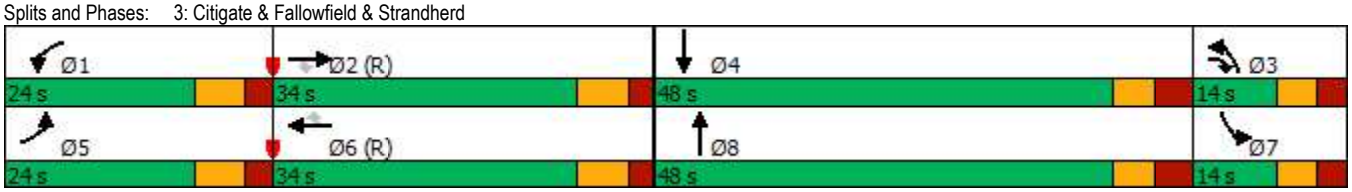
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 14.7 | 83.2 | 102.8 | 5.8 | 64.1 | 64.1 | 10.1 | 16.2 | | 11.1 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.12 | 0.69 | 0.86 | 0.05 | 0.53 | 0.53 | 0.08 | 0.14 | | 0.09 | 0.14 | 1.00 |
| v/c Ratio | 0.68 | 0.49 | 0.02 | 0.03 | 0.43 | 0.09 | 0.10 | 0.03 | | 0.55 | 0.02 | 0.26 |
| Control Delay | 49.9 | 17.8 | 0.2 | 76.5 | 14.3 | 0.8 | 48.2 | 34.0 | | 66.5 | 37.0 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.9 | 17.8 | 0.2 | 76.5 | 14.3 | 0.8 | 48.2 | 34.0 | | 66.5 | 37.0 | 0.5 |
| LOS | D | B | A | E | B | A | D | C | | E | D | A |
| Approach Delay | | 24.0 | | | 13.1 | | | 45.2 | | | 12.7 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 37.7 | 7.5 | 6.3 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 16.9 | 92.6 | 14.0 | 0.0 | 68.6 | 68.6 | 14.0 | 0.0 | | 14.0 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 15.2 | 94.0 | 12.6 | 0.0 | 71.7 | 71.7 | 12.6 | 0.0 | | 12.6 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 13.5 | 95.8 | 10.8 | 0.0 | 75.2 | 75.2 | 10.8 | 0.0 | | 10.8 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 11.0 | 96.1 | 0.0 | 0.0 | 78.0 | 78.0 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 240 | 464 | 0 | 3 | 254 | 5 | 27 | 7 | | 70 | 5 | 0 |
| Fuel Used(l) | 29 | 69 | 1 | 0 | 37 | 2 | 3 | 1 | | 9 | 0 | 15 |
| CO Emissions (g/hr) | 535 | 1292 | 20 | 6 | 690 | 36 | 60 | 15 | | 171 | 7 | 277 |
| NOx Emissions (g/hr) | 103 | 249 | 4 | 1 | 133 | 7 | 12 | 3 | | 33 | 1 | 54 |
| VOC Emissions (g/hr) | 123 | 298 | 5 | 1 | 159 | 8 | 14 | 3 | | 39 | 2 | 64 |
| Dilemma Vehicles (#) | 0 | 81 | 0 | 0 | 5 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 28.1 | 55.6 | 0.0 | 0.4 | 19.6 | 0.0 | 3.2 | 1.3 | | 19.0 | 0.9 | 0.0 |
| Queue Length 95th (m) | 46.1 | #172.1 | m0.0 | m1.4 | #135.2 | 2.4 | 7.5 | 4.6 | | #48.1 | 3.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 439 | 2005 | 1290 | 233 | 1705 | 854 | 281 | 571 | | 153 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.49 | 0.02 | 0.01 | 0.43 | 0.09 | 0.09 | 0.01 | | 0.55 | 0.01 | 0.26 |

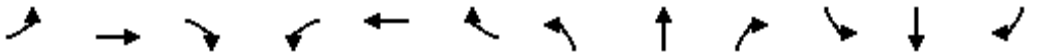
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 120 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.68 | | | |
| Intersection Signal Delay: 18.8 | | Intersection LOS: B | |
| Intersection Capacity Utilization 63.2% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

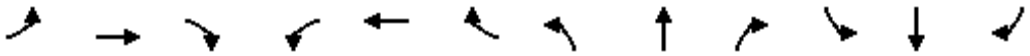
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 104 | 861 | 231 | 35 | 694 | 12 | 154 | 77 | 23 | 14 | 82 | 75 |
| Future Volume (vph) | 104 | 861 | 231 | 35 | 694 | 12 | 154 | 77 | 23 | 14 | 82 | 75 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.99 | | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.704 | | | 0.707 | | |
| Satd. Flow (perm) | 1658 | 2941 | 1465 | 3216 | 3221 | 1448 | 1220 | 1745 | 1458 | 1232 | 1745 | 1449 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 145 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | | | | | | | 9 | | 2 | 2 | | 9 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 104 | 861 | 231 | 35 | 694 | 12 | 154 | 77 | 23 | 14 | 82 | 75 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 104 | 861 | 231 | 35 | 694 | 12 | 154 | 77 | 23 | 14 | 82 | 75 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | 2 | 2 | 2 | 7 | 7 | 7 |
| Act Effct Green (s) | 12.8 | 73.9 | 73.9 | 6.8 | 62.8 | 62.8 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.11 | 0.62 | 0.62 | 0.06 | 0.52 | 0.52 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| v/c Ratio | 0.59 | 0.48 | 0.24 | 0.19 | 0.41 | 0.01 | 0.66 | 0.23 | 0.06 | 0.06 | 0.25 | 0.21 |
| Control Delay | 68.5 | 22.8 | 11.6 | 72.3 | 7.6 | 0.0 | 58.4 | 41.3 | 0.3 | 34.1 | 39.5 | 4.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 68.5 | 22.8 | 11.6 | 72.3 | 7.6 | 0.0 | 58.4 | 41.3 | 0.3 | 34.1 | 39.5 | 4.4 |
| LOS | E | C | B | E | A | A | E | D | A | C | D | A |
| Approach Delay | | 24.6 | | | 10.5 | | | 48.0 | | | 23.7 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.3 | 49.3 | 8.3 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 16.0 | 67.0 | 67.0 | 7.3 | 58.3 | 58.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 14.9 | 71.2 | 71.2 | 6.7 | 63.0 | 63.0 | 20.7 | 20.7 | 20.7 | 20.7 | 20.7 | 20.7 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 13.6 | 88.4 | 88.4 | 0.0 | 67.9 | 67.9 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 30th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 10.9 | 93.5 | 93.5 | 0.0 | 75.7 | 75.7 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 84 | 562 | 99 | 36 | 214 | 0 | 138 | 62 | 0 | 12 | 65 | 5 |
| Fuel Used(l) | 12 | 65 | 12 | 5 | 32 | 0 | 20 | 9 | 1 | 1 | 6 | 2 |
| CO Emissions (g/hr) | 230 | 1201 | 230 | 89 | 595 | 5 | 368 | 162 | 27 | 18 | 109 | 39 |
| NOx Emissions (g/hr) | 44 | 232 | 44 | 17 | 115 | 1 | 71 | 31 | 5 | 3 | 21 | 8 |
| VOC Emissions (g/hr) | 53 | 277 | 53 | 21 | 137 | 1 | 85 | 37 | 6 | 4 | 25 | 9 |
| Dilemma Vehicles (#) | 0 | 65 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 23.5 | 93.9 | 10.2 | 4.5 | 35.3 | 0.0 | 35.4 | 16.4 | 0.1 | 2.8 | 16.9 | 0.0 |
| Queue Length 95th (m) | #59.8 | 77.2 | 31.0 | 10.2 | 18.7 | m0.0 | 47.0 | 24.2 | 0.1 | 6.9 | 25.0 | 6.5 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 176 | 1810 | 957 | 218 | 1686 | 808 | 419 | 600 | 565 | 424 | 600 | 562 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.48 | 0.24 | 0.16 | 0.41 | 0.01 | 0.37 | 0.13 | 0.04 | 0.03 | 0.14 | 0.13 |

**Intersection Summary**

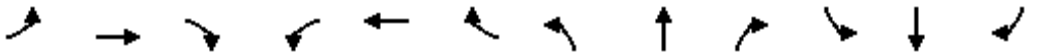
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 22.6 Intersection LOS: C
Intersection Capacity Utilization 64.0% ICU Level of Service B
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Crosskeys/Helene Campbell & Strandherd





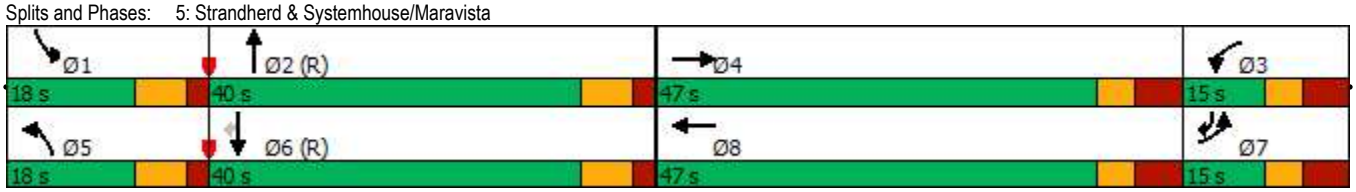
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 51 | 46 | 158 | 8 | 46 | 33 | 194 | 584 | 6 | 109 | 761 | 20 |
| Future Volume (vph) | 51 | 46 | 158 | 8 | 46 | 33 | 194 | 584 | 6 | 109 | 761 | 20 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.884 | | | 0.937 | | | 0.998 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1524 | 0 | 1658 | 1553 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1524 | 0 | 1653 | 1553 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 153 | | | 32 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 51 | 46 | 158 | 8 | 46 | 33 | 194 | 584 | 6 | 109 | 761 | 20 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 51 | 204 | 0 | 8 | 79 | 0 | 194 | 590 | 0 | 109 | 761 | 20 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

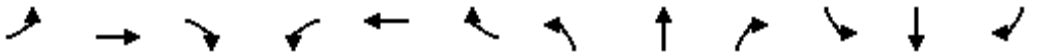
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 3 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.0 | 20.9 | | 10.3 | 16.0 | | 11.6 | 58.9 | | 12.1 | 59.5 | 67.2 |
| Actuated g/C Ratio | 0.06 | 0.17 | | 0.09 | 0.13 | | 0.10 | 0.49 | | 0.10 | 0.50 | 0.56 |
| v/c Ratio | 0.27 | 0.52 | | 0.06 | 0.34 | | 0.63 | 0.36 | | 0.65 | 0.46 | 0.03 |
| Control Delay | 57.4 | 17.8 | | 45.0 | 30.5 | | 68.7 | 17.3 | | 80.7 | 16.4 | 0.8 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.4 | 17.8 | | 45.0 | 30.5 | | 68.7 | 17.3 | | 80.7 | 16.4 | 0.8 |
| LOS | E | B | | D | C | | E | B | | F | B | A |
| Approach Delay | | 25.7 | | | 31.8 | | | 30.0 | | | 24.0 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| 90th %ile Green (s) | 7.8 | 18.7 | | 28.1 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Gap | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 8.1 | 26.8 | | 0.0 | 11.1 | | 13.9 | 56.6 | | 15.7 | 58.4 | 8.1 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.3 | 24.9 | | 0.0 | 10.0 | | 12.5 | 60.6 | | 13.6 | 61.7 | 7.3 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.5 | 24.1 | | 0.0 | 10.0 | | 11.1 | 63.5 | | 11.5 | 63.9 | 6.5 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 8.9 | 80.7 | | 8.4 | 80.2 | 0.0 |
| 10th %ile Term Code | Skip | Min | | Skip | Hold | | Gap | Coord | | Gap | Coord | Skip |
| Stops (vph) | 47 | 56 | | 8 | 42 | | 191 | 243 | | 105 | 220 | 1 |
| Fuel Used(l) | 4 | 8 | | 1 | 4 | | 28 | 41 | | 15 | 39 | 1 |
| CO Emissions (g/hr) | 80 | 149 | | 10 | 69 | | 514 | 768 | | 284 | 734 | 10 |
| NOx Emissions (g/hr) | 15 | 29 | | 2 | 13 | | 99 | 148 | | 55 | 142 | 2 |
| VOC Emissions (g/hr) | 18 | 34 | | 2 | 16 | | 118 | 177 | | 65 | 169 | 2 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 32 | | 0 | 41 | 0 |
| Queue Length 50th (m) | 6.0 | 9.9 | | 1.8 | 10.7 | | 24.8 | 22.3 | | 27.6 | 13.6 | 0.0 |
| Queue Length 95th (m) | 12.4 | 34.5 | | 5.5 | 18.9 | | m35.8 | 66.4 | | #52.9 | 74.1 | m0.2 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 204 | 603 | | 159 | 531 | | 324 | 1625 | | 175 | 1644 | 806 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.34 | | 0.05 | 0.15 | | 0.60 | 0.36 | | 0.62 | 0.46 | 0.02 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 61.0% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista





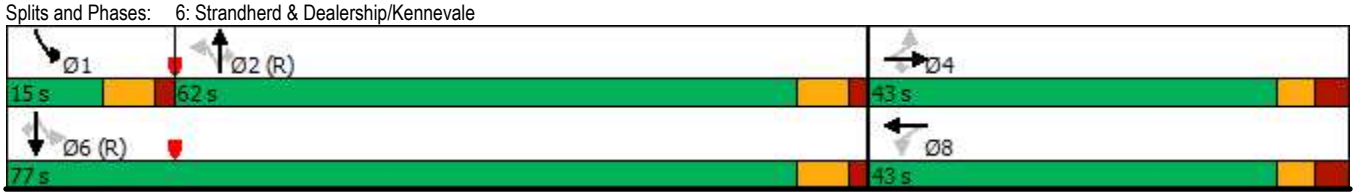
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 14 | 67 | 85 | 13 | 58 | 48 | 614 | 78 | 63 | 862 | 33 |
| Future Volume (vph) | 100 | 14 | 67 | 85 | 13 | 58 | 48 | 614 | 78 | 63 | 862 | 33 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.877 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1506 | 0 | 1658 | 1745 | 1483 | 1642 | 1745 | 1483 |
| Flt Permitted | 0.711 | | | 0.748 | | | 0.187 | | | 0.217 | | |
| Satd. Flow (perm) | 1241 | 1745 | 1483 | 1305 | 1506 | 0 | 326 | 1745 | 1483 | 375 | 1745 | 1483 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 58 | | | | 91 | | | 33 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 100 | 14 | 67 | 85 | 13 | 58 | 48 | 614 | 78 | 63 | 862 | 33 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 100 | 14 | 67 | 85 | 71 | 0 | 48 | 614 | 78 | 63 | 862 | 33 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | | 62.0 | 62.0 | 62.0 | 15.0 | 77.0 | 77.0 |
| Total Split (%) | 35.8% | 35.8% | 35.8% | 35.8% | 35.8% | | 51.7% | 51.7% | 51.7% | 12.5% | 64.2% | 64.2% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

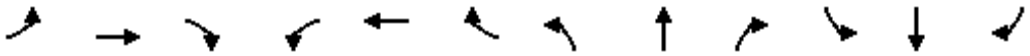
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | Max | Max | Max | Max | Max | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 59.3 | 59.3 | 59.3 | 70.6 | 70.6 | 70.6 |
| Actuated g/C Ratio | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | 0.49 | 0.49 | 0.49 | 0.59 | 0.59 | 0.59 |
| v/c Ratio | 0.27 | 0.03 | 0.13 | 0.22 | 0.14 | | 0.30 | 0.71 | 0.10 | 0.21 | 0.84 | 0.04 |
| Control Delay | 34.1 | 29.7 | 3.8 | 33.0 | 11.0 | | 26.6 | 30.6 | 3.0 | 20.2 | 38.3 | 12.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 34.1 | 29.7 | 3.8 | 33.0 | 11.0 | | 26.6 | 30.6 | 3.0 | 20.2 | 38.3 | 12.4 |
| LOS | C | C | A | C | B | | C | C | A | C | D | B |
| Approach Delay | | 22.5 | | | 23.0 | | | 27.4 | | | 36.2 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| 90th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| 90th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Max | Coord | Coord |
| 70th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 56.0 | 56.0 | 56.0 | 8.2 | 70.6 | 70.6 |
| 70th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 56.8 | 56.8 | 56.8 | 7.4 | 70.6 | 70.6 |
| 50th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 57.5 | 57.5 | 57.5 | 6.7 | 70.6 | 70.6 |
| 30th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 10th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 70.6 | 70.6 | 70.6 | 0.0 | 70.6 | 70.6 |
| 10th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 74 | 11 | 5 | 62 | 17 | | 32 | 482 | 6 | 32 | 571 | 19 |
| Fuel Used(l) | 8 | 1 | 3 | 6 | 4 | | 4 | 53 | 2 | 5 | 87 | 2 |
| CO Emissions (g/hr) | 143 | 19 | 48 | 121 | 69 | | 69 | 989 | 36 | 91 | 1612 | 46 |
| NOx Emissions (g/hr) | 28 | 4 | 9 | 23 | 13 | | 13 | 191 | 7 | 18 | 311 | 9 |
| VOC Emissions (g/hr) | 33 | 4 | 11 | 28 | 16 | | 16 | 228 | 8 | 21 | 372 | 11 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 26 | 0 | 0 | 77 | 0 |
| Queue Length 50th (m) | 17.8 | 2.3 | 0.0 | 14.9 | 2.2 | | 6.8 | 114.5 | 0.0 | 6.2 | 118.9 | 0.5 |
| Queue Length 95th (m) | 32.5 | 7.2 | 6.4 | 28.0 | 12.8 | | 17.5 | 163.4 | 6.5 | 20.0 | 211.5 | m7.0 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 376 | 529 | 511 | 395 | 497 | | 161 | 862 | 778 | 311 | 1026 | 886 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.03 | 0.13 | 0.22 | 0.14 | | 0.30 | 0.71 | 0.10 | 0.20 | 0.84 | 0.04 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 57 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 30.8 Intersection LOS: C
Intersection Capacity Utilization 80.9% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd & Dealership/Kennevale

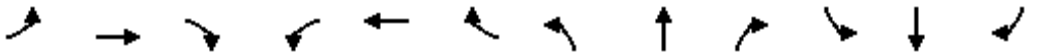




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 5 | 39 | 14 | 2 | 31 | 26 | 283 | 25 | 30 | 320 | 24 |
| Future Volume (Veh/h) | 29 | 5 | 39 | 14 | 2 | 31 | 26 | 283 | 25 | 30 | 320 | 24 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 29 | 5 | 39 | 14 | 2 | 31 | 26 | 283 | 25 | 30 | 320 | 24 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 747 | 740 | 320 | 756 | 739 | 283 | 344 | | | 308 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 747 | 740 | 320 | 756 | 739 | 283 | 344 | | | 308 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 90 | 98 | 95 | 95 | 99 | 96 | 98 | | | 98 | | |
| cM capacity (veh/h) | 303 | 329 | 721 | 293 | 330 | 756 | 1215 | | | 1253 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 29 | 44 | 47 | 26 | 283 | 25 | 30 | 320 | 24 |
| Volume Left | 29 | 0 | 14 | 26 | 0 | 0 | 30 | 0 | 0 |
| Volume Right | 0 | 39 | 31 | 0 | 0 | 25 | 0 | 0 | 24 |
| cSH | 303 | 635 | 495 | 1215 | 1700 | 1700 | 1253 | 1700 | 1700 |
| Volume to Capacity | 0.10 | 0.07 | 0.09 | 0.02 | 0.17 | 0.01 | 0.02 | 0.19 | 0.01 |
| Queue Length 95th (m) | 2.4 | 1.7 | 2.4 | 0.5 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Control Delay (s) | 18.1 | 11.1 | 13.0 | 8.0 | 0.0 | 0.0 | 7.9 | 0.0 | 0.0 |
| Lane LOS | C | B | B | A | | | A | | |
| Approach Delay (s) | 13.9 | | 13.0 | 0.6 | | | 0.6 | | |
| Approach LOS | B | | B | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.5 | | | | |
| Intersection Capacity Utilization | 40.7% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



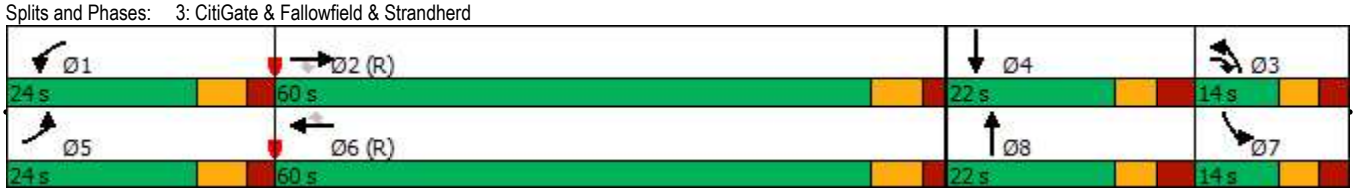
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 5 | 2 | 84 | 4 | 375 |
| Future Volume (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 5 | 2 | 84 | 4 | 375 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.957 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1670 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3118 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1670 | 0 | 1642 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 375 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 5 | 2 | 84 | 4 | 375 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 260 | 978 | 26 | 2 | 728 | 79 | 26 | 7 | 0 | 84 | 4 | 375 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

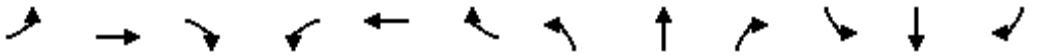
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 14.7 | 88.4 | 109.0 | 5.8 | 69.3 | 69.3 | 11.1 | 10.0 | | 12.1 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.12 | 0.74 | 0.91 | 0.05 | 0.58 | 0.58 | 0.09 | 0.08 | | 0.10 | 0.08 | 1.00 |
| v/c Ratio | 0.68 | 0.46 | 0.02 | 0.03 | 0.40 | 0.09 | 0.09 | 0.05 | | 0.50 | 0.03 | 0.26 |
| Control Delay | 59.6 | 9.3 | 0.0 | 90.5 | 13.3 | 1.3 | 49.1 | 45.3 | | 61.9 | 51.2 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.6 | 9.3 | 0.0 | 90.5 | 13.3 | 1.3 | 49.1 | 45.3 | | 61.9 | 51.2 | 0.5 |
| LOS | E | A | A | F | B | A | D | D | | E | D | A |
| Approach Delay | | 19.5 | | | 12.3 | | | 48.3 | | | 12.0 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 63.7 | 12.5 | 6.3 | 53.1 | 53.1 | 12.5 | 10.0 | | 12.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Gap | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 16.9 | 92.6 | 14.0 | 0.0 | 68.6 | 68.6 | 14.0 | 0.0 | | 14.0 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 15.2 | 94.0 | 12.6 | 0.0 | 71.7 | 71.7 | 12.6 | 0.0 | | 12.6 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 13.5 | 95.8 | 10.8 | 0.0 | 75.2 | 75.2 | 10.8 | 0.0 | | 10.8 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 11.0 | 96.1 | 0.0 | 0.0 | 78.0 | 78.0 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 244 | 389 | 0 | 3 | 513 | 12 | 25 | 7 | | 78 | 6 | 0 |
| Fuel Used(l) | 31 | 48 | 0 | 0 | 68 | 4 | 2 | 1 | | 8 | 0 | 7 |
| CO Emissions (g/hr) | 572 | 884 | 9 | 7 | 1262 | 77 | 36 | 9 | | 149 | 8 | 128 |
| NOx Emissions (g/hr) | 110 | 171 | 2 | 1 | 244 | 15 | 7 | 2 | | 29 | 2 | 25 |
| VOC Emissions (g/hr) | 132 | 204 | 2 | 2 | 291 | 18 | 8 | 2 | | 34 | 2 | 30 |
| Dilemma Vehicles (#) | 0 | 41 | 0 | 0 | 6 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 30.5 | 32.8 | 0.0 | 0.4 | 61.5 | 1.0 | 2.8 | 1.1 | | 19.0 | 0.9 | 0.0 |
| Queue Length 95th (m) | 43.6 | 104.4 | 0.0 | m1.7 | 99.1 | 5.6 | 7.3 | 5.8 | | 35.3 | 4.4 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 439 | 2130 | 1361 | 233 | 1843 | 911 | 307 | 210 | | 167 | 218 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.46 | 0.02 | 0.01 | 0.40 | 0.09 | 0.08 | 0.03 | | 0.50 | 0.02 | 0.26 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 16.2 Intersection LOS: B
Intersection Capacity Utilization 61.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 51 | 46 | 158 | 8 | 46 | 33 | 94 | 584 | 6 | 109 | 761 | 20 |
| Future Volume (vph) | 51 | 46 | 158 | 8 | 46 | 33 | 94 | 584 | 6 | 109 | 761 | 20 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.884 | | | 0.937 | | | 0.998 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1523 | 0 | 1658 | 1553 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1523 | 0 | 1634 | 1553 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 138 | | | 29 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 51 | 46 | 158 | 8 | 46 | 33 | 94 | 584 | 6 | 109 | 761 | 20 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 51 | 204 | 0 | 8 | 79 | 0 | 94 | 590 | 0 | 109 | 761 | 20 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

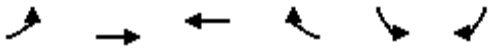
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 8.1 | 21.1 | | 6.2 | 11.1 | | 8.9 | 61.5 | | 13.5 | 66.1 | 74.8 |
| Actuated g/C Ratio | 0.07 | 0.18 | | 0.05 | 0.09 | | 0.07 | 0.51 | | 0.11 | 0.55 | 0.62 |
| v/c Ratio | 0.24 | 0.53 | | 0.09 | 0.46 | | 0.40 | 0.35 | | 0.59 | 0.42 | 0.02 |
| Control Delay | 54.5 | 20.6 | | 56.1 | 42.8 | | 57.5 | 20.2 | | 54.8 | 22.6 | 0.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.5 | 20.6 | | 56.1 | 42.8 | | 57.5 | 20.2 | | 54.8 | 22.6 | 0.3 |
| LOS | D | C | | E | D | | E | C | | D | C | A |
| Approach Delay | | 27.4 | | | 44.1 | | | 25.4 | | | 26.1 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| 90th %ile Green (s) | 12.9 | 19.7 | | 7.4 | 14.2 | | 11.3 | 46.2 | | 18.2 | 53.1 | 12.9 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Gap | Coord | | Gap | Coord | Hold |
| 70th %ile Green (s) | 8.1 | 27.0 | | 0.0 | 11.3 | | 9.9 | 56.4 | | 15.7 | 62.2 | 8.1 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.3 | 24.9 | | 0.0 | 10.0 | | 8.9 | 60.6 | | 13.6 | 65.3 | 7.3 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.5 | 24.1 | | 0.0 | 10.0 | | 7.9 | 63.5 | | 11.5 | 67.1 | 6.5 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 6.4 | 80.7 | | 8.4 | 82.7 | 0.0 |
| 10th %ile Term Code | Skip | Min | | Skip | Hold | | Gap | Coord | | Gap | Coord | Skip |
| Stops (vph) | 46 | 66 | | 9 | 48 | | 87 | 351 | | 102 | 449 | 0 |
| Fuel Used(l) | 4 | 9 | | 1 | 5 | | 11 | 39 | | 15 | 71 | 1 |
| CO Emissions (g/hr) | 77 | 162 | | 11 | 84 | | 199 | 726 | | 281 | 1328 | 16 |
| NOx Emissions (g/hr) | 15 | 31 | | 2 | 16 | | 38 | 140 | | 54 | 256 | 3 |
| VOC Emissions (g/hr) | 18 | 37 | | 3 | 19 | | 46 | 168 | | 65 | 306 | 4 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 25 | | 0 | 22 | 0 |
| Queue Length 50th (m) | 6.0 | 13.0 | | 1.8 | 11.4 | | 11.0 | 42.5 | | 24.9 | 48.2 | 0.0 |
| Queue Length 95th (m) | 11.8 | 38.0 | | 6.9 | 26.1 | | 19.2 | 70.1 | | 41.7 | 111.7 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 231 | 488 | | 102 | 415 | | 305 | 1695 | | 194 | 1826 | 886 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.42 | | 0.08 | 0.19 | | 0.31 | 0.35 | | 0.56 | 0.42 | 0.02 |

Intersection Summary

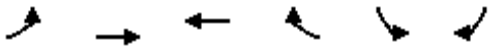
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 987 | 694 | 0 | 364 | 202 |
| Future Volume (vph) | 0 | 987 | 694 | 0 | 364 | 202 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 194 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 987 | 694 | 0 | 364 | 202 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 987 | 694 | 0 | 364 | 202 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 87.0 | 87.0 | | 19.9 | 19.9 |
| Actuated g/C Ratio | | 0.72 | 0.72 | | 0.17 | 0.17 |
| v/c Ratio | | 0.44 | 0.30 | | 0.72 | 0.53 |
| Control Delay | | 7.9 | 4.3 | | 55.5 | 12.0 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 7.9 | 4.3 | | 55.5 | 12.0 |
| LOS | | A | A | | E | B |
| Approach Delay | | 7.9 | 4.3 | | 40.0 | |
| Approach LOS | | A | A | | D | |
| 90th %ile Green (s) | | 81.5 | 81.5 | | 25.4 | 25.4 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 84.7 | 84.7 | | 22.2 | 22.2 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 87.0 | 87.0 | | 19.9 | 19.9 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 89.2 | 89.2 | | 17.7 | 17.7 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 92.4 | 92.4 | | 14.5 | 14.5 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 381 | 213 | | 336 | 30 |
| Fuel Used(l) | | 42 | 40 | | 29 | 6 |
| CO Emissions (g/hr) | | 778 | 742 | | 532 | 104 |
| NOx Emissions (g/hr) | | 150 | 143 | | 103 | 20 |
| VOC Emissions (g/hr) | | 179 | 171 | | 123 | 24 |
| Dilemma Vehicles (#) | | 41 | 9 | | 0 | 0 |
| Queue Length 50th (m) | | 43.5 | 26.6 | | 42.3 | 1.6 |
| Queue Length 95th (m) | | 65.7 | 9.4 | | 55.2 | 21.7 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2228 | 2334 | | 1106 | 602 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.44 | 0.30 | | 0.33 | 0.34 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.72 | | | |
| Intersection Signal Delay: 14.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 50.7% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



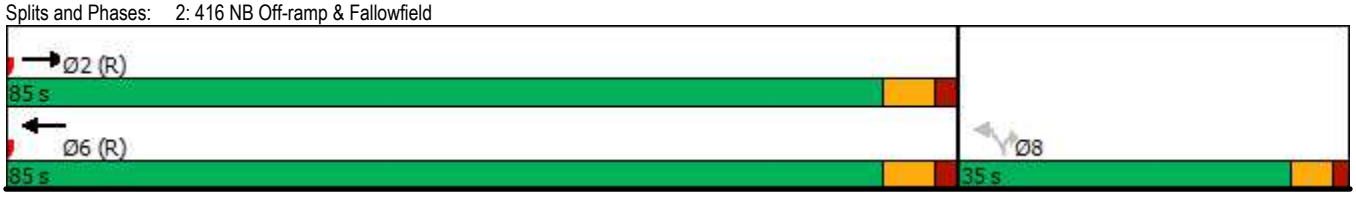


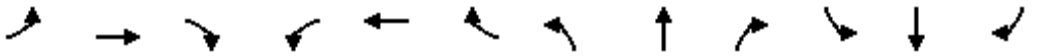
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 992 | 0 | 0 | 622 | 125 | 144 |
| Future Volume (vph) | 992 | 0 | 0 | 622 | 125 | 144 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 144 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 992 | 0 | 0 | 622 | 125 | 144 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 992 | 0 | 0 | 622 | 125 | 144 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.4 | | | 92.4 | 15.6 | 15.6 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.40 | | | 0.25 | 0.65 | 0.46 |
| Control Delay | 5.9 | | | 0.8 | 64.5 | 12.1 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.9 | | | 0.8 | 64.5 | 12.1 |
| LOS | A | | | A | E | B |
| Approach Delay | 5.9 | | | 0.8 | 36.4 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 86.2 | | | 86.2 | 21.8 | 21.8 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 90.0 | | | 90.0 | 18.0 | 18.0 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 92.6 | | | 92.6 | 15.4 | 15.4 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 95.1 | | | 95.1 | 12.9 | 12.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 269 | | | 27 | 116 | 21 |
| Fuel Used(l) | 56 | | | 26 | 12 | 4 |
| CO Emissions (g/hr) | 1044 | | | 475 | 216 | 74 |
| NOx Emissions (g/hr) | 202 | | | 92 | 42 | 14 |
| VOC Emissions (g/hr) | 241 | | | 110 | 50 | 17 |
| Dilemma Vehicles (#) | 60 | | | 5 | 0 | 0 |
| Queue Length 50th (m) | 23.0 | | | 2.5 | 28.4 | 0.0 |
| Queue Length 95th (m) | 64.9 | | | m3.6 | 45.8 | 17.2 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2456 | | | 2527 | 367 | 461 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | | | 0.25 | 0.34 | 0.31 |

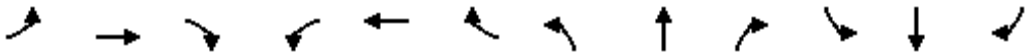
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 55 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.65 | | | |
| Intersection Signal Delay: 8.6 | | Intersection LOS: A | |
| Intersection Capacity Utilization 50.7% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 3 | 4 | 67 | 4 | 279 |
| Future Volume (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 3 | 4 | 67 | 4 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3122 | 2891 | 1483 | 1658 | 3191 | 1459 | 3216 | 1595 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 3 | 4 | 67 | 4 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 7 | 0 | 67 | 4 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 24.4 | 84.2 | 100.6 | 5.8 | 55.3 | 55.3 | 8.3 | 16.2 | | 10.2 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.20 | 0.70 | 0.84 | 0.05 | 0.46 | 0.46 | 0.07 | 0.14 | | 0.08 | 0.14 | 1.00 |
| v/c Ratio | 0.81 | 0.40 | 0.02 | 0.05 | 0.94 | 0.06 | 0.08 | 0.03 | | 0.48 | 0.02 | 0.20 |
| Control Delay | 58.2 | 11.2 | 0.0 | 73.5 | 33.1 | 0.1 | 50.8 | 33.1 | | 64.6 | 37.0 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.2 | 11.2 | 0.0 | 73.5 | 33.1 | 0.1 | 50.8 | 33.1 | | 64.6 | 37.0 | 0.3 |
| LOS | E | B | A | E | C | A | D | C | | E | D | A |
| Approach Delay | | 28.9 | | | 32.1 | | | 45.9 | | | 13.0 | |
| Approach LOS | | C | | | C | | | D | | | B | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 28.1 | 94.1 | 12.5 | 0.0 | 58.9 | 58.9 | 12.5 | 0.0 | | 12.5 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 26.7 | 95.5 | 11.1 | 0.0 | 61.7 | 61.7 | 11.1 | 0.0 | | 11.1 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 24.9 | 96.1 | 0.0 | 0.0 | 64.1 | 64.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 21.5 | 96.1 | 0.0 | 0.0 | 67.5 | 67.5 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 457 | 326 | 0 | 7 | 946 | 0 | 20 | 11 | | 56 | 5 | 0 |
| Fuel Used(l) | 60 | 51 | 1 | 1 | 117 | 1 | 2 | 1 | | 7 | 0 | 11 |
| CO Emissions (g/hr) | 1112 | 956 | 22 | 13 | 2176 | 18 | 43 | 16 | | 134 | 7 | 206 |
| NOx Emissions (g/hr) | 215 | 185 | 4 | 3 | 420 | 3 | 8 | 3 | | 26 | 1 | 40 |
| VOC Emissions (g/hr) | 256 | 221 | 5 | 3 | 502 | 4 | 10 | 4 | | 31 | 2 | 47 |
| Dilemma Vehicles (#) | 0 | 26 | 0 | 0 | 49 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 60.9 | 16.4 | 0.0 | 0.9 | 53.9 | 0.0 | 2.3 | 0.6 | | 15.2 | 0.9 | 0.0 |
| Queue Length 95th (m) | #97.7 | #103.6 | 0.0 | m2.1 | #312.0 | m0.0 | 5.1 | 3.9 | | #40.2 | 3.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 635 | 2028 | 1264 | 82 | 1469 | 793 | 231 | 547 | | 141 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.40 | 0.02 | 0.05 | 0.94 | 0.06 | 0.08 | 0.01 | | 0.48 | 0.01 | 0.20 |

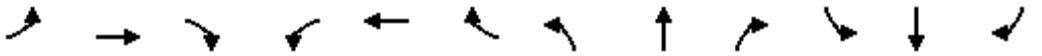
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.94 | | | |
| Intersection Signal Delay: 28.7 | | Intersection LOS: C | |
| Intersection Capacity Utilization 85.4% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

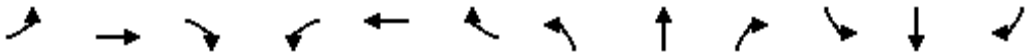
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 836 | 47 | 17 | 1346 | 14 | 86 | 9 | 9 | 39 | 18 | 158 |
| Future Volume (vph) | 32 | 836 | 47 | 17 | 1346 | 14 | 86 | 9 | 9 | 39 | 18 | 158 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.97 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.746 | | | 0.752 | | |
| Satd. Flow (perm) | 1657 | 2941 | 1483 | 3216 | 3221 | 1445 | 1302 | 1745 | 1483 | 1310 | 1745 | 1462 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 158 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 32 | 836 | 47 | 17 | 1346 | 14 | 86 | 9 | 9 | 39 | 18 | 158 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 32 | 836 | 47 | 17 | 1346 | 14 | 86 | 9 | 9 | 39 | 18 | 158 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Act Effct Green (s) | 7.4 | 81.8 | 81.8 | 6.2 | 78.2 | 78.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 |
| Actuated g/C Ratio | 0.06 | 0.68 | 0.68 | 0.05 | 0.65 | 0.65 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| v/c Ratio | 0.31 | 0.42 | 0.05 | 0.10 | 0.64 | 0.01 | 0.44 | 0.03 | 0.03 | 0.20 | 0.07 | 0.45 |
| Control Delay | 74.3 | 9.8 | 1.6 | 63.1 | 12.5 | 0.1 | 52.5 | 39.0 | 0.2 | 42.0 | 38.0 | 9.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 74.3 | 9.8 | 1.6 | 63.1 | 12.5 | 0.1 | 52.5 | 39.0 | 0.2 | 42.0 | 38.0 | 9.2 |
| LOS | E | A | A | E | B | A | D | D | A | D | D | A |
| Approach Delay | | 11.7 | | | 13.0 | | | 46.8 | | | 17.6 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.5 | 50.5 | 7.1 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 8.8 | 76.3 | 76.3 | 6.5 | 74.0 | 74.0 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 7.7 | 92.2 | 92.2 | 0.0 | 77.6 | 77.6 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 94.7 | 94.7 | 0.0 | 94.7 | 94.7 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Hold | Hold | Hold | Min | Min | Min |
| Stops (vph) | 33 | 250 | 3 | 19 | 312 | 0 | 75 | 9 | 0 | 32 | 15 | 19 |
| Fuel Used(l) | 4 | 37 | 1 | 2 | 61 | 0 | 11 | 1 | 1 | 3 | 1 | 5 |
| CO Emissions (g/hr) | 81 | 695 | 22 | 43 | 1139 | 6 | 198 | 19 | 11 | 54 | 24 | 97 |
| NOx Emissions (g/hr) | 16 | 134 | 4 | 8 | 220 | 1 | 38 | 4 | 2 | 10 | 5 | 19 |
| VOC Emissions (g/hr) | 19 | 160 | 5 | 10 | 263 | 1 | 46 | 4 | 2 | 12 | 5 | 22 |
| Dilemma Vehicles (#) | 0 | 48 | 0 | 0 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 7.8 | 18.4 | 0.0 | 2.0 | 27.4 | 0.0 | 20.7 | 2.1 | 0.1 | 8.6 | 3.9 | 0.0 |
| Queue Length 95th (m) | m18.7 | 56.1 | 3.3 | m4.2 | #206.2 | m0.0 | 26.8 | 5.2 | 0.1 | 14.2 | 7.9 | 14.1 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 114 | 2005 | 1044 | 217 | 2098 | 978 | 448 | 600 | 574 | 450 | 600 | 606 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.42 | 0.05 | 0.08 | 0.64 | 0.01 | 0.19 | 0.01 | 0.02 | 0.09 | 0.03 | 0.26 |

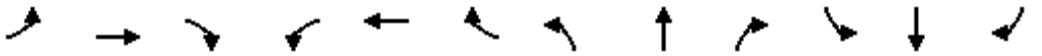
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 115 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.64 | | | |
| Intersection Signal Delay: 14.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 78.2% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Crosskeys/Helene Campbell & Strandherd





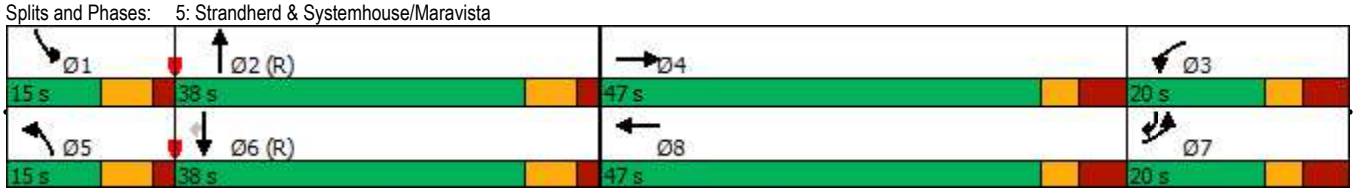
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 61 | 9 | 26 | 6 | 30 | 99 | 143 | 1042 | 7 | 30 | 599 | 66 |
| Future Volume (vph) | 61 | 9 | 26 | 6 | 30 | 99 | 143 | 1042 | 7 | 30 | 599 | 66 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.889 | | | 0.885 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1348 | 0 | 1658 | 1544 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1348 | 0 | 1656 | 1544 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 26 | | | 99 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 61 | 9 | 26 | 6 | 30 | 99 | 143 | 1042 | 7 | 30 | 599 | 66 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 61 | 35 | 0 | 6 | 129 | 0 | 143 | 1049 | 0 | 30 | 599 | 66 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

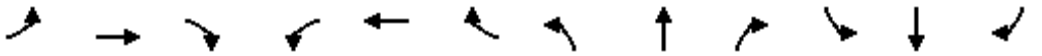
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 1 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.7 | 19.3 | | 12.4 | 15.9 | | 10.3 | 67.4 | | 8.2 | 60.2 | 67.0 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.10 | 0.13 | | 0.09 | 0.56 | | 0.07 | 0.50 | 0.56 |
| v/c Ratio | 0.30 | 0.15 | | 0.04 | 0.44 | | 0.53 | 0.56 | | 0.33 | 0.36 | 0.08 |
| Control Delay | 56.9 | 23.1 | | 40.2 | 17.4 | | 52.6 | 20.0 | | 82.3 | 21.8 | 4.9 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.9 | 23.1 | | 40.2 | 17.4 | | 52.6 | 20.0 | | 82.3 | 21.8 | 4.9 |
| LOS | E | C | | D | B | | D | B | | F | C | A |
| Approach Delay | | 44.6 | | | 18.4 | | | 23.9 | | | 22.8 | |
| Approach LOS | | D | | | B | | | C | | | C | |
| 90th %ile Green (s) | 9.8 | 10.0 | | 38.8 | 39.0 | | 11.4 | 31.3 | | 11.4 | 31.3 | 9.8 |
| 90th %ile Term Code | Gap | Min | | Hold | Ped | | Max | Coord | | Max | Coord | Gap |
| 70th %ile Green (s) | 8.5 | 26.7 | | 0.0 | 10.6 | | 12.1 | 62.9 | | 9.5 | 60.3 | 8.5 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.7 | 25.3 | | 0.0 | 10.0 | | 10.8 | 65.7 | | 8.1 | 63.0 | 7.7 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.9 | 24.5 | | 0.0 | 10.0 | | 9.6 | 81.2 | | 0.0 | 65.0 | 6.9 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 7.7 | 95.7 | | 0.0 | 81.4 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 56 | 15 | | 6 | 34 | | 121 | 640 | | 32 | 329 | 11 |
| Fuel Used(l) | 5 | 2 | | 0 | 4 | | 17 | 87 | | 4 | 42 | 2 |
| CO Emissions (g/hr) | 95 | 31 | | 7 | 79 | | 325 | 1627 | | 82 | 790 | 44 |
| NOx Emissions (g/hr) | 18 | 6 | | 1 | 15 | | 63 | 314 | | 16 | 152 | 9 |
| VOC Emissions (g/hr) | 22 | 7 | | 2 | 18 | | 75 | 375 | | 19 | 182 | 10 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 36 | | 0 | 30 | 0 |
| Queue Length 50th (m) | 7.2 | 1.7 | | 1.4 | 6.7 | | 13.1 | 94.1 | | 7.5 | 36.2 | 0.2 |
| Queue Length 95th (m) | 13.9 | 12.1 | | 4.0 | 18.6 | | 26.2 | #203.4 | | 18.0 | 81.8 | 8.9 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 460 | | 244 | 573 | | 274 | 1858 | | 101 | 1663 | 855 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.19 | 0.08 | | 0.02 | 0.23 | | 0.52 | 0.56 | | 0.30 | 0.36 | 0.08 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 24.1 Intersection LOS: C
Intersection Capacity Utilization 71.8% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



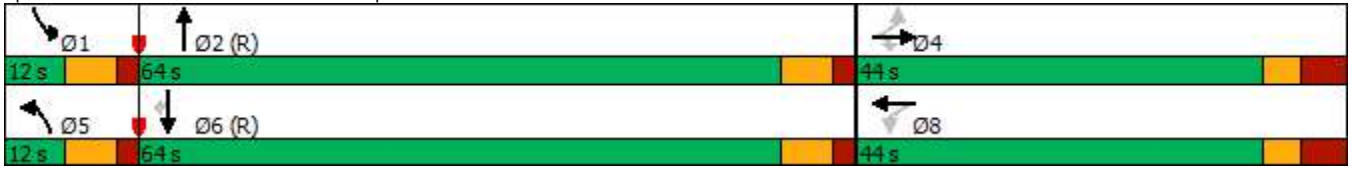


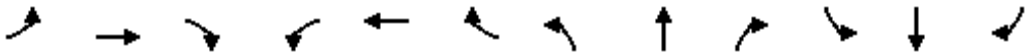
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 5 | 26 | 64 | 20 | 100 | 83 | 1046 | 46 | 48 | 461 | 68 |
| Future Volume (vph) | 44 | 5 | 26 | 64 | 20 | 100 | 83 | 1046 | 46 | 48 | 461 | 68 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | | 0.850 | | 0.875 | | | 0.994 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1527 | 0 | 2711 | 3293 | 0 | 1523 | 3283 | 1363 |
| Flt Permitted | 0.674 | | | 0.754 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 960 | 1745 | 1483 | 1316 | 1527 | 0 | 2711 | 3293 | 0 | 1523 | 3283 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 100 | | | 5 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 44 | 5 | 26 | 64 | 20 | 100 | 83 | 1046 | 46 | 48 | 461 | 68 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 44 | 5 | 26 | 64 | 120 | 0 | 83 | 1092 | 0 | 48 | 461 | 68 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 12.0 | 64.0 | | 12.0 | 64.0 | 64.0 |
| Total Split (%) | 36.7% | 36.7% | 36.7% | 36.7% | 36.7% | | 10.0% | 53.3% | | 10.0% | 53.3% | 53.3% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 5.4 | 57.3 | | 5.4 | 57.3 | 57.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Act Effct Green (s) | 12.2 | 12.2 | 12.2 | 12.2 | 12.2 | | 9.3 | 79.7 | | 9.7 | 77.6 | 77.6 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | | 0.08 | 0.66 | | 0.08 | 0.65 | 0.65 |
| v/c Ratio | 0.45 | 0.03 | 0.11 | 0.48 | 0.49 | | 0.40 | 0.50 | | 0.39 | 0.22 | 0.07 |
| Control Delay | 64.7 | 46.6 | 1.0 | 62.2 | 20.4 | | 57.8 | 12.4 | | 35.1 | 15.2 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.7 | 46.6 | 1.0 | 62.2 | 20.4 | | 57.8 | 12.4 | | 35.1 | 15.2 | 8.5 |
| LOS | E | D | A | E | C | | E | B | | D | B | A |
| Approach Delay | | 41.4 | | | 35.0 | | | 15.6 | | | 16.0 | |
| Approach LOS | | D | | | C | | | B | | | B | |
| 90th %ile Green (s) | 16.7 | 16.7 | 16.7 | 16.7 | 16.7 | | 11.8 | 69.5 | | 12.9 | 70.6 | 70.6 |
| 90th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 70th %ile Green (s) | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | | 10.4 | 74.6 | | 11.2 | 75.4 | 75.4 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 | | 9.3 | 78.0 | | 9.9 | 78.6 | 78.6 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 8.2 | 80.7 | | 8.4 | 80.9 | 80.9 |
| 30th %ile Term Code | Min | Min | Min | Min | Min | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 6.6 | 95.7 | | 0.0 | 82.5 | 82.5 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Gap | Coord | | Skip | Coord | Coord |
| Stops (vph) | 42 | 7 | 0 | 59 | 31 | | 77 | 539 | | 41 | 227 | 22 |
| Fuel Used(l) | 5 | 1 | 1 | 6 | 7 | | 10 | 61 | | 5 | 34 | 4 |
| CO Emissions (g/hr) | 86 | 9 | 17 | 121 | 134 | | 179 | 1135 | | 97 | 625 | 73 |
| NOx Emissions (g/hr) | 17 | 2 | 3 | 23 | 26 | | 34 | 219 | | 19 | 121 | 14 |
| VOC Emissions (g/hr) | 20 | 2 | 4 | 28 | 31 | | 41 | 262 | | 22 | 144 | 17 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 46 | | 0 | 30 | 0 |
| Queue Length 50th (m) | 10.0 | 1.1 | 0.0 | 14.6 | 4.4 | | 9.7 | 65.1 | | 11.7 | 14.8 | 0.0 |
| Queue Length 95th (m) | 21.4 | 4.8 | 0.0 | 27.6 | 21.4 | | 17.5 | 99.4 | | 14.6 | 77.7 | 23.0 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 291 | 529 | 515 | 399 | 532 | | 209 | 2189 | | 123 | 2123 | 917 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.15 | 0.01 | 0.05 | 0.16 | 0.23 | | 0.40 | 0.50 | | 0.39 | 0.22 | 0.07 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 29 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 95 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.50 | | | |
| Intersection Signal Delay: 18.5 | | Intersection LOS: B | |
| Intersection Capacity Utilization 64.1% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale

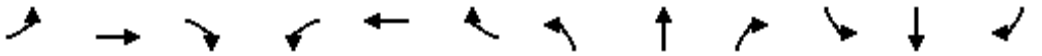




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 2 | 27 | 37 | 2 | 56 | 24 | 469 | 17 | 18 | 420 | 14 |
| Future Volume (Veh/h) | 14 | 2 | 27 | 37 | 2 | 56 | 24 | 469 | 17 | 18 | 420 | 14 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 14 | 2 | 27 | 37 | 2 | 56 | 24 | 469 | 17 | 18 | 420 | 14 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1030 | 990 | 420 | 1001 | 987 | 469 | 434 | | | 486 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1030 | 990 | 420 | 1001 | 987 | 469 | 434 | | | 486 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 92 | 99 | 96 | 82 | 99 | 91 | 98 | | | 98 | | |
| cM capacity (veh/h) | 176 | 237 | 629 | 204 | 238 | 594 | 1099 | | | 1062 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 14 | 29 | 95 | 24 | 469 | 17 | 18 | 420 | 14 |
| Volume Left | 14 | 0 | 37 | 24 | 0 | 0 | 18 | 0 | 0 |
| Volume Right | 0 | 27 | 56 | 0 | 0 | 17 | 0 | 0 | 14 |
| cSH | 176 | 565 | 335 | 1099 | 1700 | 1700 | 1062 | 1700 | 1700 |
| Volume to Capacity | 0.08 | 0.05 | 0.28 | 0.02 | 0.28 | 0.01 | 0.02 | 0.25 | 0.01 |
| Queue Length 95th (m) | 2.0 | 1.2 | 8.7 | 0.5 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Control Delay (s) | 27.3 | 11.7 | 19.9 | 8.3 | 0.0 | 0.0 | 8.4 | 0.0 | 0.0 |
| Lane LOS | D | B | C | A | | | A | | |
| Approach Delay (s) | 16.8 | | 19.9 | 0.4 | | | 0.3 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.7 | | | | |
| Intersection Capacity Utilization | 45.3% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



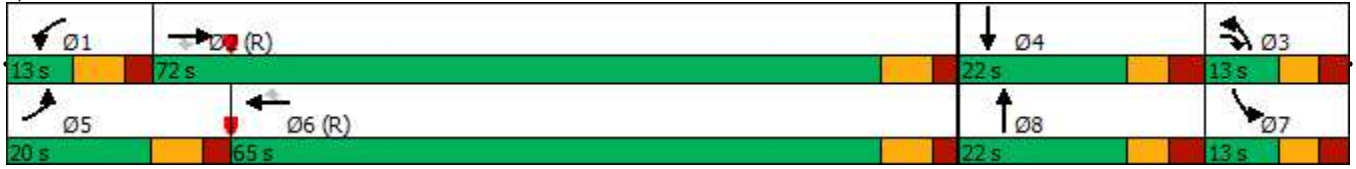
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 3 | 4 | 67 | 4 | 279 |
| Future Volume (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 3 | 4 | 67 | 4 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1595 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 4 | | | | 279 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 3 | 4 | 67 | 4 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 809 | 28 | 4 | 1380 | 48 | 18 | 7 | 0 | 67 | 4 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 20.0 | 72.0 | 13.0 | 13.0 | 65.0 | 65.0 | 13.0 | 22.0 | | 13.0 | 22.0 | |
| Total Split (%) | 16.7% | 60.0% | 10.8% | 10.8% | 54.2% | 54.2% | 10.8% | 18.3% | | 10.8% | 18.3% | |
| Maximum Green (s) | 12.9 | 65.1 | 6.5 | 5.9 | 58.1 | 58.1 | 6.5 | 15.0 | | 6.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

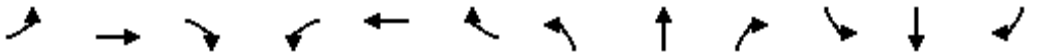
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 26.8 | 89.4 | 106.8 | 5.8 | 58.1 | 58.1 | 9.3 | 10.0 | | 11.2 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.22 | 0.74 | 0.89 | 0.05 | 0.48 | 0.48 | 0.08 | 0.08 | | 0.09 | 0.08 | 1.00 |
| v/c Ratio | 0.74 | 0.38 | 0.02 | 0.05 | 0.89 | 0.06 | 0.07 | 0.05 | | 0.43 | 0.03 | 0.20 |
| Control Delay | 51.3 | 7.9 | 0.0 | 68.8 | 27.9 | 0.1 | 50.3 | 38.9 | | 60.4 | 51.2 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.3 | 7.9 | 0.0 | 68.8 | 27.9 | 0.1 | 50.3 | 38.9 | | 60.4 | 51.2 | 0.3 |
| LOS | D | A | A | E | C | A | D | D | | E | D | A |
| Approach Delay | | 24.3 | | | 27.1 | | | 47.1 | | | 12.4 | |
| Approach LOS | | C | | | C | | | D | | | B | |
| 90th %ile Green (s) | 12.9 | 65.1 | 11.5 | 5.9 | 58.1 | 58.1 | 11.5 | 10.0 | | 11.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Max | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 28.9 | 94.1 | 12.5 | 0.0 | 58.1 | 58.1 | 12.5 | 0.0 | | 12.5 | 0.0 | |
| 70th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 30.3 | 95.5 | 11.1 | 0.0 | 58.1 | 58.1 | 11.1 | 0.0 | | 11.1 | 0.0 | |
| 50th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 30.9 | 96.1 | 0.0 | 0.0 | 58.1 | 58.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Max | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 30.9 | 96.1 | 0.0 | 0.0 | 58.1 | 58.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Max | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 395 | 284 | 0 | 7 | 1224 | 0 | 18 | 7 | | 63 | 6 | 0 |
| Fuel Used(l) | 53 | 36 | 1 | 1 | 159 | 2 | 1 | 0 | | 6 | 0 | 5 |
| CO Emissions (g/hr) | 979 | 675 | 10 | 15 | 2950 | 38 | 25 | 9 | | 118 | 8 | 95 |
| NOx Emissions (g/hr) | 189 | 130 | 2 | 3 | 569 | 7 | 5 | 2 | | 23 | 2 | 18 |
| VOC Emissions (g/hr) | 226 | 156 | 2 | 3 | 680 | 9 | 6 | 2 | | 27 | 2 | 22 |
| Dilemma Vehicles (#) | 0 | 34 | 0 | 0 | 16 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 56.2 | 23.1 | 0.0 | 1.0 | 157.5 | 0.0 | 2.0 | 0.7 | | 15.2 | 0.9 | 0.0 |
| Queue Length 95th (m) | #121.4 | 78.0 | 0.0 | m2.7 | #192.9 | m0.0 | 5.6 | 5.3 | | 29.8 | 4.4 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 697 | 2153 | 1335 | 82 | 1544 | 791 | 258 | 202 | | 155 | 218 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.74 | 0.38 | 0.02 | 0.05 | 0.89 | 0.06 | 0.07 | 0.03 | | 0.43 | 0.02 | 0.20 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 24.4 Intersection LOS: C
Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 61 | 9 | 26 | 6 | 30 | 99 | 143 | 1042 | 7 | 30 | 599 | 66 |
| Future Volume (vph) | 61 | 9 | 26 | 6 | 30 | 99 | 143 | 1042 | 7 | 30 | 599 | 66 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.889 | | | 0.885 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1361 | 0 | 1658 | 1544 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1361 | 0 | 1658 | 1544 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 26 | | | 99 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 61 | 9 | 26 | 6 | 30 | 99 | 143 | 1042 | 7 | 30 | 599 | 66 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 61 | 35 | 0 | 6 | 129 | 0 | 143 | 1049 | 0 | 30 | 599 | 66 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

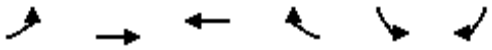
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.7 | 19.3 | | 7.5 | 11.0 | | 10.8 | 72.3 | | 8.3 | 64.6 | 71.5 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.06 | 0.09 | | 0.09 | 0.60 | | 0.07 | 0.54 | 0.60 |
| v/c Ratio | 0.30 | 0.15 | | 0.06 | 0.56 | | 0.51 | 0.53 | | 0.33 | 0.34 | 0.08 |
| Control Delay | 56.9 | 23.1 | | 51.5 | 25.5 | | 57.9 | 18.0 | | 58.8 | 18.8 | 2.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.9 | 23.1 | | 51.5 | 25.5 | | 57.9 | 18.0 | | 58.8 | 18.8 | 2.3 |
| LOS | E | C | | D | C | | E | B | | E | B | A |
| Approach Delay | | 44.6 | | | 26.6 | | | 22.8 | | | 19.0 | |
| Approach LOS | | D | | | C | | | C | | | B | |
| 90th %ile Green (s) | 9.8 | 10.0 | | 14.2 | 14.4 | | 13.8 | 55.8 | | 11.5 | 53.5 | 9.8 |
| 90th %ile Term Code | Gap | Min | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 8.5 | 26.7 | | 0.0 | 10.6 | | 12.1 | 62.9 | | 9.5 | 60.3 | 8.5 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.7 | 25.3 | | 0.0 | 10.0 | | 10.8 | 65.7 | | 8.1 | 63.0 | 7.7 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.9 | 24.5 | | 0.0 | 10.0 | | 9.6 | 81.2 | | 0.0 | 65.0 | 6.9 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 7.7 | 95.7 | | 0.0 | 81.4 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 56 | 15 | | 7 | 39 | | 133 | 619 | | 31 | 292 | 6 |
| Fuel Used(l) | 5 | 2 | | 0 | 5 | | 16 | 67 | | 4 | 51 | 3 |
| CO Emissions (g/hr) | 95 | 31 | | 8 | 95 | | 304 | 1252 | | 82 | 947 | 61 |
| NOx Emissions (g/hr) | 18 | 6 | | 2 | 18 | | 59 | 242 | | 16 | 183 | 12 |
| VOC Emissions (g/hr) | 22 | 7 | | 2 | 22 | | 70 | 289 | | 19 | 218 | 14 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 44 | | 0 | 34 | 0 |
| Queue Length 50th (m) | 7.2 | 1.7 | | 1.4 | 6.7 | | 16.8 | 82.4 | | 7.0 | 35.5 | 0.0 |
| Queue Length 95th (m) | 13.9 | 12.1 | | 5.4 | 25.1 | | 26.5 | 122.8 | | m17.1 | 60.7 | 7.8 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 286 | | 176 | 344 | | 287 | 1993 | | 101 | 1786 | 902 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.19 | 0.12 | | 0.03 | 0.38 | | 0.50 | 0.53 | | 0.30 | 0.34 | 0.07 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 22.8 Intersection LOS: C
Intersection Capacity Utilization 71.1% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Future Volume (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 90 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 67.4 | 67.4 | | 39.5 | 39.5 |
| Actuated g/C Ratio | | 0.56 | 0.56 | | 0.33 | 0.33 |
| v/c Ratio | | 0.49 | 0.55 | | 0.87 | 0.45 |
| Control Delay | | 17.7 | 10.6 | | 48.2 | 20.4 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 17.7 | 10.6 | | 48.2 | 20.4 |
| LOS | | B | B | | D | C |
| Approach Delay | | 17.7 | 10.6 | | 42.6 | |
| Approach LOS | | B | B | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 66.4 | 66.4 | | 40.5 | 40.5 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 69.4 | 69.4 | | 37.5 | 37.5 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 74.8 | 74.8 | | 32.1 | 32.1 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 496 | 474 | | 799 | 99 |
| Fuel Used(l) | | 49 | 70 | | 61 | 8 |
| CO Emissions (g/hr) | | 907 | 1309 | | 1140 | 157 |
| NOx Emissions (g/hr) | | 175 | 253 | | 220 | 30 |
| VOC Emissions (g/hr) | | 209 | 302 | | 263 | 36 |
| Dilemma Vehicles (#) | | 35 | 32 | | 0 | 0 |
| Queue Length 50th (m) | | 61.2 | 52.7 | | 98.1 | 22.9 |
| Queue Length 95th (m) | | 82.7 | 56.0 | | 118.6 | 43.4 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1727 | 1809 | | 1106 | 536 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.49 | 0.55 | | 0.79 | 0.41 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.87 | | | |
| Intersection Signal Delay: 24.6 | | Intersection LOS: C | |
| Intersection Capacity Utilization 66.6% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp



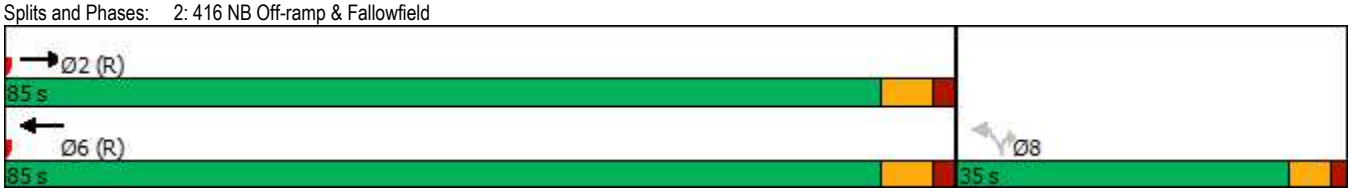


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1653 | 0 | 0 | 1077 | 99 | 116 |
| Future Volume (vph) | 1653 | 0 | 0 | 1077 | 99 | 116 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 36 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1653 | 0 | 0 | 1077 | 99 | 116 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1653 | 0 | 0 | 1077 | 99 | 116 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

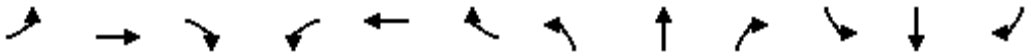
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 94.2 | | | 94.2 | 13.8 | 13.8 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.12 | 0.12 |
| v/c Ratio | 0.66 | | | 0.42 | 0.58 | 0.59 |
| Control Delay | 4.0 | | | 2.3 | 63.5 | 46.5 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.0 | | | 2.3 | 63.5 | 46.5 |
| LOS | A | | | A | E | D |
| Approach Delay | 4.0 | | | 2.3 | 54.3 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 89.0 | | | 89.0 | 19.0 | 19.0 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 92.3 | | | 92.3 | 15.7 | 15.7 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 94.7 | | | 94.7 | 13.3 | 13.3 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 97.0 | | | 97.0 | 11.0 | 11.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 595 | | | 134 | 92 | 76 |
| Fuel Used(l) | 98 | | | 50 | 9 | 8 |
| CO Emissions (g/hr) | 1817 | | | 938 | 170 | 152 |
| NOx Emissions (g/hr) | 351 | | | 181 | 33 | 29 |
| VOC Emissions (g/hr) | 419 | | | 216 | 39 | 35 |
| Dilemma Vehicles (#) | 34 | | | 13 | 0 | 0 |
| Queue Length 50th (m) | 19.0 | | | 7.3 | 22.6 | 18.0 |
| Queue Length 95th (m) | 68.7 | | | 27.0 | 38.5 | 35.6 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2504 | | | 2577 | 367 | 380 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | | | 0.42 | 0.27 | 0.31 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.66 | | | |
| Intersection Signal Delay: 7.0 | | Intersection LOS: A | |
| Intersection Capacity Utilization 66.6% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 5 | 2 | 98 | 4 | 411 |
| Future Volume (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 5 | 2 | 98 | 4 | 411 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.957 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1670 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3120 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1670 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 411 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 5 | 2 | 98 | 4 | 411 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 7 | 0 | 98 | 4 | 411 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



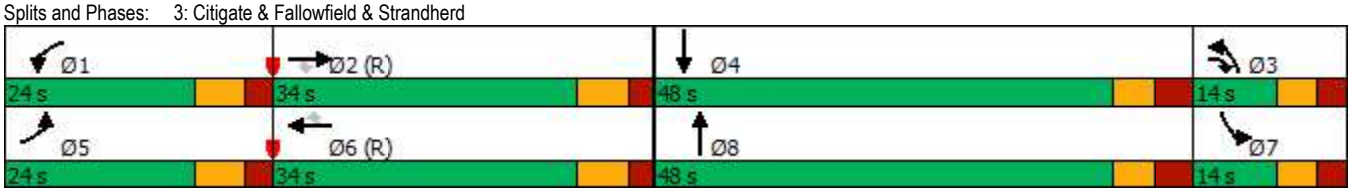
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 15.4 | 81.9 | 102.7 | 5.8 | 62.1 | 62.1 | 11.3 | 16.2 | | 12.4 | 16.3 | 120.0 |
| Actuated g/C Ratio | 0.13 | 0.68 | 0.86 | 0.05 | 0.52 | 0.52 | 0.09 | 0.14 | | 0.10 | 0.14 | 1.00 |
| v/c Ratio | 0.71 | 0.65 | 0.02 | 0.03 | 0.60 | 0.12 | 0.09 | 0.03 | | 0.57 | 0.02 | 0.29 |
| Control Delay | 50.8 | 20.6 | 0.0 | 79.5 | 14.9 | 1.0 | 46.2 | 31.7 | | 65.5 | 37.0 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.8 | 20.6 | 0.0 | 79.5 | 14.9 | 1.0 | 46.2 | 31.7 | | 65.5 | 37.0 | 0.5 |
| LOS | D | C | A | E | B | A | D | C | | E | D | A |
| Approach Delay | | 25.6 | | | 13.7 | | | 43.1 | | | 13.2 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 37.7 | 7.5 | 6.3 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 17.9 | 91.1 | 15.5 | 0.0 | 66.1 | 66.1 | 15.5 | 0.0 | | 15.5 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 16.1 | 92.1 | 14.5 | 0.0 | 68.9 | 68.9 | 14.5 | 0.0 | | 14.5 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 14.3 | 93.2 | 13.4 | 0.0 | 71.8 | 71.8 | 13.4 | 0.0 | | 13.4 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 11.7 | 95.6 | 0.0 | 0.0 | 76.8 | 76.8 | 0.0 | 0.0 | | 11.0 | 10.5 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Gap | Hold | |
| Stops (vph) | 258 | 668 | 0 | 3 | 258 | 8 | 27 | 7 | | 79 | 5 | 0 |
| Fuel Used(l) | 31 | 96 | 1 | 0 | 46 | 3 | 3 | 1 | | 11 | 0 | 16 |
| CO Emissions (g/hr) | 586 | 1789 | 20 | 6 | 856 | 48 | 59 | 14 | | 197 | 7 | 304 |
| NOx Emissions (g/hr) | 113 | 345 | 4 | 1 | 165 | 9 | 11 | 3 | | 38 | 1 | 59 |
| VOC Emissions (g/hr) | 135 | 413 | 5 | 1 | 198 | 11 | 14 | 3 | | 45 | 2 | 70 |
| Dilemma Vehicles (#) | 0 | 89 | 0 | 0 | 7 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 30.1 | 89.4 | 0.0 | 0.4 | 21.2 | 0.0 | 3.2 | 1.3 | | 21.9 | 0.9 | 0.0 |
| Queue Length 95th (m) | 49.7 | #255.8 | m0.0 | m1.2 | #204.2 | m7.2 | 7.5 | 4.6 | | #56.9 | 3.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 444 | 1974 | 1288 | 233 | 1652 | 833 | 313 | 571 | | 171 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.64 | 0.65 | 0.02 | 0.01 | 0.60 | 0.12 | 0.08 | 0.01 | | 0.57 | 0.01 | 0.29 |

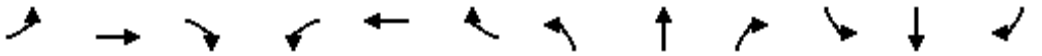
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.71 | | | |
| Intersection Signal Delay: 19.8 | | Intersection LOS: B | |
| Intersection Capacity Utilization 73.0% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

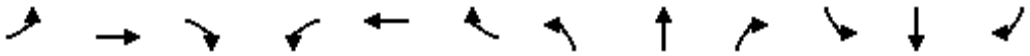
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 114 | 1165 | 231 | 35 | 972 | 29 | 154 | 77 | 23 | 18 | 82 | 83 |
| Future Volume (vph) | 114 | 1165 | 231 | 35 | 972 | 29 | 154 | 77 | 23 | 18 | 82 | 83 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.99 | | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.704 | | | 0.707 | | |
| Satd. Flow (perm) | 1658 | 2941 | 1465 | 3216 | 3221 | 1448 | 1220 | 1745 | 1458 | 1232 | 1745 | 1449 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 107 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | | | | | | | 9 | | 2 | 2 | | 9 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 114 | 1165 | 231 | 35 | 972 | 29 | 154 | 77 | 23 | 18 | 82 | 83 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 114 | 1165 | 231 | 35 | 972 | 29 | 154 | 77 | 23 | 18 | 82 | 83 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | 2 | 2 | 2 | 7 | 7 | 7 |
| Act Effct Green (s) | 14.3 | 73.9 | 73.9 | 6.8 | 61.3 | 61.3 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.12 | 0.62 | 0.62 | 0.06 | 0.51 | 0.51 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| v/c Ratio | 0.58 | 0.64 | 0.24 | 0.19 | 0.59 | 0.04 | 0.66 | 0.23 | 0.06 | 0.08 | 0.25 | 0.23 |
| Control Delay | 68.6 | 25.2 | 12.0 | 66.8 | 12.1 | 0.2 | 58.1 | 41.0 | 0.3 | 34.8 | 39.5 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 68.6 | 25.2 | 12.0 | 66.8 | 12.1 | 0.2 | 58.1 | 41.0 | 0.3 | 34.8 | 39.5 | 5.9 |
| LOS | E | C | B | E | B | A | E | D | A | C | D | A |
| Approach Delay | | 26.5 | | | 13.6 | | | 47.7 | | | 23.8 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.3 | 49.3 | 8.3 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 17.0 | 67.0 | 67.0 | 7.3 | 57.3 | 57.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 16.2 | 71.2 | 71.2 | 6.7 | 61.7 | 61.7 | 20.7 | 20.7 | 20.7 | 20.7 | 20.7 | 20.7 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 15.4 | 88.4 | 88.4 | 0.0 | 66.1 | 66.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 30th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 14.5 | 93.5 | 93.5 | 0.0 | 72.1 | 72.1 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 93 | 746 | 102 | 35 | 487 | 0 | 138 | 62 | 0 | 15 | 65 | 9 |
| Fuel Used(l) | 14 | 89 | 13 | 5 | 59 | 1 | 20 | 9 | 1 | 1 | 6 | 3 |
| CO Emissions (g/hr) | 254 | 1649 | 234 | 86 | 1096 | 12 | 368 | 162 | 27 | 23 | 109 | 47 |
| NOx Emissions (g/hr) | 49 | 318 | 45 | 17 | 212 | 2 | 71 | 31 | 5 | 4 | 21 | 9 |
| VOC Emissions (g/hr) | 58 | 380 | 54 | 20 | 253 | 3 | 85 | 37 | 6 | 5 | 25 | 11 |
| Dilemma Vehicles (#) | 0 | 83 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 26.6 | 135.0 | 9.4 | 4.4 | 30.4 | 0.0 | 35.3 | 16.3 | 0.1 | 3.6 | 16.9 | 0.0 |
| Queue Length 95th (m) | m#60.4 | #176.3 | 33.5 | m7.9 | 37.8 | m0.1 | 46.9 | 24.2 | 0.1 | 8.1 | 25.0 | 8.3 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 197 | 1810 | 943 | 218 | 1645 | 790 | 419 | 600 | 565 | 424 | 600 | 562 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.58 | 0.64 | 0.24 | 0.16 | 0.59 | 0.04 | 0.37 | 0.13 | 0.04 | 0.04 | 0.14 | 0.15 |

**Intersection Summary**

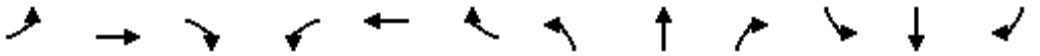
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 72.9% ICU Level of Service C
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd



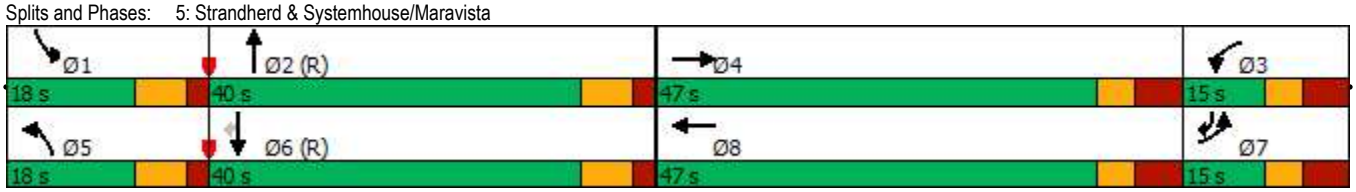


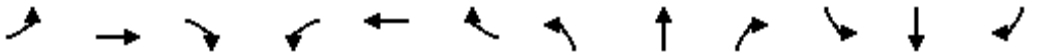
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 58 | 181 | 8 | 52 | 36 | 203 | 728 | 6 | 172 | 933 | 30 |
| Future Volume (vph) | 150 | 58 | 181 | 8 | 52 | 36 | 203 | 728 | 6 | 172 | 933 | 30 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.886 | | | 0.939 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1528 | 0 | 1658 | 1557 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1528 | 0 | 1653 | 1557 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 139 | | | 31 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 150 | 58 | 181 | 8 | 52 | 36 | 203 | 728 | 6 | 172 | 933 | 30 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 150 | 239 | 0 | 8 | 88 | 0 | 203 | 734 | 0 | 172 | 933 | 30 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 3 | | | 0 | | | 0 | |
| Act Effct Green (s) | 10.3 | 24.4 | | 9.4 | 16.2 | | 11.8 | 48.9 | | 19.6 | 56.7 | 67.6 |
| Actuated g/C Ratio | 0.09 | 0.20 | | 0.08 | 0.14 | | 0.10 | 0.41 | | 0.16 | 0.47 | 0.56 |
| v/c Ratio | 0.54 | 0.57 | | 0.06 | 0.37 | | 0.64 | 0.54 | | 0.64 | 0.60 | 0.04 |
| Control Delay | 60.6 | 22.6 | | 47.2 | 32.8 | | 49.5 | 36.0 | | 72.8 | 22.8 | 2.8 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.6 | 22.6 | | 47.2 | 32.8 | | 49.5 | 36.0 | | 72.8 | 22.8 | 2.8 |
| LOS | E | C | | D | C | | D | D | | E | C | A |
| Approach Delay | | 37.2 | | | 34.0 | | | 39.0 | | | 29.9 | |
| Approach LOS | | D | | | C | | | D | | | C | |
| 90th %ile Green (s) | 7.8 | 23.6 | | 23.2 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Gap | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 12.5 | 32.1 | | 0.0 | 12.0 | | 14.3 | 45.0 | | 22.0 | 52.7 | 12.5 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 11.3 | 28.9 | | 0.0 | 10.0 | | 12.8 | 48.9 | | 21.3 | 57.4 | 11.3 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 10.0 | 27.6 | | 0.0 | 10.0 | | 11.3 | 50.3 | | 21.2 | 60.2 | 10.0 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 10.0 | 10.0 | | 0.0 | 0.0 | | 9.2 | 67.0 | | 22.1 | 79.9 | 10.0 |
| 10th %ile Term Code | Hold | Min | | Skip | Skip | | Gap | Coord | | Gap | Coord | Hold |
| Stops (vph) | 136 | 91 | | 8 | 50 | | 193 | 641 | | 124 | 312 | 4 |
| Fuel Used(l) | 13 | 11 | | 1 | 4 | | 26 | 81 | | 21 | 55 | 1 |
| CO Emissions (g/hr) | 241 | 202 | | 10 | 80 | | 475 | 1513 | | 384 | 1030 | 18 |
| NOx Emissions (g/hr) | 47 | 39 | | 2 | 16 | | 92 | 292 | | 74 | 199 | 3 |
| VOC Emissions (g/hr) | 56 | 47 | | 2 | 19 | | 109 | 349 | | 89 | 237 | 4 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 2 | | 0 | 64 | 0 |
| Queue Length 50th (m) | 17.5 | 19.2 | | 1.8 | 13.0 | | 24.2 | 81.7 | | 43.5 | 23.6 | 0.0 |
| Queue Length 95th (m) | #32.6 | 47.1 | | 5.9 | 21.6 | | 37.2 | 116.2 | | #92.3 | #156.3 | m0.5 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 276 | 595 | | 146 | 532 | | 328 | 1350 | | 270 | 1566 | 806 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.40 | | 0.05 | 0.17 | | 0.62 | 0.54 | | 0.64 | 0.60 | 0.04 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 110 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.64 | | | |
| Intersection Signal Delay: 34.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 68.2% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



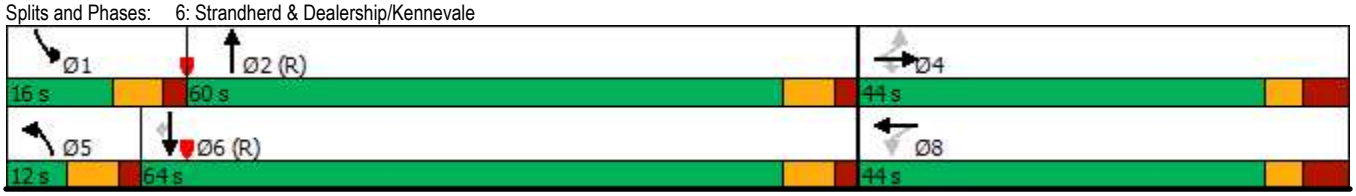


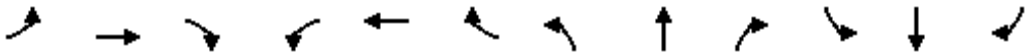
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 14 | 71 | 85 | 13 | 66 | 52 | 743 | 78 | 129 | 1048 | 52 |
| Future Volume (vph) | 125 | 14 | 71 | 85 | 13 | 66 | 52 | 743 | 78 | 129 | 1048 | 52 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | | 0.850 | | 0.875 | | | 0.986 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1502 | 0 | 3216 | 3269 | 0 | 1642 | 3316 | 1483 |
| Flt Permitted | 0.706 | | | 0.748 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 1232 | 1745 | 1483 | 1305 | 1502 | 0 | 3216 | 3269 | 0 | 1642 | 3316 | 1483 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 66 | | | 12 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 125 | 14 | 71 | 85 | 13 | 66 | 52 | 743 | 78 | 129 | 1048 | 52 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 125 | 14 | 71 | 85 | 79 | 0 | 52 | 821 | 0 | 129 | 1048 | 52 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 12.0 | 60.0 | | 16.0 | 64.0 | 64.0 |
| Total Split (%) | 36.7% | 36.7% | 36.7% | 36.7% | 36.7% | | 10.0% | 50.0% | | 13.3% | 53.3% | 53.3% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 5.4 | 53.3 | | 9.4 | 57.3 | 57.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Act Effct Green (s) | 17.6 | 17.6 | 17.6 | 17.6 | 17.6 | | 7.3 | 64.0 | | 17.5 | 76.6 | 76.6 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | | 0.06 | 0.53 | | 0.15 | 0.64 | 0.64 |
| v/c Ratio | 0.69 | 0.05 | 0.24 | 0.45 | 0.29 | | 0.27 | 0.47 | | 0.54 | 0.50 | 0.05 |
| Control Delay | 67.3 | 41.0 | 5.9 | 52.5 | 15.7 | | 56.6 | 19.5 | | 50.6 | 16.9 | 1.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.3 | 41.0 | 5.9 | 52.5 | 15.7 | | 56.6 | 19.5 | | 50.6 | 16.9 | 1.8 |
| LOS | E | D | A | D | B | | E | B | | D | B | A |
| Approach Delay | | 44.8 | | | 34.8 | | | 21.7 | | | 19.8 | |
| Approach LOS | | D | | | C | | | C | | | B | |
| 90th %ile Green (s) | 25.3 | 25.3 | 25.3 | 25.3 | 25.3 | | 9.2 | 53.7 | | 20.1 | 64.6 | 64.6 |
| 90th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 70th %ile Green (s) | 20.7 | 20.7 | 20.7 | 20.7 | 20.7 | | 8.1 | 60.0 | | 18.4 | 70.3 | 70.3 |
| 70th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 17.6 | 17.6 | 17.6 | 17.6 | 17.6 | | 7.3 | 64.1 | | 17.4 | 74.2 | 74.2 |
| 50th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 | | 6.6 | 68.2 | | 16.5 | 78.1 | 78.1 |
| 30th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 0.0 | 74.0 | | 15.1 | 95.7 | 95.7 |
| 10th %ile Term Code | Min | Min | Min | Min | Min | | Skip | Coord | | Gap | Coord | Coord |
| Stops (vph) | 116 | 13 | 6 | 75 | 21 | | 49 | 497 | | 100 | 856 | 8 |
| Fuel Used(l) | 13 | 1 | 3 | 8 | 4 | | 6 | 56 | | 15 | 97 | 2 |
| CO Emissions (g/hr) | 248 | 23 | 53 | 148 | 83 | | 112 | 1035 | | 279 | 1811 | 42 |
| NOx Emissions (g/hr) | 48 | 4 | 10 | 29 | 16 | | 22 | 200 | | 54 | 350 | 8 |
| VOC Emissions (g/hr) | 57 | 5 | 12 | 34 | 19 | | 26 | 239 | | 64 | 418 | 10 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 34 | | 0 | 8 | 0 |
| Queue Length 50th (m) | 28.3 | 2.9 | 0.0 | 18.5 | 2.7 | | 6.1 | 59.7 | | 23.8 | 120.0 | 0.1 |
| Queue Length 95th (m) | 45.5 | 8.3 | 7.3 | 32.0 | 15.2 | | 12.3 | 91.3 | | 30.8 | 148.4 | m3.8 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 373 | 529 | 515 | 395 | 501 | | 196 | 1749 | | 239 | 2116 | 983 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.03 | 0.14 | 0.22 | 0.16 | | 0.27 | 0.47 | | 0.54 | 0.50 | 0.05 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 95 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.69 | | | |
| Intersection Signal Delay: 23.6 | | Intersection LOS: C | |
| Intersection Capacity Utilization 66.1% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale

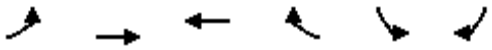




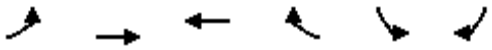
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 31 | 6 | 39 | 14 | 2 | 34 | 26 | 301 | 25 | 32 | 326 | 26 |
| Future Volume (Veh/h) | 31 | 6 | 39 | 14 | 2 | 34 | 26 | 301 | 25 | 32 | 326 | 26 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 31 | 6 | 39 | 14 | 2 | 34 | 26 | 301 | 25 | 32 | 326 | 26 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 778 | 768 | 326 | 785 | 769 | 301 | 352 | | | 326 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 778 | 768 | 326 | 785 | 769 | 301 | 352 | | | 326 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 89 | 98 | 95 | 95 | 99 | 95 | 98 | | | 97 | | |
| cM capacity (veh/h) | 287 | 316 | 715 | 279 | 316 | 739 | 1207 | | | 1234 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 31 | 45 | 50 | 26 | 301 | 25 | 32 | 326 | 26 |
| Volume Left | 31 | 0 | 14 | 26 | 0 | 0 | 32 | 0 | 0 |
| Volume Right | 0 | 39 | 34 | 0 | 0 | 25 | 0 | 0 | 26 |
| cSH | 287 | 612 | 487 | 1207 | 1700 | 1700 | 1234 | 1700 | 1700 |
| Volume to Capacity | 0.11 | 0.07 | 0.10 | 0.02 | 0.18 | 0.01 | 0.03 | 0.19 | 0.02 |
| Queue Length 95th (m) | 2.7 | 1.8 | 2.6 | 0.5 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Control Delay (s) | 19.1 | 11.3 | 13.2 | 8.0 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 |
| Lane LOS | C | B | B | A | | | A | | |
| Approach Delay (s) | 14.5 | | 13.2 | 0.6 | | | 0.7 | | |
| Approach LOS | B | | B | | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.6 | | | |
| Intersection Capacity Utilization | 41.2% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



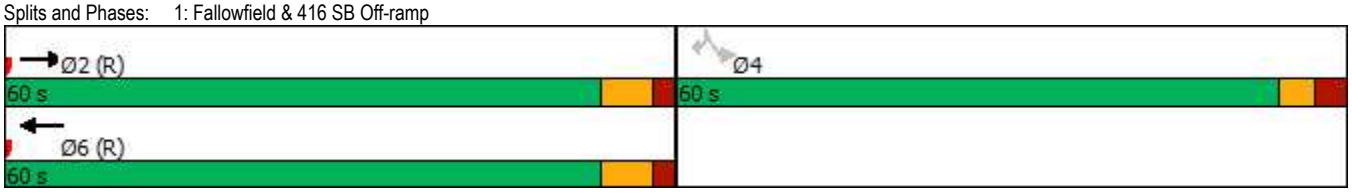
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Future Volume (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 54 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 841 | 991 | 0 | 874 | 220 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 60.0 | 60.0 | | 60.0 | 60.0 |
| Total Split (%) | | 50.0% | 50.0% | | 50.0% | 50.0% |
| Maximum Green (s) | | 53.2 | 53.2 | | 53.7 | 53.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

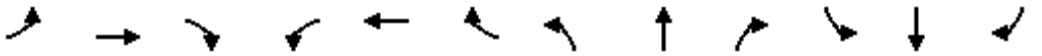


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 64.9 | 64.9 | | 42.0 | 42.0 |
| Actuated g/C Ratio | | 0.54 | 0.54 | | 0.35 | 0.35 |
| v/c Ratio | | 0.51 | 0.57 | | 0.82 | 0.44 |
| Control Delay | | 19.8 | 13.2 | | 42.2 | 24.0 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 19.8 | 13.2 | | 42.2 | 24.0 |
| LOS | | B | B | | D | C |
| Approach Delay | | 19.8 | 13.2 | | 38.6 | |
| Approach LOS | | B | B | | D | |
| 90th %ile Green (s) | | 56.4 | 56.4 | | 50.5 | 50.5 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 61.0 | 61.0 | | 45.9 | 45.9 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 64.8 | 64.8 | | 42.1 | 42.1 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 68.2 | 68.2 | | 38.7 | 38.7 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 74.0 | 74.0 | | 32.9 | 32.9 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 524 | 382 | | 766 | 122 |
| Fuel Used(l) | | 52 | 67 | | 57 | 10 |
| CO Emissions (g/hr) | | 963 | 1248 | | 1051 | 178 |
| NOx Emissions (g/hr) | | 186 | 241 | | 203 | 34 |
| VOC Emissions (g/hr) | | 222 | 288 | | 242 | 41 |
| Dilemma Vehicles (#) | | 35 | 46 | | 0 | 0 |
| Queue Length 50th (m) | | 63.3 | 37.5 | | 96.0 | 29.4 |
| Queue Length 95th (m) | | 93.7 | 87.3 | | 107.1 | 46.0 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1662 | 1741 | | 1359 | 618 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.51 | 0.57 | | 0.64 | 0.36 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 24.6 | | Intersection LOS: C | |
| Intersection Capacity Utilization 66.6% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp





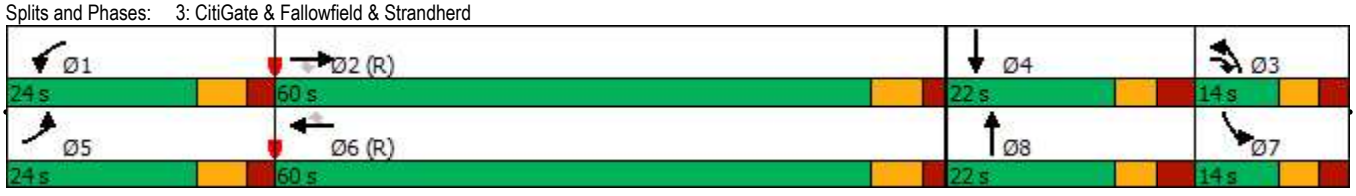
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 5 | 2 | 98 | 4 | 411 |
| Future Volume (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 5 | 2 | 98 | 4 | 411 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.957 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1670 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3120 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1670 | 0 | 1642 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 411 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 5 | 2 | 98 | 4 | 411 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 284 | 1288 | 26 | 2 | 994 | 103 | 26 | 7 | 0 | 98 | 4 | 411 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

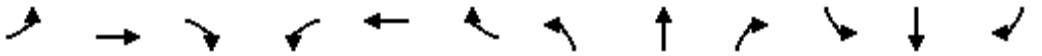
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 15.4 | 87.1 | 108.9 | 5.8 | 67.3 | 67.3 | 12.3 | 10.0 | | 13.4 | 10.1 | 120.0 |
| Actuated g/C Ratio | 0.13 | 0.73 | 0.91 | 0.05 | 0.56 | 0.56 | 0.10 | 0.08 | | 0.11 | 0.08 | 1.00 |
| v/c Ratio | 0.71 | 0.61 | 0.02 | 0.03 | 0.56 | 0.12 | 0.08 | 0.05 | | 0.53 | 0.03 | 0.29 |
| Control Delay | 60.3 | 12.3 | 0.0 | 76.5 | 15.7 | 1.0 | 48.1 | 45.3 | | 61.3 | 51.2 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.3 | 12.3 | 0.0 | 76.5 | 15.7 | 1.0 | 48.1 | 45.3 | | 61.3 | 51.2 | 0.5 |
| LOS | E | B | A | E | B | A | D | D | | E | D | A |
| Approach Delay | | 20.6 | | | 14.4 | | | 47.5 | | | 12.5 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 63.7 | 12.5 | 6.3 | 53.1 | 53.1 | 12.5 | 10.0 | | 12.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Gap | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 17.9 | 91.1 | 15.5 | 0.0 | 66.1 | 66.1 | 15.5 | 0.0 | | 15.5 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 16.1 | 92.1 | 14.5 | 0.0 | 68.9 | 68.9 | 14.5 | 0.0 | | 14.5 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 14.3 | 93.2 | 13.4 | 0.0 | 71.8 | 71.8 | 13.4 | 0.0 | | 13.4 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 11.7 | 95.6 | 0.0 | 0.0 | 76.8 | 76.8 | 0.0 | 0.0 | | 11.0 | 10.5 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Gap | Hold | |
| Stops (vph) | 267 | 643 | 0 | 3 | 682 | 8 | 24 | 7 | | 92 | 6 | 0 |
| Fuel Used(l) | 34 | 73 | 0 | 0 | 93 | 5 | 2 | 1 | | 9 | 0 | 8 |
| CO Emissions (g/hr) | 628 | 1359 | 9 | 7 | 1737 | 92 | 35 | 9 | | 174 | 8 | 141 |
| NOx Emissions (g/hr) | 121 | 262 | 2 | 1 | 335 | 18 | 7 | 2 | | 34 | 2 | 27 |
| VOC Emissions (g/hr) | 145 | 313 | 2 | 2 | 401 | 21 | 8 | 2 | | 40 | 2 | 32 |
| Dilemma Vehicles (#) | 0 | 54 | 0 | 0 | 8 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 33.2 | 56.6 | 0.0 | 0.4 | 100.8 | 0.0 | 2.8 | 1.1 | | 21.9 | 0.9 | 0.0 |
| Queue Length 95th (m) | 47.3 | 162.7 | 0.0 | m1.5 | 145.5 | 2.1 | 7.3 | 5.8 | | 40.1 | 4.4 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 444 | 2099 | 1360 | 233 | 1790 | 889 | 340 | 210 | | 184 | 218 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.64 | 0.61 | 0.02 | 0.01 | 0.56 | 0.12 | 0.08 | 0.03 | | 0.53 | 0.02 | 0.29 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 58 | 181 | 8 | 52 | 36 | 203 | 728 | 6 | 172 | 933 | 30 |
| Future Volume (vph) | 150 | 58 | 181 | 8 | 52 | 36 | 203 | 728 | 6 | 172 | 933 | 30 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.886 | | | 0.939 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1527 | 0 | 1658 | 1557 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1527 | 0 | 1635 | 1557 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 125 | | | 28 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 150 | 58 | 181 | 8 | 52 | 36 | 203 | 728 | 6 | 172 | 933 | 30 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 150 | 239 | 0 | 8 | 88 | 0 | 203 | 734 | 0 | 172 | 933 | 30 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

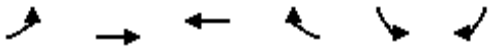
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 12.1 | 24.6 | | 6.2 | 11.5 | | 12.8 | 50.7 | | 20.8 | 58.7 | 71.4 |
| Actuated g/C Ratio | 0.10 | 0.20 | | 0.05 | 0.10 | | 0.11 | 0.42 | | 0.17 | 0.49 | 0.60 |
| v/c Ratio | 0.46 | 0.58 | | 0.09 | 0.51 | | 0.59 | 0.53 | | 0.60 | 0.58 | 0.04 |
| Control Delay | 55.2 | 25.1 | | 56.1 | 45.6 | | 58.0 | 29.0 | | 47.0 | 29.3 | 0.6 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 25.1 | | 56.1 | 45.6 | | 58.0 | 29.0 | | 47.0 | 29.3 | 0.6 |
| LOS | E | C | | E | D | | E | C | | D | C | A |
| Approach Delay | | 36.7 | | | 46.5 | | | 35.3 | | | 31.2 | |
| Approach LOS | | D | | | D | | | D | | | C | |
| 90th %ile Green (s) | 16.5 | 24.3 | | 7.4 | 15.2 | | 16.4 | 42.3 | | 17.5 | 43.4 | 16.5 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Gap | Coord | | Max | Coord | Hold |
| 70th %ile Green (s) | 12.5 | 32.3 | | 0.0 | 12.2 | | 14.3 | 44.8 | | 22.0 | 52.5 | 12.5 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 11.3 | 28.9 | | 0.0 | 10.0 | | 12.8 | 48.9 | | 21.3 | 57.4 | 11.3 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 10.0 | 27.6 | | 0.0 | 10.0 | | 11.3 | 50.3 | | 21.2 | 60.2 | 10.0 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 10.0 | 10.0 | | 0.0 | 0.0 | | 9.2 | 67.0 | | 22.1 | 79.9 | 10.0 |
| 10th %ile Term Code | Hold | Min | | Skip | Skip | | Gap | Coord | | Gap | Coord | Hold |
| Stops (vph) | 138 | 103 | | 9 | 57 | | 189 | 541 | | 155 | 605 | 1 |
| Fuel Used(l) | 12 | 12 | | 1 | 5 | | 23 | 60 | | 22 | 95 | 1 |
| CO Emissions (g/hr) | 230 | 215 | | 11 | 98 | | 432 | 1107 | | 417 | 1775 | 25 |
| NOx Emissions (g/hr) | 44 | 42 | | 2 | 19 | | 83 | 214 | | 81 | 343 | 5 |
| VOC Emissions (g/hr) | 53 | 50 | | 3 | 23 | | 100 | 255 | | 96 | 409 | 6 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 31 | | 0 | 37 | 0 |
| Queue Length 50th (m) | 17.5 | 22.4 | | 1.8 | 13.7 | | 23.8 | 68.1 | | 38.1 | 65.6 | 0.0 |
| Queue Length 95th (m) | 26.8 | 50.4 | | 6.9 | 29.3 | | 34.8 | 95.4 | | #69.5 | 145.2 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 323 | 484 | | 102 | 415 | | 355 | 1398 | | 287 | 1621 | 844 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.46 | 0.49 | | 0.08 | 0.21 | | 0.57 | 0.53 | | 0.60 | 0.58 | 0.04 |

Intersection Summary

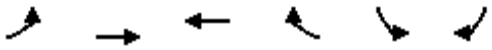
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 34.1 Intersection LOS: C
Intersection Capacity Utilization 66.1% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





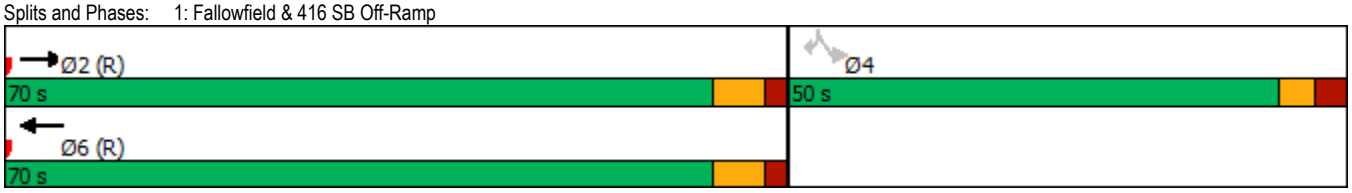
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1321 | 781 | 0 | 518 | 220 |
| Future Volume (vph) | 0 | 1321 | 781 | 0 | 518 | 220 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 155 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1321 | 781 | 0 | 518 | 220 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1321 | 781 | 0 | 518 | 220 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 80.4 | 80.4 | | 26.5 | 26.5 |
| Actuated g/C Ratio | | 0.67 | 0.67 | | 0.22 | 0.22 |
| v/c Ratio | | 0.64 | 0.36 | | 0.77 | 0.54 |
| Control Delay | | 14.0 | 15.7 | | 51.9 | 17.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 14.0 | 15.7 | | 51.9 | 17.3 |
| LOS | | B | B | | D | B |
| Approach Delay | | 14.0 | 15.7 | | 41.6 | |
| Approach LOS | | B | B | | D | |
| 90th %ile Green (s) | | 73.6 | 73.6 | | 33.3 | 33.3 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 77.3 | 77.3 | | 29.6 | 29.6 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 80.7 | 80.7 | | 26.2 | 26.2 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 83.4 | 83.4 | | 23.5 | 23.5 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 87.2 | 87.2 | | 19.7 | 19.7 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 745 | 428 | | 473 | 64 |
| Fuel Used(l) | | 76 | 63 | | 39 | 8 |
| CO Emissions (g/hr) | | 1408 | 1163 | | 727 | 143 |
| NOx Emissions (g/hr) | | 272 | 224 | | 140 | 28 |
| VOC Emissions (g/hr) | | 325 | 268 | | 168 | 33 |
| Dilemma Vehicles (#) | | 55 | 43 | | 0 | 0 |
| Queue Length 50th (m) | | 85.6 | 58.7 | | 59.6 | 12.7 |
| Queue Length 95th (m) | | 128.7 | 82.7 | | 72.7 | 34.3 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2061 | 2159 | | 1106 | 577 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.64 | 0.36 | | 0.47 | 0.38 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.77 | | | |
| Intersection Signal Delay: 21.7 | | Intersection LOS: C | |
| Intersection Capacity Utilization 65.9% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



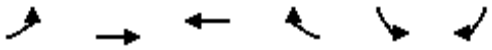
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1449 | 0 | 0 | 708 | 125 | 209 |
| Future Volume (vph) | 1449 | 0 | 0 | 708 | 125 | 209 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 56 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1449 | 0 | 0 | 708 | 125 | 209 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1449 | 0 | 0 | 708 | 125 | 209 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| Actuated g/C Ratio | 0.74 | | | 0.74 | 0.16 | 0.16 |
| v/c Ratio | 0.61 | | | 0.29 | 0.54 | 0.78 |
| Control Delay | 13.5 | | | 6.0 | 54.1 | 53.9 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.5 | | | 6.0 | 54.1 | 53.9 |
| LOS | B | | | A | D | D |
| Approach Delay | 13.5 | | | 6.0 | 54.0 | |
| Approach LOS | B | | | A | D | |
| 90th %ile Green (s) | 80.7 | | | 80.7 | 27.3 | 27.3 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 85.7 | | | 85.7 | 22.3 | 22.3 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 93.0 | | | 93.0 | 15.0 | 15.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 770 | | | 222 | 110 | 147 |
| Fuel Used(l) | 112 | | | 30 | 10 | 16 |
| CO Emissions (g/hr) | 2085 | | | 551 | 194 | 302 |
| NOx Emissions (g/hr) | 402 | | | 106 | 37 | 58 |
| VOC Emissions (g/hr) | 481 | | | 127 | 45 | 70 |
| Dilemma Vehicles (#) | 98 | | | 30 | 0 | 0 |
| Queue Length 50th (m) | 89.5 | | | 24.8 | 27.5 | 35.3 |
| Queue Length 95th (m) | 150.0 | | | 42.6 | 43.1 | 57.1 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2375 | | | 2444 | 367 | 395 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | | | 0.29 | 0.34 | 0.53 |

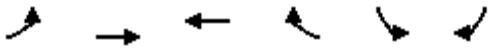
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.78 | | | |
| Intersection Signal Delay: 16.8 | | Intersection LOS: B | |
| Intersection Capacity Utilization 65.9% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





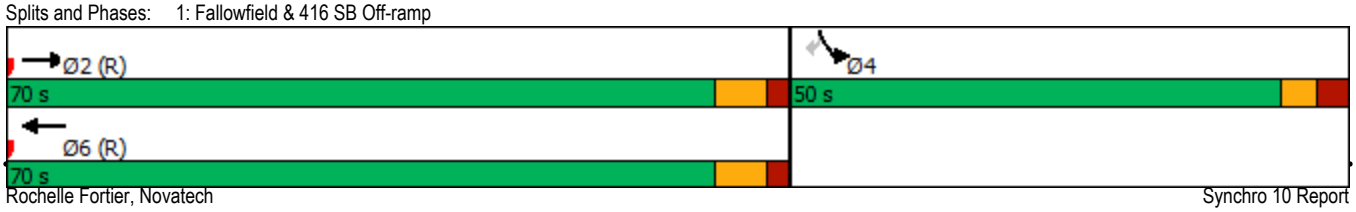
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Future Volume (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 41 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 65.1 | 65.1 | | 41.8 | 41.8 |
| Actuated g/C Ratio | | 0.54 | 0.54 | | 0.35 | 0.35 |
| v/c Ratio | | 0.57 | 0.73 | | 0.92 | 0.49 |
| Control Delay | | 20.3 | 20.3 | | 51.1 | 28.7 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 20.3 | 20.3 | | 51.1 | 28.7 |
| LOS | | C | C | | D | C |
| Approach Delay | | 20.3 | 20.3 | | 46.6 | |
| Approach LOS | | C | C | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 65.6 | 65.6 | | 41.3 | 41.3 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 70.2 | 70.2 | | 36.7 | 36.7 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 613 | 984 | | 880 | 153 |
| Fuel Used(l) | | 60 | 122 | | 70 | 12 |
| CO Emissions (g/hr) | | 1116 | 2264 | | 1301 | 218 |
| NOx Emissions (g/hr) | | 215 | 437 | | 251 | 42 |
| VOC Emissions (g/hr) | | 257 | 522 | | 300 | 50 |
| Dilemma Vehicles (#) | | 40 | 50 | | 0 | 0 |
| Queue Length 50th (m) | | 77.7 | 125.3 | | 108.8 | 35.3 |
| Queue Length 95th (m) | | 97.6 | 152.6 | | #140.1 | 59.1 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1667 | 1746 | | 1106 | 505 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.57 | 0.73 | | 0.88 | 0.47 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.92 | | | |
| Intersection Signal Delay: 29.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 77.4% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp

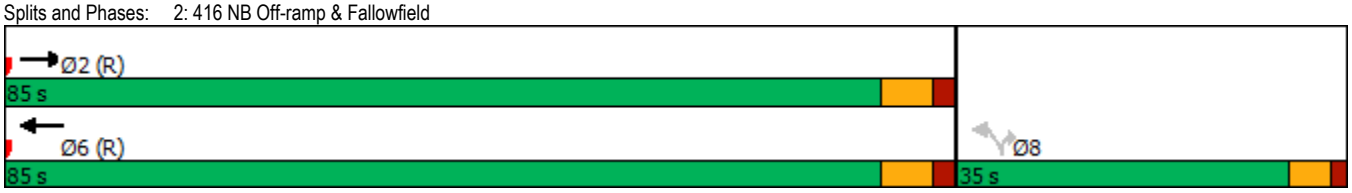


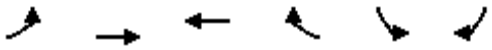
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1848 | 0 | 0 | 1425 | 99 | 128 |
| Future Volume (vph) | 1848 | 0 | 0 | 1425 | 99 | 128 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 23 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1848 | 0 | 0 | 1425 | 99 | 128 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1848 | 0 | 0 | 1425 | 99 | 128 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 93.2 | | | 93.2 | 14.8 | 14.8 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.12 | 0.12 |
| v/c Ratio | 0.75 | | | 0.56 | 0.54 | 0.65 |
| Control Delay | 5.4 | | | 6.8 | 59.6 | 56.0 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.4 | | | 6.8 | 59.6 | 56.0 |
| LOS | A | | | A | E | E |
| Approach Delay | 5.4 | | | 6.8 | 57.6 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 87.0 | | | 87.0 | 21.0 | 21.0 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 90.9 | | | 90.9 | 17.1 | 17.1 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 93.7 | | | 93.7 | 14.3 | 14.3 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 96.5 | | | 96.5 | 11.5 | 11.5 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 862 | | | 531 | 90 | 99 |
| Fuel Used(l) | 123 | | | 65 | 9 | 10 |
| CO Emissions (g/hr) | 2280 | | | 1216 | 163 | 194 |
| NOx Emissions (g/hr) | 440 | | | 235 | 32 | 38 |
| VOC Emissions (g/hr) | 526 | | | 280 | 38 | 45 |
| Dilemma Vehicles (#) | 38 | | | 59 | 0 | 0 |
| Queue Length 50th (m) | 21.4 | | | 56.7 | 22.3 | 24.0 |
| Queue Length 95th (m) | 158.8 | | | 92.6 | 37.7 | 41.9 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2478 | | | 2550 | 367 | 370 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | | | 0.56 | 0.27 | 0.35 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 80 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.75 | | | |
| Intersection Signal Delay: 9.3 | | Intersection LOS: A | |
| Intersection Capacity Utilization 77.4% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



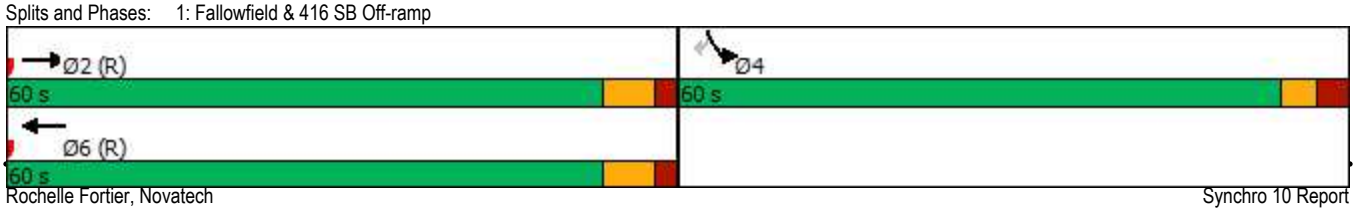


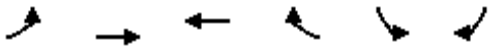
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Future Volume (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 21 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 951 | 1280 | 0 | 969 | 239 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 60.0 | 60.0 | | 60.0 | 60.0 |
| Total Split (%) | | 50.0% | 50.0% | | 50.0% | 50.0% |
| Maximum Green (s) | | 53.2 | 53.2 | | 53.7 | 53.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 61.3 | 61.3 | | 45.6 | 45.6 |
| Actuated g/C Ratio | | 0.51 | 0.51 | | 0.38 | 0.38 |
| v/c Ratio | | 0.61 | 0.78 | | 0.84 | 0.47 |
| Control Delay | | 24.0 | 24.4 | | 40.8 | 27.6 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 24.0 | 24.4 | | 40.8 | 27.6 |
| LOS | | C | C | | D | C |
| Approach Delay | | 24.0 | 24.4 | | 38.2 | |
| Approach LOS | | C | C | | D | |
| 90th %ile Green (s) | | 53.6 | 53.6 | | 53.3 | 53.3 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 57.6 | 57.6 | | 49.3 | 49.3 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 60.7 | 60.7 | | 46.2 | 46.2 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 64.6 | 64.6 | | 42.3 | 42.3 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 69.8 | 69.8 | | 37.1 | 37.1 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 666 | 1027 | | 849 | 157 |
| Fuel Used(l) | | 66 | 128 | | 62 | 12 |
| CO Emissions (g/hr) | | 1223 | 2386 | | 1145 | 216 |
| NOx Emissions (g/hr) | | 236 | 461 | | 221 | 42 |
| VOC Emissions (g/hr) | | 282 | 550 | | 264 | 50 |
| Dilemma Vehicles (#) | | 40 | 49 | | 0 | 0 |
| Queue Length 50th (m) | | 81.5 | 130.6 | | 105.0 | 37.8 |
| Queue Length 95th (m) | | 115.9 | #178.5 | | 117.8 | 54.8 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1569 | 1644 | | 1359 | 600 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.61 | 0.78 | | 0.71 | 0.40 |

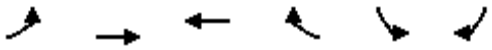
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.84 | | | |
| Intersection Signal Delay: 29.1 | | Intersection LOS: C | |
| Intersection Capacity Utilization 77.4% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp





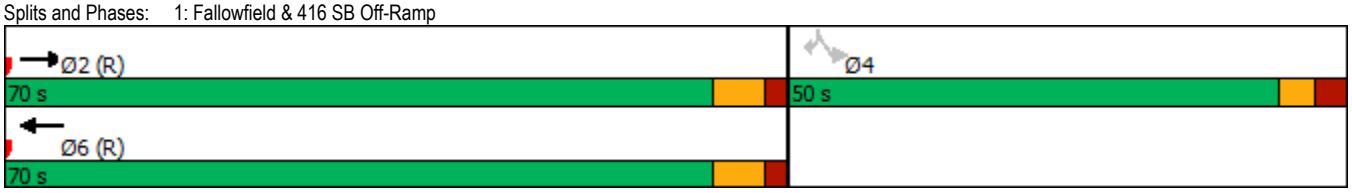
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 843 | 573 | 0 | 453 | 184 |
| Future Volume (vph) | 0 | 843 | 573 | 0 | 453 | 184 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 184 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 215.4 | 447.2 | | 179.9 | |
| Travel Time (s) | | 9.7 | 20.1 | | 13.0 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 843 | 573 | 0 | 453 | 184 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 843 | 573 | 0 | 453 | 184 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 83.2 | 83.2 | | 23.7 | 23.7 |
| Actuated g/C Ratio | | 0.69 | 0.69 | | 0.20 | 0.20 |
| v/c Ratio | | 0.40 | 0.26 | | 0.76 | 0.45 |
| Control Delay | | 9.0 | 11.0 | | 53.5 | 9.0 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 9.0 | 11.0 | | 53.5 | 9.0 |
| LOS | | A | B | | D | A |
| Approach Delay | | 9.0 | 11.0 | | 40.7 | |
| Approach LOS | | A | B | | D | |
| 90th %ile Green (s) | | 76.6 | 76.6 | | 30.3 | 30.3 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 80.9 | 80.9 | | 26.0 | 26.0 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 83.4 | 83.4 | | 23.5 | 23.5 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 85.8 | 85.8 | | 21.1 | 21.1 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 89.4 | 89.4 | | 17.5 | 17.5 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 342 | 248 | | 415 | 22 |
| Fuel Used(l) | | 40 | 39 | | 36 | 5 |
| CO Emissions (g/hr) | | 739 | 730 | | 664 | 91 |
| NOx Emissions (g/hr) | | 143 | 141 | | 128 | 18 |
| VOC Emissions (g/hr) | | 170 | 168 | | 153 | 21 |
| Dilemma Vehicles (#) | | 35 | 47 | | 0 | 0 |
| Queue Length 50th (m) | | 39.5 | 27.2 | | 52.4 | 0.0 |
| Queue Length 95th (m) | | 61.1 | 60.4 | | 65.4 | 17.4 |
| Internal Link Dist (m) | | 191.4 | 423.2 | | 155.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2132 | 2233 | | 1106 | 596 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.40 | 0.26 | | 0.41 | 0.31 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.76 | | | |
| Intersection Signal Delay: 19.4 | | Intersection LOS: B | |
| Intersection Capacity Utilization 49.2% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp





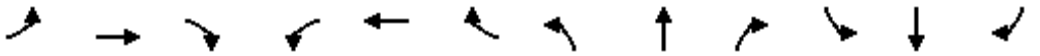
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 972 | 0 | 0 | 525 | 125 | 158 |
| Future Volume (vph) | 972 | 0 | 0 | 525 | 125 | 158 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 136 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 447.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 972 | 0 | 0 | 525 | 125 | 158 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 972 | 0 | 0 | 525 | 125 | 158 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.4 | | | 30.4 | 25.8 | 25.8 |
| Total Split (s) | 80.0 | | | 80.0 | 40.0 | 40.0 |
| Total Split (%) | 66.7% | | | 66.7% | 33.3% | 33.3% |
| Maximum Green (s) | 73.8 | | | 73.8 | 34.2 | 34.2 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 1.6 | | | 1.6 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | | | 6.2 | 5.8 | 5.8 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.3 | | | 92.3 | 15.7 | 15.7 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.40 | | | 0.21 | 0.65 | 0.52 |
| Control Delay | 4.5 | | | 1.5 | 64.2 | 16.9 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.5 | | | 1.5 | 64.2 | 16.9 |
| LOS | A | | | A | E | B |
| Approach Delay | 4.5 | | | 1.5 | 37.8 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 86.1 | | | 86.1 | 21.9 | 21.9 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 89.9 | | | 89.9 | 18.1 | 18.1 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 92.5 | | | 92.5 | 15.5 | 15.5 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 95.1 | | | 95.1 | 12.9 | 12.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 379 | | | 47 | 116 | 34 |
| Fuel Used(l) | 59 | | | 23 | 12 | 5 |
| CO Emissions (g/hr) | 1104 | | | 431 | 216 | 99 |
| NOx Emissions (g/hr) | 213 | | | 83 | 42 | 19 |
| VOC Emissions (g/hr) | 255 | | | 99 | 50 | 23 |
| Dilemma Vehicles (#) | 26 | | | 16 | 0 | 0 |
| Queue Length 50th (m) | 31.3 | | | 8.2 | 28.4 | 4.7 |
| Queue Length 95th (m) | 62.1 | | | m3.0 | 45.7 | 23.3 |
| Internal Link Dist (m) | 423.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2454 | | | 2525 | 422 | 503 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | | | 0.21 | 0.30 | 0.31 |

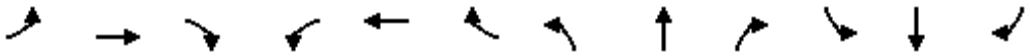
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.65 | | | |
| Intersection Signal Delay: 8.9 | | Intersection LOS: A | |
| Intersection Capacity Utilization 49.2% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 53 | 4 | 66 | 28 | 255 |
| Future Volume (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 53 | 4 | 66 | 28 | 255 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1724 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3120 | 2891 | 1450 | 1656 | 3191 | 1457 | 3208 | 1724 | 0 | 1654 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 3 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 3 | | 1 | 1 | | 3 | 3 | | 3 | 3 | | 3 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 53 | 4 | 66 | 28 | 255 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 57 | 0 | 66 | 28 | 255 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

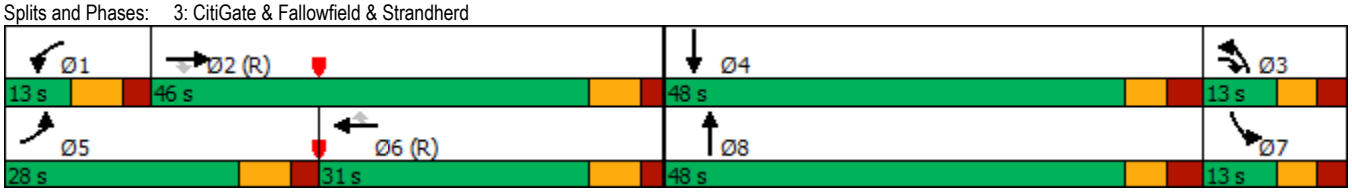


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 2 | | | 2 | 2 | | 4 | | | 4 | |
| Act Effct Green (s) | 22.1 | 74.1 | 88.0 | 5.8 | 47.5 | 47.5 | 13.5 | 16.3 | | 9.2 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.18 | 0.62 | 0.73 | 0.05 | 0.40 | 0.40 | 0.11 | 0.14 | | 0.08 | 0.14 | 1.00 |
| v/c Ratio | 0.82 | 0.39 | 0.13 | 0.05 | 0.94 | 0.06 | 0.39 | 0.24 | | 0.52 | 0.12 | 0.18 |
| Control Delay | 66.4 | 15.8 | 4.3 | 81.8 | 49.8 | 0.1 | 54.1 | 42.5 | | 68.3 | 41.8 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.4 | 15.8 | 4.3 | 81.8 | 49.8 | 0.1 | 54.1 | 42.5 | | 68.3 | 41.8 | 0.3 |
| LOS | E | B | A | F | D | A | D | D | | E | D | A |
| Approach Delay | | 32.6 | | | 48.3 | | | 50.8 | | | 16.5 | |
| Approach LOS | | C | | | D | | | D | | | B | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 25.9 | 76.7 | 12.9 | 0.0 | 43.7 | 43.7 | 12.9 | 10.6 | | 12.3 | 10.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 50th %ile Green (s) | 23.9 | 78.5 | 11.1 | 0.0 | 47.5 | 47.5 | 11.1 | 10.0 | | 11.1 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Gap | Skip | Coord | Coord | Gap | Min | | Hold | Min | |
| 30th %ile Green (s) | 21.6 | 80.3 | 26.3 | 0.0 | 51.6 | 51.6 | 26.3 | 10.0 | | 9.3 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Skip | |
| 10th %ile Green (s) | 18.3 | 96.1 | 10.5 | 0.0 | 70.7 | 70.7 | 10.5 | 10.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Hold | | Skip | Skip | |
| Stops (vph) | 440 | 326 | 18 | 7 | 957 | 0 | 118 | 44 | | 55 | 24 | 0 |
| Fuel Used(l) | 58 | 49 | 7 | 1 | 124 | 1 | 13 | 5 | | 7 | 3 | 10 |
| CO Emissions (g/hr) | 1084 | 906 | 131 | 14 | 2313 | 15 | 233 | 84 | | 136 | 47 | 188 |
| NOx Emissions (g/hr) | 209 | 175 | 25 | 3 | 446 | 3 | 45 | 16 | | 26 | 9 | 36 |
| VOC Emissions (g/hr) | 250 | 209 | 30 | 3 | 533 | 3 | 54 | 19 | | 31 | 11 | 43 |
| Dilemma Vehicles (#) | 0 | 44 | 0 | 0 | 22 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 57.9 | 29.1 | 1.5 | 0.9 | 156.2 | 0.0 | 16.2 | 12.2 | | 15.0 | 6.3 | 0.0 |
| Queue Length 95th (m) | #85.1 | 90.2 | 14.7 | m2.4 | #263.6 | m0.0 | #33.8 | 18.1 | | #39.2 | 10.9 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 589 | 1786 | 1093 | 82 | 1263 | 712 | 360 | 591 | | 127 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.39 | 0.13 | 0.05 | 0.94 | 0.06 | 0.39 | 0.10 | | 0.52 | 0.05 | 0.18 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 38.2 Intersection LOS: D
Intersection Capacity Utilization 79.5% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd



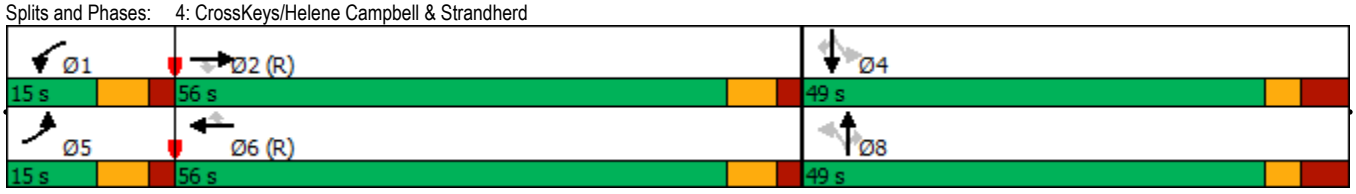
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 673 | 84 | 17 | 1121 | 11 | 124 | 12 | 9 | 18 | 21 | 144 |
| Future Volume (vph) | 30 | 673 | 84 | 17 | 1121 | 11 | 124 | 12 | 9 | 18 | 21 | 144 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.744 | | | 0.750 | | |
| Satd. Flow (perm) | 1655 | 2941 | 1463 | 3213 | 3221 | 1442 | 1295 | 1745 | 1462 | 1305 | 1745 | 1461 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 144 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 3 | | 1 | 1 | | 3 | 3 | | 3 | 3 | | 3 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 30 | 673 | 84 | 17 | 1121 | 11 | 124 | 12 | 9 | 18 | 21 | 144 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 30 | 673 | 84 | 17 | 1121 | 11 | 124 | 12 | 9 | 18 | 21 | 144 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

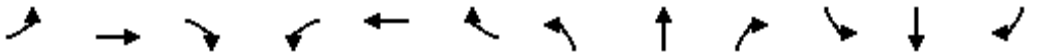
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 2 | 2 | | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 |
| Act Effct Green (s) | 7.3 | 79.7 | 79.7 | 6.2 | 76.1 | 76.1 | 20.4 | 20.4 | 20.4 | 20.4 | 20.4 | 20.4 |
| Actuated g/C Ratio | 0.06 | 0.66 | 0.66 | 0.05 | 0.63 | 0.63 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| v/c Ratio | 0.30 | 0.34 | 0.08 | 0.10 | 0.55 | 0.01 | 0.57 | 0.04 | 0.03 | 0.08 | 0.07 | 0.39 |
| Control Delay | 72.3 | 9.4 | 2.4 | 67.9 | 15.7 | 0.0 | 53.3 | 35.2 | 0.1 | 36.7 | 36.5 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 72.3 | 9.4 | 2.4 | 67.9 | 15.7 | 0.0 | 53.3 | 35.2 | 0.1 | 36.7 | 36.5 | 8.5 |
| LOS | E | A | A | E | B | A | D | D | A | D | D | A |
| Approach Delay | | 11.0 | | | 16.3 | | | 48.5 | | | 14.4 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.5 | 50.5 | 7.1 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 8.7 | 72.1 | 72.1 | 6.5 | 69.9 | 69.9 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 7.6 | 88.6 | 88.6 | 0.0 | 74.1 | 74.1 | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 91.6 | 91.6 | 0.0 | 91.6 | 91.6 | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Min | Min | Min | Min | Min | Min |
| Stops (vph) | 32 | 169 | 11 | 17 | 770 | 0 | 108 | 11 | 0 | 15 | 18 | 18 |
| Fuel Used(l) | 4 | 28 | 2 | 2 | 83 | 0 | 12 | 1 | 0 | 1 | 1 | 5 |
| CO Emissions (g/hr) | 76 | 521 | 46 | 42 | 1544 | 5 | 218 | 18 | 6 | 24 | 28 | 87 |
| NOx Emissions (g/hr) | 15 | 100 | 9 | 8 | 298 | 1 | 42 | 4 | 1 | 5 | 5 | 17 |
| VOC Emissions (g/hr) | 18 | 120 | 11 | 10 | 356 | 1 | 50 | 4 | 1 | 5 | 6 | 20 |
| Dilemma Vehicles (#) | 0 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 7.6 | 14.5 | 0.4 | 2.1 | 91.0 | 0.0 | 28.1 | 2.5 | 0.0 | 3.8 | 4.4 | 0.0 |
| Queue Length 95th (m) | m17.6 | 42.6 | 4.2 | m4.6 | 169.1 | m0.0 | 36.9 | 6.2 | 0.0 | 8.0 | 8.9 | 13.6 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 114 | 1952 | 1006 | 217 | 2041 | 952 | 445 | 600 | 566 | 449 | 600 | 597 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.34 | 0.08 | 0.08 | 0.55 | 0.01 | 0.28 | 0.02 | 0.02 | 0.04 | 0.04 | 0.24 |

**Intersection Summary**

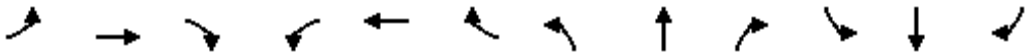
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 117 | 9 | 40 | 6 | 21 | 90 | 93 | 850 | 7 | 14 | 466 | 78 |
| Future Volume (vph) | 117 | 9 | 40 | 6 | 21 | 90 | 93 | 850 | 7 | 14 | 466 | 78 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | 0.878 | | | 0.878 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1359 | 0 | 1658 | 1514 | 0 | 3154 | 3309 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3142 | 1359 | 0 | 1654 | 1514 | 0 | 3150 | 3309 | 0 | 1320 | 3316 | 1344 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 40 | | | 90 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 3 | 3 | | 3 | 1 | | 1 | 1 | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 117 | 9 | 40 | 6 | 21 | 90 | 93 | 850 | 7 | 14 | 466 | 78 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 117 | 49 | 0 | 6 | 111 | 0 | 93 | 857 | 0 | 14 | 466 | 78 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 30.7 | | 15.0 | 30.7 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |

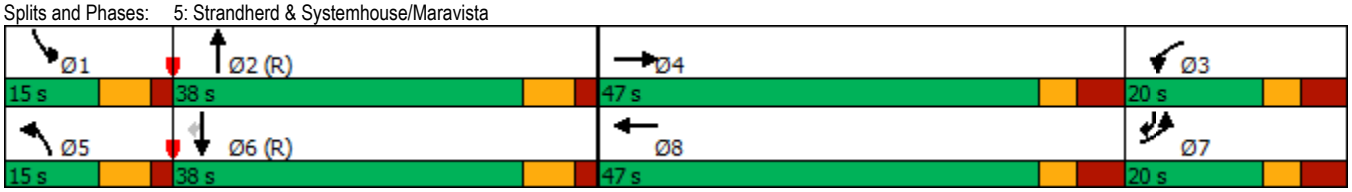


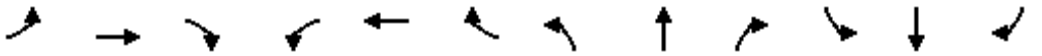
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 3 | | | 3 | | | 1 | | | 1 | |
| Act Effct Green (s) | 9.8 | 29.1 | | 7.2 | 15.8 | | 8.3 | 66.6 | | 6.8 | 57.6 | 66.5 |
| Actuated g/C Ratio | 0.08 | 0.24 | | 0.06 | 0.13 | | 0.07 | 0.56 | | 0.06 | 0.48 | 0.55 |
| v/c Ratio | 0.46 | 0.14 | | 0.06 | 0.40 | | 0.42 | 0.47 | | 0.19 | 0.29 | 0.10 |
| Control Delay | 57.9 | 13.1 | | 52.5 | 16.0 | | 64.3 | 20.4 | | 49.9 | 29.1 | 8.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.9 | 13.1 | | 52.5 | 16.0 | | 64.3 | 20.4 | | 49.9 | 29.1 | 8.2 |
| LOS | E | B | | D | B | | E | C | | D | C | A |
| Approach Delay | | 44.7 | | | 17.9 | | | 24.7 | | | 26.7 | |
| Approach LOS | | D | | | B | | | C | | | C | |
| 90th %ile Green (s) | 12.6 | 39.0 | | 12.6 | 39.0 | | 8.6 | 31.3 | | 8.6 | 31.3 | 12.6 |
| 90th %ile Term Code | Gap | Ped | | Hold | Ped | | Max | Coord | | Max | Coord | Gap |
| 70th %ile Green (s) | 10.9 | 28.5 | | 0.0 | 10.0 | | 9.9 | 62.9 | | 7.7 | 60.7 | 10.9 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 9.8 | 27.4 | | 0.0 | 10.0 | | 8.9 | 78.3 | | 0.0 | 62.8 | 9.8 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 8.6 | 26.2 | | 0.0 | 10.0 | | 7.9 | 79.5 | | 0.0 | 65.0 | 8.6 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 6.4 | 81.1 | | 0.0 | 68.1 | 7.0 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| Stops (vph) | 109 | 13 | | 7 | 28 | | 91 | 383 | | 14 | 297 | 35 |
| Fuel Used(l) | 10 | 2 | | 0 | 4 | | 13 | 64 | | 2 | 38 | 4 |
| CO Emissions (g/hr) | 185 | 32 | | 8 | 65 | | 240 | 1185 | | 31 | 707 | 79 |
| NOx Emissions (g/hr) | 36 | 6 | | 2 | 13 | | 46 | 229 | | 6 | 136 | 15 |
| VOC Emissions (g/hr) | 43 | 7 | | 2 | 15 | | 55 | 273 | | 7 | 163 | 18 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 38 | | 0 | 30 | 0 |
| Queue Length 50th (m) | 13.8 | 1.7 | | 1.4 | 4.7 | | 11.5 | 39.1 | | 2.7 | 29.7 | 1.7 |
| Queue Length 95th (m) | 22.6 | 10.1 | | 5.4 | 16.1 | | m18.6 | #147.1 | | m10.5 | 79.2 | 24.7 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 326 | 473 | | 172 | 557 | | 232 | 1837 | | 92 | 1591 | 819 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.10 | | 0.03 | 0.20 | | 0.40 | 0.47 | | 0.15 | 0.29 | 0.10 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 58.9% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista





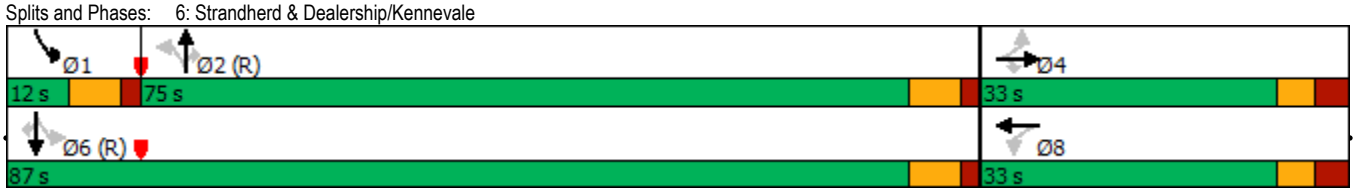
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 27 | 5 | 23 | 64 | 20 | 85 | 79 | 827 | 46 | 33 | 418 | 49 |
| Future Volume (vph) | 27 | 5 | 23 | 64 | 20 | 85 | 79 | 827 | 46 | 33 | 418 | 49 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | | 0.97 | 0.99 | 0.98 | | 1.00 | | 0.98 | | | 0.98 |
| Frt | | | 0.850 | | 0.879 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1501 | 0 | 1398 | 1745 | 1455 | 1523 | 1728 | 1363 |
| Flt Permitted | 0.689 | | | 0.754 | | | 0.518 | | | 0.229 | | |
| Satd. Flow (perm) | 975 | 1745 | 1444 | 1307 | 1501 | 0 | 761 | 1745 | 1421 | 367 | 1728 | 1332 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 85 | | | | 91 | | | 49 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Confl. Peds. (#/hr) | 3 | | 3 | 3 | | 3 | 1 | | 1 | 1 | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 27 | 5 | 23 | 64 | 20 | 85 | 79 | 827 | 46 | 33 | 418 | 49 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 27 | 5 | 23 | 64 | 105 | 0 | 79 | 827 | 46 | 33 | 418 | 49 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | | 75.0 | 75.0 | 75.0 | 12.0 | 87.0 | 87.0 |
| Total Split (%) | 27.5% | 27.5% | 27.5% | 27.5% | 27.5% | | 62.5% | 62.5% | 62.5% | 10.0% | 72.5% | 72.5% |
| Maximum Green (s) | 26.4 | 26.4 | 26.4 | 26.4 | 26.4 | | 68.6 | 68.6 | 68.6 | 5.6 | 80.6 | 80.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |

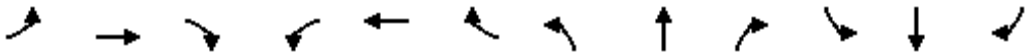
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 3 | 3 | 3 | 3 | 3 | | 1 | 1 | 1 | | 1 | 1 |
| Act Effct Green (s) | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | | 85.4 | 85.4 | 85.4 | 92.9 | 92.9 | 92.9 |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | | 0.71 | 0.71 | 0.71 | 0.77 | 0.77 | 0.77 |
| v/c Ratio | 0.24 | 0.02 | 0.09 | 0.42 | 0.42 | | 0.15 | 0.67 | 0.04 | 0.10 | 0.31 | 0.05 |
| Control Delay | 50.2 | 42.2 | 0.7 | 55.5 | 18.4 | | 9.0 | 15.7 | 0.2 | 1.6 | 5.6 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.2 | 42.2 | 0.7 | 55.5 | 18.4 | | 9.0 | 15.7 | 0.2 | 1.6 | 5.6 | 0.1 |
| LOS | D | D | A | E | B | | A | B | A | A | A | A |
| Approach Delay | | 28.8 | | | 32.5 | | | 14.4 | | | 4.8 | |
| Approach LOS | | C | | | C | | | B | | | A | |
| 90th %ile Green (s) | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | | 68.6 | 68.6 | 68.6 | 6.0 | 81.0 | 81.0 |
| 90th %ile Term Code | Ped | Ped | Ped | Ped | Ped | | Coord | Coord | Coord | Max | Coord | Coord |
| 70th %ile Green (s) | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | | 81.0 | 81.0 | 81.0 | 6.3 | 93.7 | 93.7 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 | | 83.4 | 83.4 | 83.4 | 6.0 | 95.8 | 95.8 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 30th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 25 | 6 | 0 | 57 | 28 | | 29 | 467 | 0 | 2 | 124 | 0 |
| Fuel Used(l) | 3 | 0 | 1 | 6 | 6 | | 4 | 52 | 1 | 1 | 23 | 2 |
| CO Emissions (g/hr) | 47 | 9 | 15 | 114 | 114 | | 68 | 962 | 16 | 23 | 423 | 30 |
| NOx Emissions (g/hr) | 9 | 2 | 3 | 22 | 22 | | 13 | 186 | 3 | 4 | 82 | 6 |
| VOC Emissions (g/hr) | 11 | 2 | 3 | 26 | 26 | | 16 | 222 | 4 | 5 | 97 | 7 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 34 | 0 | 0 | 20 | 0 |
| Queue Length 50th (m) | 6.0 | 1.1 | 0.0 | 14.6 | 4.4 | | 5.7 | 101.5 | 0.0 | 0.3 | 17.0 | 0.1 |
| Queue Length 95th (m) | 13.4 | 4.3 | 0.0 | 25.0 | 18.2 | | 16.9 | 212.8 | 0.5 | 1.0 | 44.6 | 0.0 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 214 | 383 | 387 | 287 | 396 | | 541 | 1241 | 1037 | 341 | 1337 | 1042 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.01 | 0.06 | 0.22 | 0.27 | | 0.15 | 0.67 | 0.04 | 0.10 | 0.31 | 0.05 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 29 (24%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 13.9 — Intersection LOS: B
Intersection Capacity Utilization 77.8% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Strandherd & Dealership/Kennevale

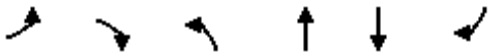




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 2 | 27 | 37 | 2 | 51 | 24 | 514 | 17 | 16 | 446 | 14 |
| Future Volume (Veh/h) | 13 | 2 | 27 | 37 | 2 | 51 | 24 | 514 | 17 | 16 | 446 | 14 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 13 | 2 | 27 | 37 | 2 | 51 | 24 | 514 | 17 | 16 | 446 | 14 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1092 | 1057 | 446 | 1068 | 1054 | 514 | 460 | | | 531 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1092 | 1057 | 446 | 1068 | 1054 | 514 | 460 | | | 531 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 92 | 99 | 96 | 80 | 99 | 91 | 98 | | | 98 | | |
| cM capacity (veh/h) | 160 | 217 | 608 | 184 | 217 | 560 | 1075 | | | 1021 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 13 | 29 | 90 | 24 | 514 | 17 | 16 | 446 | 14 |
| Volume Left | 13 | 0 | 37 | 24 | 0 | 0 | 16 | 0 | 0 |
| Volume Right | 0 | 27 | 51 | 0 | 0 | 17 | 0 | 0 | 14 |
| cSH | 160 | 541 | 298 | 1075 | 1700 | 1700 | 1021 | 1700 | 1700 |
| Volume to Capacity | 0.08 | 0.05 | 0.30 | 0.02 | 0.30 | 0.01 | 0.02 | 0.26 | 0.01 |
| Queue Length 95th (m) | 2.0 | 1.3 | 9.4 | 0.5 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Control Delay (s) | 29.5 | 12.0 | 22.2 | 8.4 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Lane LOS | D | B | C | A | | | A | | |
| Approach Delay (s) | 17.5 | | 22.2 | 0.4 | | | 0.3 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.6 | | | | |
| Intersection Capacity Utilization | 47.5% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 47 | 45 | 45 | 47 | 0 |
| Future Volume (Veh/h) | 0 | 47 | 45 | 45 | 47 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 47 | 45 | 45 | 47 | 0 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 182 | 47 | 47 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 182 | 47 | 47 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 95 | 97 | | | |
| cM capacity (veh/h) | 784 | 1022 | 1560 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 47 | 90 | 47 |
| Volume Left | 0 | 45 | 0 |
| Volume Right | 47 | 0 | 0 |
| cSH | 1022 | 1560 | 1700 |
| Volume to Capacity | 0.05 | 0.03 | 0.03 |
| Queue Length 95th (m) | 1.1 | 0.7 | 0.0 |
| Control Delay (s) | 8.7 | 3.8 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.7 | 3.8 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.1 | | |
| Intersection Capacity Utilization | 21.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 11 | 0 | 47 | 11 | 0 | 49 |
| Future Volume (Veh/h) | 11 | 0 | 47 | 11 | 0 | 49 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 11 | 0 | 47 | 11 | 0 | 49 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 11 | | 116 | 11 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 11 | | 116 | 11 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 97 | | 100 | 95 |
| cM capacity (veh/h) | | | 1608 | | 854 | 1070 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 11 | 58 | 49 |
| Volume Left | 0 | 47 | 0 |
| Volume Right | 0 | 0 | 49 |
| cSH | 1700 | 1608 | 1070 |
| Volume to Capacity | 0.01 | 0.03 | 0.05 |
| Queue Length 95th (m) | 0.0 | 0.7 | 1.1 |
| Control Delay (s) | 0.0 | 6.0 | 8.5 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 6.0 | 8.5 |
| Approach LOS | | | A |

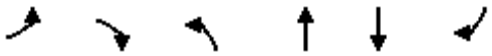
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.5 | | |
| Intersection Capacity Utilization | 20.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 61 | 0 | 82 | 58 | 0 | 86 |
| Future Volume (Veh/h) | 61 | 0 | 82 | 58 | 0 | 86 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 61 | 0 | 82 | 58 | 0 | 86 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 61 | | 283 | 61 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 61 | | 283 | 61 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 95 | | 100 | 91 |
| cM capacity (veh/h) | | | 1542 | | 670 | 1004 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 61 | 140 | 86 |
| Volume Left | 0 | 82 | 0 |
| Volume Right | 0 | 0 | 86 |
| cSH | 1700 | 1542 | 1004 |
| Volume to Capacity | 0.04 | 0.05 | 0.09 |
| Queue Length 95th (m) | 0.0 | 1.3 | 2.1 |
| Control Delay (s) | 0.0 | 4.5 | 8.9 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 4.5 | 8.9 |
| Approach LOS | | | A |

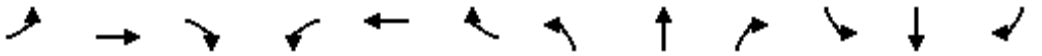
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.9 | | |
| Intersection Capacity Utilization | 27.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 66 | 47 | 45 | 0 | 0 | 64 |
| Future Volume (Veh/h) | 66 | 47 | 45 | 0 | 0 | 64 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 66 | 47 | 45 | 0 | 0 | 64 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 122 | 32 | 64 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 122 | 32 | 64 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 92 | 95 | 97 | | | |
| cM capacity (veh/h) | 848 | 1042 | 1538 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 113 | 45 | 64 |
| Volume Left | 66 | 45 | 0 |
| Volume Right | 47 | 0 | 64 |
| cSH | 919 | 1538 | 1700 |
| Volume to Capacity | 0.12 | 0.03 | 0.04 |
| Queue Length 95th (m) | 3.2 | 0.7 | 0.0 |
| Control Delay (s) | 9.5 | 7.4 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.5 | 7.4 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.3 | | |
| Intersection Capacity Utilization | 22.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



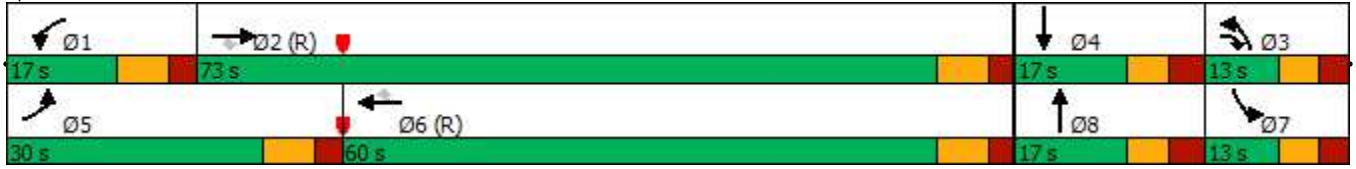
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 53 | 4 | 66 | 28 | 255 |
| Future Volume (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 53 | 4 | 66 | 28 | 255 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1726 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1726 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 144 | | | 225 | | 2 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 53 | 4 | 66 | 28 | 255 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 471 | 705 | 144 | 4 | 1192 | 40 | 139 | 57 | 0 | 66 | 28 | 255 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 30.0 | 73.0 | 13.0 | 17.0 | 60.0 | 60.0 | 13.0 | 17.0 | | 13.0 | 17.0 | |
| Total Split (%) | 25.0% | 60.8% | 10.8% | 14.2% | 50.0% | 50.0% | 10.8% | 14.2% | | 10.8% | 14.2% | |
| Maximum Green (s) | 22.9 | 66.1 | 6.5 | 9.9 | 53.1 | 53.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

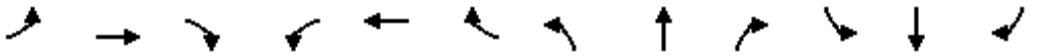
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 21.5 | 82.9 | 101.8 | 5.9 | 57.1 | 57.1 | 10.7 | 10.0 | | 6.6 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.18 | 0.69 | 0.85 | 0.05 | 0.48 | 0.48 | 0.09 | 0.08 | | 0.06 | 0.08 | 1.00 |
| v/c Ratio | 0.84 | 0.35 | 0.11 | 0.05 | 0.79 | 0.05 | 0.49 | 0.39 | | 0.73 | 0.19 | 0.18 |
| Control Delay | 61.9 | 9.3 | 0.8 | 65.0 | 25.3 | 0.1 | 59.6 | 58.8 | | 97.3 | 54.7 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.9 | 9.3 | 0.8 | 65.0 | 25.3 | 0.1 | 59.6 | 58.8 | | 97.3 | 54.7 | 0.3 |
| LOS | E | A | A | E | C | A | E | E | | F | D | A |
| Approach Delay | | 27.2 | | | 24.6 | | | 59.4 | | | 23.0 | |
| Approach LOS | | C | | | C | | | E | | | C | |
| 90th %ile Green (s) | 22.9 | 69.3 | 6.5 | 6.7 | 53.1 | 53.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Max | | Max | Max | |
| 70th %ile Green (s) | 22.9 | 83.1 | 6.5 | 0.0 | 53.1 | 53.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Max | |
| 50th %ile Green (s) | 22.9 | 83.1 | 6.5 | 0.0 | 53.1 | 53.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| 50th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Max | |
| 30th %ile Green (s) | 21.1 | 83.1 | 23.5 | 0.0 | 54.9 | 54.9 | 23.5 | 10.0 | | 6.5 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Max | | Max | Skip | |
| 10th %ile Green (s) | 17.7 | 96.1 | 10.5 | 0.0 | 71.3 | 71.3 | 10.5 | 10.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Hold | | Skip | Skip | |
| Stops (vph) | 441 | 285 | 7 | 7 | 1015 | 0 | 122 | 51 | | 58 | 27 | 0 |
| Fuel Used(l) | 57 | 35 | 3 | 1 | 132 | 2 | 11 | 5 | | 8 | 3 | 5 |
| CO Emissions (g/hr) | 1051 | 643 | 59 | 14 | 2457 | 32 | 208 | 85 | | 149 | 48 | 86 |
| NOx Emissions (g/hr) | 203 | 124 | 11 | 3 | 474 | 6 | 40 | 16 | | 29 | 9 | 17 |
| VOC Emissions (g/hr) | 242 | 148 | 14 | 3 | 567 | 7 | 48 | 20 | | 34 | 11 | 20 |
| Dilemma Vehicles (#) | 0 | 29 | 0 | 0 | 44 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 54.9 | 32.1 | 0.0 | 1.1 | 134.1 | 0.0 | 17.0 | 12.5 | | 15.6 | 6.3 | 0.0 |
| Queue Length 95th (m) | #74.2 | 59.8 | 3.3 | m2.6 | 163.7 | 0.0 | #33.8 | 26.1 | | #39.2 | 15.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 596 | 1998 | 1280 | 136 | 1518 | 814 | 286 | 145 | | 90 | 145 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.79 | 0.35 | 0.11 | 0.03 | 0.79 | 0.05 | 0.49 | 0.39 | | 0.73 | 0.19 | 0.18 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 27.7 Intersection LOS: C
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 117 | 9 | 40 | 6 | 21 | 90 | 93 | 850 | 7 | 14 | 466 | 78 |
| Future Volume (vph) | 117 | 9 | 40 | 6 | 21 | 90 | 93 | 850 | 7 | 14 | 466 | 78 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.878 | | | 0.878 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1376 | 0 | 1658 | 1532 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1376 | 0 | 1658 | 1532 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 40 | | | 90 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 117 | 9 | 40 | 6 | 21 | 90 | 93 | 850 | 7 | 14 | 466 | 78 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 117 | 49 | 0 | 6 | 111 | 0 | 93 | 857 | 0 | 14 | 466 | 78 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

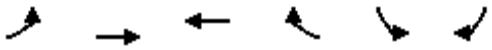
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 9.8 | 23.5 | | 7.7 | 10.6 | | 8.9 | 71.7 | | 6.9 | 62.2 | 71.1 |
| Actuated g/C Ratio | 0.08 | 0.20 | | 0.06 | 0.09 | | 0.07 | 0.60 | | 0.06 | 0.52 | 0.59 |
| v/c Ratio | 0.46 | 0.16 | | 0.06 | 0.51 | | 0.40 | 0.43 | | 0.18 | 0.27 | 0.09 |
| Control Delay | 57.9 | 19.0 | | 51.0 | 23.7 | | 57.6 | 15.7 | | 59.6 | 14.0 | 0.4 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.9 | 19.0 | | 51.0 | 23.7 | | 57.6 | 15.7 | | 59.6 | 14.0 | 0.4 |
| LOS | E | B | | D | C | | E | B | | E | B | A |
| Approach Delay | | 46.4 | | | 25.1 | | | 19.8 | | | 13.2 | |
| Approach LOS | | D | | | C | | | B | | | B | |
| 90th %ile Green (s) | 12.6 | 10.6 | | 15.2 | 13.2 | | 11.4 | 56.7 | | 9.0 | 54.3 | 12.6 |
| 90th %ile Term Code | Gap | Gap | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 10.9 | 28.5 | | 0.0 | 10.0 | | 9.9 | 62.9 | | 7.7 | 60.7 | 10.9 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 9.8 | 27.4 | | 0.0 | 10.0 | | 8.9 | 78.3 | | 0.0 | 62.8 | 9.8 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 8.6 | 26.2 | | 0.0 | 10.0 | | 7.9 | 79.5 | | 0.0 | 65.0 | 8.6 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 6.4 | 81.1 | | 0.0 | 68.1 | 7.0 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| Stops (vph) | 109 | 16 | | 7 | 32 | | 86 | 463 | | 17 | 170 | 1 |
| Fuel Used(l) | 10 | 2 | | 0 | 4 | | 11 | 51 | | 2 | 35 | 3 |
| CO Emissions (g/hr) | 185 | 38 | | 8 | 79 | | 197 | 949 | | 41 | 644 | 63 |
| NOx Emissions (g/hr) | 36 | 7 | | 2 | 15 | | 38 | 183 | | 8 | 124 | 12 |
| VOC Emissions (g/hr) | 43 | 9 | | 2 | 18 | | 45 | 219 | | 9 | 148 | 15 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 36 | | 0 | 18 | 0 |
| Queue Length 50th (m) | 13.8 | 1.7 | | 1.4 | 4.7 | | 10.9 | 45.7 | | 3.3 | 21.4 | 0.0 |
| Queue Length 95th (m) | 22.6 | 14.0 | | 5.3 | 21.7 | | 19.0 | 92.3 | | m9.6 | 27.3 | m1.3 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 326 | 323 | | 179 | 335 | | 246 | 1978 | | 93 | 1718 | 876 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.15 | | 0.03 | 0.33 | | 0.38 | 0.43 | | 0.15 | 0.27 | 0.09 |

Intersection Summary

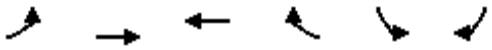
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 20.6 Intersection LOS: C
Intersection Capacity Utilization 56.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Future Volume (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 131 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 85.0 | 468.2 | | 171.4 | |
| Travel Time (s) | | 3.8 | 21.1 | | 12.3 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 65.1 | 65.1 | | 41.8 | 41.8 |
| Actuated g/C Ratio | | 0.54 | 0.54 | | 0.35 | 0.35 |
| v/c Ratio | | 0.42 | 0.48 | | 0.91 | 0.37 |
| Control Delay | | 17.6 | 9.3 | | 50.7 | 12.1 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 17.6 | 9.3 | | 50.7 | 12.1 |
| LOS | | B | A | | D | B |
| Approach Delay | | 17.6 | 9.3 | | 44.1 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 65.7 | 65.7 | | 41.2 | 41.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 70.3 | 70.3 | | 36.6 | 36.6 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 406 | 330 | | 877 | 55 |
| Fuel Used(l) | | 38 | 56 | | 73 | 6 |
| CO Emissions (g/hr) | | 699 | 1044 | | 1359 | 118 |
| NOx Emissions (g/hr) | | 135 | 202 | | 262 | 23 |
| VOC Emissions (g/hr) | | 161 | 241 | | 313 | 27 |
| Dilemma Vehicles (#) | | 29 | 13 | | 0 | 0 |
| Queue Length 50th (m) | | 51.6 | 37.4 | | 108.1 | 10.8 |
| Queue Length 95th (m) | | 66.2 | 44.6 | | #138.8 | 29.0 |
| Internal Link Dist (m) | | 61.0 | 444.2 | | 147.4 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1668 | 1747 | | 1106 | 562 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.42 | 0.48 | | 0.87 | 0.36 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.91 | | | |
| Intersection Signal Delay: 26.4 | | Intersection LOS: C | |
| Intersection Capacity Utilization 65.2% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



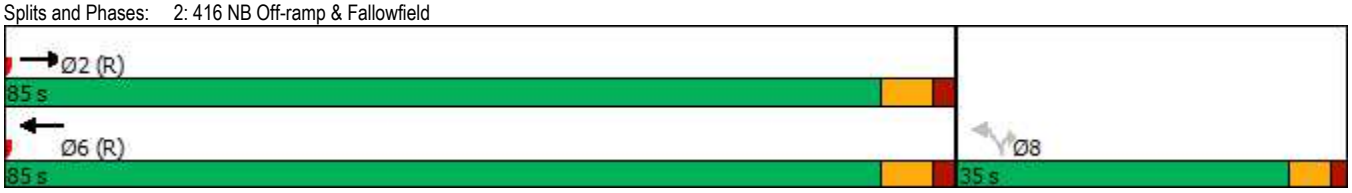


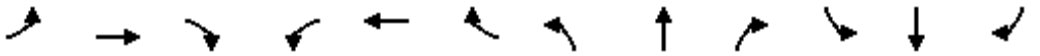
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1576 | 0 | 0 | 949 | 99 | 141 |
| Future Volume (vph) | 1576 | 0 | 0 | 949 | 99 | 141 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 42 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 468.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 21.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1576 | 0 | 0 | 949 | 99 | 141 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1576 | 0 | 0 | 949 | 99 | 141 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 93.5 | | | 93.5 | 14.5 | 14.5 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.12 | 0.12 |
| v/c Ratio | 0.63 | | | 0.37 | 0.55 | 0.67 |
| Control Delay | 3.8 | | | 3.0 | 60.4 | 50.5 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.8 | | | 3.0 | 60.4 | 50.5 |
| LOS | A | | | A | E | D |
| Approach Delay | 3.8 | | | 3.0 | 54.6 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 87.0 | | | 87.0 | 21.0 | 21.0 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 91.2 | | | 91.2 | 16.8 | 16.8 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 94.1 | | | 94.1 | 13.9 | 13.9 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 97.0 | | | 97.0 | 11.0 | 11.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 531 | | | 145 | 90 | 94 |
| Fuel Used(l) | 93 | | | 46 | 9 | 10 |
| CO Emissions (g/hr) | 1732 | | | 864 | 165 | 194 |
| NOx Emissions (g/hr) | 334 | | | 167 | 32 | 37 |
| VOC Emissions (g/hr) | 399 | | | 199 | 38 | 45 |
| Dilemma Vehicles (#) | 28 | | | 24 | 0 | 0 |
| Queue Length 50th (m) | 16.3 | | | 23.4 | 22.4 | 22.6 |
| Queue Length 95th (m) | 95.3 | | | 9.5 | 37.7 | 41.5 |
| Internal Link Dist (m) | 444.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2485 | | | 2557 | 367 | 384 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | | | 0.37 | 0.27 | 0.37 |

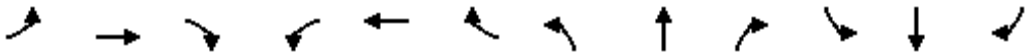
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.67 | | | |
| Intersection Signal Delay: 7.9 | | Intersection LOS: A | |
| Intersection Capacity Utilization 65.2% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 70 | 2 | 116 | 36 | 375 |
| Future Volume (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 70 | 2 | 116 | 36 | 375 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.996 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1737 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3117 | 2891 | 1450 | 1657 | 3191 | 1457 | 3203 | 1737 | 0 | 1651 | 1745 | 1421 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 1 | | | | 375 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 3 | | 1 | 1 | | 3 | 5 | | 5 | 5 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 70 | 2 | 116 | 36 | 375 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 72 | 0 | 116 | 36 | 375 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



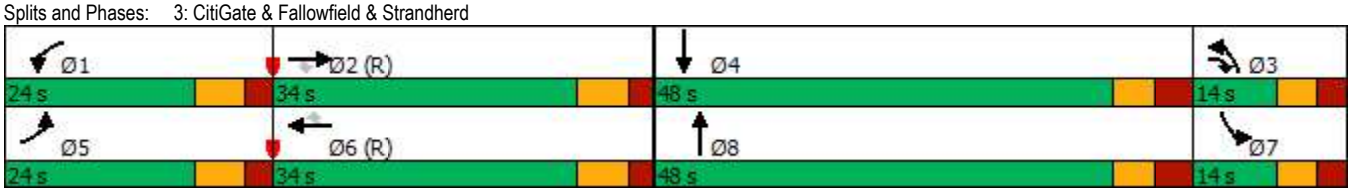
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 2 | | | 2 | 2 | | 5 | | | 5 | |
| Act Effct Green (s) | 14.7 | 68.5 | 87.9 | 5.8 | 49.4 | 49.4 | 19.0 | 16.6 | | 15.2 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.12 | 0.57 | 0.73 | 0.05 | 0.41 | 0.41 | 0.16 | 0.14 | | 0.13 | 0.14 | 1.00 |
| v/c Ratio | 0.68 | 0.68 | 0.16 | 0.03 | 0.66 | 0.11 | 0.36 | 0.30 | | 0.56 | 0.15 | 0.26 |
| Control Delay | 54.8 | 29.0 | 8.3 | 85.0 | 23.4 | 1.1 | 49.2 | 45.6 | | 61.1 | 42.8 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.8 | 29.0 | 8.3 | 85.0 | 23.4 | 1.1 | 49.2 | 45.6 | | 61.1 | 42.8 | 0.5 |
| LOS | D | C | A | F | C | A | D | D | | E | D | A |
| Approach Delay | | 30.9 | | | 21.7 | | | 48.1 | | | 16.7 | |
| Approach LOS | | C | | | C | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 37.7 | 7.5 | 6.3 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 16.9 | 70.3 | 19.3 | 0.0 | 46.3 | 46.3 | 19.3 | 12.0 | | 17.3 | 10.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 50th %ile Green (s) | 15.2 | 72.6 | 17.0 | 0.0 | 50.3 | 50.3 | 17.0 | 10.2 | | 16.8 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 30th %ile Green (s) | 13.5 | 72.9 | 33.7 | 0.0 | 52.3 | 52.3 | 33.7 | 10.0 | | 16.7 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Skip | |
| 10th %ile Green (s) | 11.0 | 89.1 | 17.5 | 0.0 | 71.0 | 71.0 | 17.5 | 0.0 | | 17.5 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 253 | 658 | 88 | 3 | 570 | 6 | 146 | 60 | | 90 | 30 | 0 |
| Fuel Used(l) | 30 | 93 | 12 | 0 | 66 | 2 | 16 | 6 | | 12 | 3 | 15 |
| CO Emissions (g/hr) | 562 | 1732 | 215 | 6 | 1221 | 37 | 289 | 112 | | 224 | 61 | 277 |
| NOx Emissions (g/hr) | 108 | 334 | 41 | 1 | 236 | 7 | 56 | 22 | | 43 | 12 | 54 |
| VOC Emissions (g/hr) | 130 | 400 | 50 | 1 | 282 | 9 | 67 | 26 | | 52 | 14 | 64 |
| Dilemma Vehicles (#) | 0 | 78 | 0 | 0 | 5 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 32.5 | 87.3 | 5.2 | 0.5 | 75.5 | 0.0 | 20.3 | 16.2 | | 25.6 | 8.1 | 0.0 |
| Queue Length 95th (m) | 46.2 | #210.0 | 35.6 | m1.2 | #174.1 | 5.9 | #43.8 | 22.0 | | #68.7 | 13.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 439 | 1650 | 1094 | 233 | 1313 | 693 | 509 | 594 | | 209 | 596 | 1421 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.68 | 0.16 | 0.01 | 0.66 | 0.11 | 0.36 | 0.12 | | 0.56 | 0.06 | 0.26 |

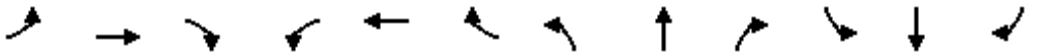
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.68 | | | |
| Intersection Signal Delay: 27.3 | | Intersection LOS: C | |
| Intersection Capacity Utilization 70.9% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

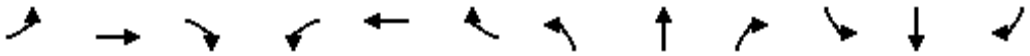
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 104 | 955 | 275 | 35 | 789 | 12 | 198 | 81 | 23 | 14 | 86 | 75 |
| Future Volume (vph) | 104 | 955 | 275 | 35 | 789 | 12 | 198 | 81 | 23 | 14 | 86 | 75 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.99 | 1.00 | | 0.97 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1427 | 3216 | 3221 | 1483 | 1595 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.701 | | | 0.704 | | |
| Satd. Flow (perm) | 1657 | 2941 | 1407 | 3214 | 3221 | 1445 | 1168 | 1745 | 1453 | 1223 | 1745 | 1448 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 156 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 1 | | 1 | 1 | | 1 | 10 | | 6 | 6 | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 6% | 2% | 5% | 2% | 6% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 104 | 955 | 275 | 35 | 789 | 12 | 198 | 81 | 23 | 14 | 86 | 75 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 104 | 955 | 275 | 35 | 789 | 12 | 198 | 81 | 23 | 14 | 86 | 75 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 6 | 6 | 6 | 7 | 7 | 7 |
| Act Effct Green (s) | 12.8 | 70.0 | 70.0 | 6.8 | 58.9 | 58.9 | 26.9 | 26.9 | 26.9 | 26.9 | 26.9 | 26.9 |
| Actuated g/C Ratio | 0.11 | 0.58 | 0.58 | 0.06 | 0.49 | 0.49 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 |
| v/c Ratio | 0.59 | 0.56 | 0.31 | 0.19 | 0.50 | 0.02 | 0.76 | 0.21 | 0.06 | 0.05 | 0.22 | 0.19 |
| Control Delay | 71.5 | 20.2 | 10.1 | 67.6 | 13.4 | 0.0 | 60.3 | 36.1 | 0.3 | 31.8 | 36.4 | 4.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 71.5 | 20.2 | 10.1 | 67.6 | 13.4 | 0.0 | 60.3 | 36.1 | 0.3 | 31.8 | 36.4 | 4.1 |
| LOS | E | C | B | E | B | A | E | D | A | C | D | A |
| Approach Delay | | 22.1 | | | 15.5 | | | 49.2 | | | 22.2 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.3 | 49.3 | 8.3 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 16.0 | 61.2 | 61.2 | 7.3 | 52.5 | 52.5 | 30.1 | 30.1 | 30.1 | 30.1 | 30.1 | 30.1 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 14.9 | 65.9 | 65.9 | 6.7 | 57.7 | 57.7 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 13.6 | 83.7 | 83.7 | 0.0 | 63.2 | 63.2 | 21.8 | 21.8 | 21.8 | 21.8 | 21.8 | 21.8 |
| 30th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 10.9 | 89.9 | 89.9 | 0.0 | 72.1 | 72.1 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 87 | 445 | 76 | 36 | 311 | 0 | 178 | 62 | 0 | 11 | 67 | 5 |
| Fuel Used(l) | 13 | 59 | 12 | 5 | 44 | 0 | 20 | 6 | 1 | 1 | 6 | 2 |
| CO Emissions (g/hr) | 238 | 1105 | 223 | 87 | 815 | 5 | 370 | 119 | 15 | 17 | 110 | 39 |
| NOx Emissions (g/hr) | 46 | 213 | 43 | 17 | 157 | 1 | 71 | 23 | 3 | 3 | 21 | 8 |
| VOC Emissions (g/hr) | 55 | 255 | 51 | 20 | 188 | 1 | 85 | 27 | 3 | 4 | 25 | 9 |
| Dilemma Vehicles (#) | 0 | 62 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 24.0 | 48.1 | 10.6 | 4.4 | 45.6 | 0.0 | 44.3 | 15.8 | 0.0 | 2.6 | 16.8 | 0.0 |
| Queue Length 95th (m) | m#50.2 | 87.1 | 36.6 | m9.2 | 33.3 | m0.0 | 60.3 | 24.6 | 0.0 | 6.9 | 25.8 | 6.5 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 176 | 1715 | 885 | 218 | 1582 | 763 | 401 | 600 | 563 | 420 | 600 | 561 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.56 | 0.31 | 0.16 | 0.50 | 0.02 | 0.49 | 0.14 | 0.04 | 0.03 | 0.14 | 0.13 |

**Intersection Summary**

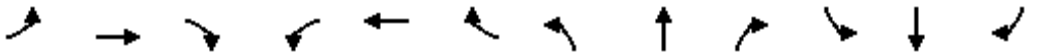
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 23.1 Intersection LOS: C
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd





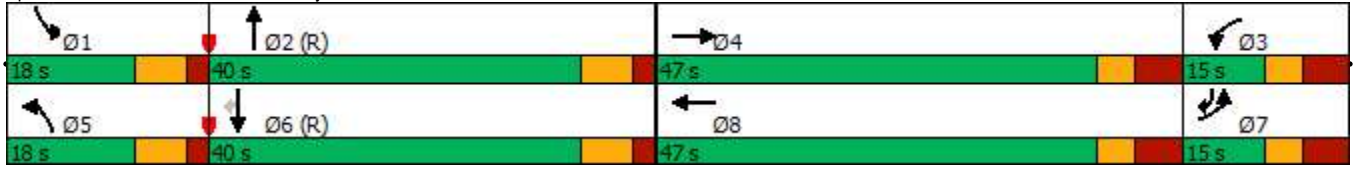
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 146 | 50 | 181 | 8 | 50 | 33 | 217 | 584 | 6 | 106 | 761 | 114 |
| Future Volume (vph) | 146 | 50 | 181 | 8 | 50 | 33 | 217 | 584 | 6 | 106 | 761 | 114 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 0.99 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | 0.882 | | | 0.940 | | | 0.998 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3095 | 1517 | 0 | 1658 | 1552 | 0 | 3216 | 3308 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3078 | 1517 | 0 | 1650 | 1552 | 0 | 3213 | 3308 | 0 | 1656 | 3316 | 1333 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 162 | | | 29 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | 4 | | 7 | 7 | | 4 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 146 | 50 | 181 | 8 | 50 | 33 | 217 | 584 | 6 | 106 | 761 | 114 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 146 | 231 | 0 | 8 | 83 | 0 | 217 | 590 | 0 | 106 | 761 | 114 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

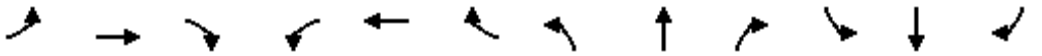
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 4 | | | 7 | | | 1 | | | 1 | |
| Act Effct Green (s) | 10.4 | 27.5 | | 6.3 | 16.1 | | 12.3 | 56.6 | | 11.9 | 56.2 | 65.7 |
| Actuated g/C Ratio | 0.09 | 0.23 | | 0.05 | 0.13 | | 0.10 | 0.47 | | 0.10 | 0.47 | 0.55 |
| v/c Ratio | 0.54 | 0.49 | | 0.09 | 0.36 | | 0.66 | 0.38 | | 0.65 | 0.49 | 0.15 |
| Control Delay | 60.8 | 14.8 | | 55.9 | 32.8 | | 74.0 | 16.5 | | 77.0 | 23.1 | 7.8 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.8 | 14.8 | | 55.9 | 32.8 | | 74.0 | 16.5 | | 77.0 | 23.1 | 7.8 |
| LOS | E | B | | E | C | | E | B | | E | C | A |
| Approach Delay | | 32.6 | | | 34.9 | | | 32.0 | | | 27.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| 90th %ile Green (s) | 7.8 | 39.0 | | 7.8 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Ped | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 12.7 | 32.0 | | 0.0 | 11.7 | | 15.0 | 51.7 | | 15.4 | 52.1 | 12.7 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 11.4 | 29.0 | | 0.0 | 10.0 | | 13.5 | 56.8 | | 13.3 | 56.6 | 11.4 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 10.1 | 27.7 | | 0.0 | 10.0 | | 12.0 | 60.2 | | 11.2 | 59.4 | 10.1 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 10.0 | 10.0 | | 0.0 | 0.0 | | 9.7 | 80.9 | | 8.2 | 79.4 | 10.0 |
| 10th %ile Term Code | Hold | Min | | Skip | Skip | | Gap | Coord | | Gap | Coord | Hold |
| Stops (vph) | 131 | 62 | | 9 | 47 | | 212 | 220 | | 101 | 287 | 32 |
| Fuel Used(l) | 13 | 9 | | 1 | 4 | | 32 | 40 | | 14 | 47 | 5 |
| CO Emissions (g/hr) | 235 | 158 | | 11 | 76 | | 589 | 737 | | 269 | 878 | 95 |
| NOx Emissions (g/hr) | 45 | 31 | | 2 | 15 | | 114 | 142 | | 52 | 169 | 18 |
| VOC Emissions (g/hr) | 54 | 37 | | 3 | 18 | | 136 | 170 | | 62 | 202 | 22 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 36 | | 0 | 64 | 0 |
| Queue Length 50th (m) | 17.1 | 13.0 | | 1.8 | 12.3 | | 27.6 | 18.0 | | 26.7 | 24.0 | 0.4 |
| Queue Length 95th (m) | #32.6 | 31.7 | | 6.9 | 20.6 | | m38.8 | 64.4 | | #50.7 | 78.1 | 23.4 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 268 | 606 | | 103 | 529 | | 339 | 1560 | | 173 | 1552 | 777 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.38 | | 0.08 | 0.16 | | 0.64 | 0.38 | | 0.61 | 0.49 | 0.15 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 30.1 Intersection LOS: C
Intersection Capacity Utilization 64.9% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista





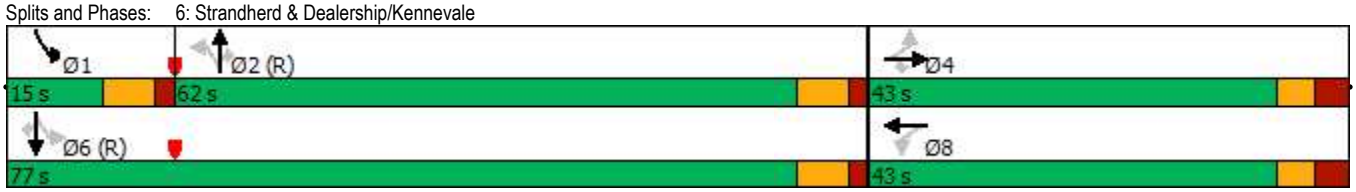
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 14 | 67 | 85 | 13 | 62 | 48 | 633 | 78 | 67 | 881 | 33 |
| Future Volume (vph) | 10 | 14 | 67 | 85 | 13 | 62 | 48 | 633 | 78 | 67 | 881 | 33 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | | 0.97 | 0.99 | 0.97 | | | | 0.98 | | | 0.98 |
| Frt | | | 0.850 | | 0.876 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1465 | 0 | 1658 | 1745 | 1483 | 1642 | 1745 | 1483 |
| Flt Permitted | 0.708 | | | 0.748 | | | 0.172 | | | 0.202 | | |
| Satd. Flow (perm) | 1223 | 1745 | 1437 | 1291 | 1465 | 0 | 300 | 1745 | 1450 | 349 | 1745 | 1450 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 62 | | | | 91 | | | 33 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 10 | 14 | 67 | 85 | 13 | 62 | 48 | 633 | 78 | 67 | 881 | 33 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 10 | 14 | 67 | 85 | 75 | 0 | 48 | 633 | 78 | 67 | 881 | 33 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | | 62.0 | 62.0 | 62.0 | 15.0 | 77.0 | 77.0 |
| Total Split (%) | 35.8% | 35.8% | 35.8% | 35.8% | 35.8% | | 51.7% | 51.7% | 51.7% | 12.5% | 64.2% | 64.2% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |

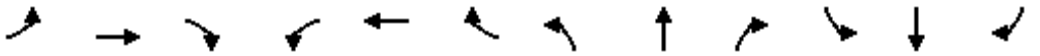
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | Max | Max | Max | Max | Max | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 4 | 4 | 4 | 4 | 4 | | 1 | 1 | 1 | | 1 | 1 |
| Act Effct Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 59.2 | 59.2 | 59.2 | 70.6 | 70.6 | 70.6 |
| Actuated g/C Ratio | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | 0.49 | 0.49 | 0.49 | 0.59 | 0.59 | 0.59 |
| v/c Ratio | 0.03 | 0.03 | 0.13 | 0.22 | 0.15 | | 0.32 | 0.74 | 0.10 | 0.24 | 0.86 | 0.04 |
| Control Delay | 29.8 | 29.7 | 3.9 | 33.1 | 10.8 | | 28.3 | 31.7 | 3.1 | 21.5 | 39.3 | 12.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 29.7 | 3.9 | 33.1 | 10.8 | | 28.3 | 31.7 | 3.1 | 21.5 | 39.3 | 12.2 |
| LOS | C | C | A | C | B | | C | C | A | C | D | B |
| Approach Delay | | 10.7 | | | 22.6 | | | 28.5 | | | 37.2 | |
| Approach LOS | | B | | | C | | | C | | | D | |
| 90th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| 90th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Max | Coord | Coord |
| 70th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.9 | 55.9 | 55.9 | 8.3 | 70.6 | 70.6 |
| 70th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 56.6 | 56.6 | 56.6 | 7.6 | 70.6 | 70.6 |
| 50th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 57.4 | 57.4 | 57.4 | 6.8 | 70.6 | 70.6 |
| 30th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 10th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 70.6 | 70.6 | 70.6 | 0.0 | 70.6 | 70.6 |
| 10th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 8 | 11 | 5 | 62 | 18 | | 33 | 506 | 6 | 35 | 591 | 19 |
| Fuel Used(l) | 1 | 1 | 3 | 6 | 4 | | 4 | 56 | 2 | 5 | 90 | 2 |
| CO Emissions (g/hr) | 14 | 19 | 48 | 121 | 73 | | 71 | 1040 | 36 | 99 | 1668 | 46 |
| NOx Emissions (g/hr) | 3 | 4 | 9 | 23 | 14 | | 14 | 201 | 7 | 19 | 322 | 9 |
| VOC Emissions (g/hr) | 3 | 4 | 11 | 28 | 17 | | 16 | 240 | 8 | 23 | 385 | 11 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 26 | 0 | 0 | 76 | 0 |
| Queue Length 50th (m) | 1.7 | 2.3 | 0.0 | 14.9 | 2.1 | | 6.9 | 120.4 | 0.0 | 7.9 | 126.9 | 1.3 |
| Queue Length 95th (m) | 5.7 | 7.2 | 6.4 | 28.0 | 13.1 | | 18.2 | 171.7 | 6.5 | 21.0 | #219.2 | m6.3 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 370 | 529 | 497 | 391 | 487 | | 148 | 861 | 761 | 297 | 1026 | 866 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.03 | 0.13 | 0.22 | 0.15 | | 0.32 | 0.74 | 0.10 | 0.23 | 0.86 | 0.04 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 57 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 31.5 Intersection LOS: C
Intersection Capacity Utilization 95.3% ICU Level of Service F
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd & Dealership/Kennevale

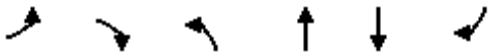




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 5 | 39 | 14 | 2 | 31 | 26 | 348 | 25 | 30 | 384 | 24 |
| Future Volume (Veh/h) | 29 | 5 | 39 | 14 | 2 | 31 | 26 | 348 | 25 | 30 | 384 | 24 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 29 | 5 | 39 | 14 | 2 | 31 | 26 | 348 | 25 | 30 | 384 | 24 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 876 | 869 | 384 | 886 | 868 | 348 | 408 | | | 373 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 876 | 869 | 384 | 886 | 868 | 348 | 408 | | | 373 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 88 | 98 | 94 | 94 | 99 | 96 | 98 | | | 97 | | |
| cM capacity (veh/h) | 247 | 276 | 664 | 237 | 277 | 695 | 1151 | | | 1185 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 29 | 44 | 47 | 26 | 348 | 25 | 30 | 384 | 24 |
| Volume Left | 29 | 0 | 14 | 26 | 0 | 0 | 30 | 0 | 0 |
| Volume Right | 0 | 39 | 31 | 0 | 0 | 25 | 0 | 0 | 24 |
| cSH | 247 | 572 | 424 | 1151 | 1700 | 1700 | 1185 | 1700 | 1700 |
| Volume to Capacity | 0.12 | 0.08 | 0.11 | 0.02 | 0.20 | 0.01 | 0.03 | 0.23 | 0.01 |
| Queue Length 95th (m) | 3.0 | 1.9 | 2.8 | 0.5 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Control Delay (s) | 21.5 | 11.8 | 14.5 | 8.2 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 |
| Lane LOS | C | B | B | A | | | A | | |
| Approach Delay (s) | 15.7 | | 14.5 | 0.5 | | | 0.6 | | |
| Approach LOS | C | | B | | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.4 | | | |
| Intersection Capacity Utilization | 42.6% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 61 | 60 | 60 | 61 | 0 |
| Future Volume (Veh/h) | 0 | 61 | 60 | 60 | 61 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 61 | 60 | 60 | 61 | 0 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 241 | 61 | 61 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 241 | 61 | 61 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 94 | 96 | | | |
| cM capacity (veh/h) | 718 | 1004 | 1542 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 61 | 120 | 61 |
| Volume Left | 0 | 60 | 0 |
| Volume Right | 61 | 0 | 0 |
| cSH | 1004 | 1542 | 1700 |
| Volume to Capacity | 0.06 | 0.04 | 0.04 |
| Queue Length 95th (m) | 1.5 | 0.9 | 0.0 |
| Control Delay (s) | 8.8 | 3.9 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.8 | 3.9 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.1 | | |
| Intersection Capacity Utilization | 24.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 0 | 62 | 10 | 0 | 63 |
| Future Volume (Veh/h) | 10 | 0 | 62 | 10 | 0 | 63 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 10 | 0 | 62 | 10 | 0 | 63 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 10 | | 144 | 10 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 10 | | 144 | 10 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 96 | | 100 | 94 |
| cM capacity (veh/h) | | | 1610 | | 816 | 1071 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 10 | 72 | 63 |
| Volume Left | 0 | 62 | 0 |
| Volume Right | 0 | 0 | 63 |
| cSH | 1700 | 1610 | 1071 |
| Volume to Capacity | 0.01 | 0.04 | 0.06 |
| Queue Length 95th (m) | 0.0 | 0.9 | 1.4 |
| Control Delay (s) | 0.0 | 6.3 | 8.6 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 6.3 | 8.6 |
| Approach LOS | | | A |

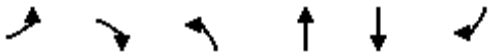
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.9 | | |
| Intersection Capacity Utilization | 21.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 75 | 0 | 109 | 72 | 0 | 110 |
| Future Volume (Veh/h) | 75 | 0 | 109 | 72 | 0 | 110 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 75 | 0 | 109 | 72 | 0 | 110 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 75 | | 365 | 75 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 75 | | 365 | 75 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 93 | | 100 | 89 |
| cM capacity (veh/h) | | | 1524 | | 589 | 986 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 75 | 181 | 110 |
| Volume Left | 0 | 109 | 0 |
| Volume Right | 0 | 0 | 110 |
| cSH | 1700 | 1524 | 986 |
| Volume to Capacity | 0.04 | 0.07 | 0.11 |
| Queue Length 95th (m) | 0.0 | 1.8 | 2.9 |
| Control Delay (s) | 0.0 | 4.8 | 9.1 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 4.8 | 9.1 |
| Approach LOS | | | A |

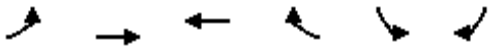
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.1 | | |
| Intersection Capacity Utilization | 30.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



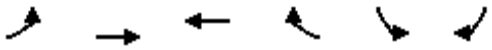
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 86 | 61 | 60 | 0 | 0 | 84 |
| Future Volume (Veh/h) | 86 | 61 | 60 | 0 | 0 | 84 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 86 | 61 | 60 | 0 | 0 | 84 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 162 | 42 | 84 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 162 | 42 | 84 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 89 | 94 | 96 | | | |
| cM capacity (veh/h) | 796 | 1029 | 1513 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 147 | 60 | 84 |
| Volume Left | 86 | 60 | 0 |
| Volume Right | 61 | 0 | 84 |
| cSH | 878 | 1513 | 1700 |
| Volume to Capacity | 0.17 | 0.04 | 0.05 |
| Queue Length 95th (m) | 4.6 | 0.9 | 0.0 |
| Control Delay (s) | 9.9 | 7.5 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.9 | 7.5 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.6 | | |
| Intersection Capacity Utilization | 25.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



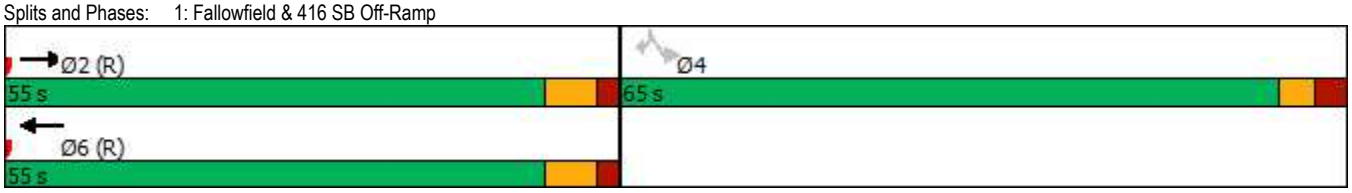
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Future Volume (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 66 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 85.0 | 468.2 | | 171.4 | |
| Travel Time (s) | | 3.8 | 21.1 | | 12.3 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 705 | 845 | 0 | 965 | 200 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 55.0 | 55.0 | | 65.0 | 65.0 |
| Total Split (%) | | 45.8% | 45.8% | | 54.2% | 54.2% |
| Maximum Green (s) | | 48.2 | 48.2 | | 58.7 | 58.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

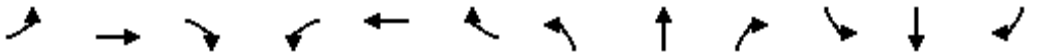


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 60.2 | 60.2 | | 46.7 | 46.7 |
| Actuated g/C Ratio | | 0.50 | 0.50 | | 0.39 | 0.39 |
| v/c Ratio | | 0.46 | 0.52 | | 0.82 | 0.36 |
| Control Delay | | 21.7 | 15.1 | | 38.6 | 17.7 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 21.7 | 15.1 | | 38.6 | 17.7 |
| LOS | | C | B | | D | B |
| Approach Delay | | 21.7 | 15.1 | | 35.0 | |
| Approach LOS | | C | B | | C | |
| 90th %ile Green (s) | | 51.6 | 51.6 | | 55.3 | 55.3 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 56.3 | 56.3 | | 50.6 | 50.6 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 59.7 | 59.7 | | 47.2 | 47.2 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 63.9 | 63.9 | | 43.0 | 43.0 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 69.4 | 69.4 | | 37.5 | 37.5 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 450 | 372 | | 828 | 90 |
| Fuel Used(l) | | 42 | 62 | | 63 | 8 |
| CO Emissions (g/hr) | | 787 | 1159 | | 1170 | 149 |
| NOx Emissions (g/hr) | | 152 | 224 | | 226 | 29 |
| VOC Emissions (g/hr) | | 181 | 267 | | 270 | 34 |
| Dilemma Vehicles (#) | | 29 | 43 | | 0 | 0 |
| Queue Length 50th (m) | | 55.2 | 22.3 | | 102.7 | 21.3 |
| Queue Length 95th (m) | | 81.4 | 87.0 | | 113.5 | 35.3 |
| Internal Link Dist (m) | | 61.0 | 444.2 | | 147.4 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1542 | 1615 | | 1486 | 677 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.46 | 0.52 | | 0.65 | 0.30 |

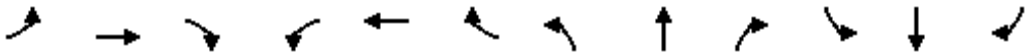
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 25.3 | | Intersection LOS: C | |
| Intersection Capacity Utilization 65.2% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 70 | 2 | 116 | 36 | 375 |
| Future Volume (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 70 | 2 | 116 | 36 | 375 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.996 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1738 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3119 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1738 | 0 | 1643 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 1 | | | | 375 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 70 | 2 | 116 | 36 | 375 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 260 | 1116 | 180 | 2 | 868 | 79 | 182 | 72 | 0 | 116 | 36 | 375 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

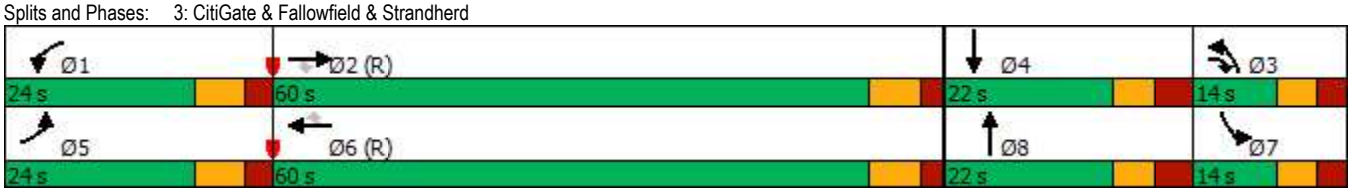


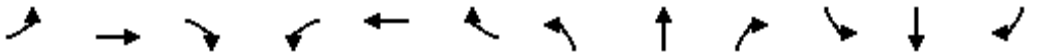
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 14.7 | 76.8 | 101.8 | 5.8 | 57.7 | 57.7 | 16.8 | 11.3 | | 12.2 | 10.1 | 120.0 |
| Actuated g/C Ratio | 0.12 | 0.64 | 0.85 | 0.05 | 0.48 | 0.48 | 0.14 | 0.09 | | 0.10 | 0.08 | 1.00 |
| v/c Ratio | 0.68 | 0.60 | 0.14 | 0.03 | 0.57 | 0.10 | 0.41 | 0.44 | | 0.69 | 0.24 | 0.26 |
| Control Delay | 59.6 | 15.9 | 1.7 | 83.5 | 27.0 | 2.5 | 51.6 | 58.9 | | 74.6 | 55.8 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.6 | 15.9 | 1.7 | 83.5 | 27.0 | 2.5 | 51.6 | 58.9 | | 74.6 | 55.8 | 0.5 |
| LOS | E | B | A | F | C | A | D | E | | E | E | A |
| Approach Delay | | 21.5 | | | 25.0 | | | 53.7 | | | 20.5 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| 90th %ile Green (s) | 16.9 | 63.7 | 11.8 | 6.3 | 53.1 | 53.1 | 11.8 | 14.3 | | 8.2 | 10.7 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Gap | | Max | Gap | |
| 70th %ile Green (s) | 16.9 | 77.1 | 12.5 | 0.0 | 53.1 | 53.1 | 12.5 | 11.9 | | 10.6 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Gap | | Max | Min | |
| 50th %ile Green (s) | 15.2 | 77.1 | 12.5 | 0.0 | 54.8 | 54.8 | 12.5 | 10.2 | | 12.3 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Max | Skip | Coord | Coord | Max | Gap | | Max | Min | |
| 30th %ile Green (s) | 13.5 | 77.1 | 29.5 | 0.0 | 56.5 | 56.5 | 29.5 | 10.0 | | 12.5 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Max | Skip | |
| 10th %ile Green (s) | 11.0 | 89.1 | 17.5 | 0.0 | 71.0 | 71.0 | 17.5 | 0.0 | | 17.5 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 244 | 651 | 20 | 3 | 733 | 15 | 165 | 66 | | 96 | 34 | 0 |
| Fuel Used(l) | 31 | 72 | 5 | 0 | 97 | 4 | 14 | 6 | | 12 | 3 | 7 |
| CO Emissions (g/hr) | 572 | 1335 | 88 | 7 | 1804 | 81 | 253 | 108 | | 220 | 61 | 128 |
| NOx Emissions (g/hr) | 110 | 258 | 17 | 1 | 348 | 16 | 49 | 21 | | 43 | 12 | 25 |
| VOC Emissions (g/hr) | 132 | 308 | 20 | 2 | 416 | 19 | 58 | 25 | | 51 | 14 | 30 |
| Dilemma Vehicles (#) | 0 | 46 | 0 | 0 | 8 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 30.5 | 74.5 | 3.1 | 0.3 | 98.6 | 2.3 | 21.2 | 16.2 | | 26.8 | 8.1 | 0.0 |
| Queue Length 95th (m) | 43.6 | 127.5 | 7.4 | m1.6 | 123.5 | 2.7 | 33.3 | 30.1 | | #66.3 | 18.5 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 439 | 1850 | 1273 | 233 | 1534 | 785 | 449 | 218 | | 168 | 218 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.60 | 0.14 | 0.01 | 0.57 | 0.10 | 0.41 | 0.33 | | 0.69 | 0.17 | 0.26 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 67.7% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





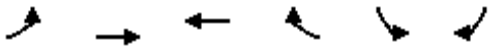
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 146 | 50 | 181 | 8 | 50 | 33 | 217 | 584 | 6 | 109 | 761 | 114 |
| Future Volume (vph) | 146 | 50 | 181 | 8 | 50 | 33 | 217 | 584 | 6 | 109 | 761 | 114 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.882 | | | 0.940 | | | 0.998 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1519 | 0 | 1658 | 1561 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1519 | 0 | 1634 | 1561 | 0 | 3216 | 3309 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 145 | | | 27 | | | 1 | | | | 109 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 146 | 50 | 181 | 8 | 50 | 33 | 217 | 584 | 6 | 109 | 761 | 114 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 146 | 231 | 0 | 8 | 83 | 0 | 217 | 590 | 0 | 109 | 761 | 114 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 11.6 | 24.0 | | 6.2 | 11.3 | | 13.4 | 58.6 | | 13.5 | 58.7 | 70.9 |
| Actuated g/C Ratio | 0.10 | 0.20 | | 0.05 | 0.09 | | 0.11 | 0.49 | | 0.11 | 0.49 | 0.59 |
| v/c Ratio | 0.47 | 0.55 | | 0.09 | 0.49 | | 0.60 | 0.36 | | 0.59 | 0.47 | 0.14 |
| Control Delay | 56.1 | 21.0 | | 56.1 | 45.0 | | 57.6 | 22.3 | | 48.3 | 35.9 | 5.4 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.1 | 21.0 | | 56.1 | 45.0 | | 57.6 | 22.3 | | 48.3 | 35.9 | 5.4 |
| LOS | E | C | | E | D | | E | C | | D | D | A |
| Approach Delay | | 34.6 | | | 46.0 | | | 31.8 | | | 33.8 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| 90th %ile Green (s) | 14.8 | 22.1 | | 7.4 | 14.7 | | 17.0 | 43.8 | | 18.2 | 45.0 | 14.8 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Gap | Coord | | Gap | Coord | Hold |
| 70th %ile Green (s) | 12.3 | 31.7 | | 0.0 | 11.8 | | 15.0 | 51.7 | | 15.7 | 52.4 | 12.3 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 11.1 | 28.7 | | 0.0 | 10.0 | | 13.5 | 56.8 | | 13.6 | 56.9 | 11.1 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 9.8 | 27.4 | | 0.0 | 10.0 | | 12.0 | 60.2 | | 11.5 | 59.7 | 9.8 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 10.0 | 10.0 | | 0.0 | 0.0 | | 9.7 | 80.7 | | 8.4 | 79.4 | 10.0 |
| 10th %ile Term Code | Hold | Min | | Skip | Skip | | Gap | Coord | | Gap | Coord | Hold |
| Stops (vph) | 134 | 81 | | 9 | 52 | | 201 | 370 | | 102 | 561 | 34 |
| Fuel Used(l) | 12 | 10 | | 1 | 5 | | 25 | 41 | | 15 | 86 | 7 |
| CO Emissions (g/hr) | 226 | 187 | | 11 | 92 | | 460 | 764 | | 270 | 1592 | 135 |
| NOx Emissions (g/hr) | 44 | 36 | | 2 | 18 | | 89 | 148 | | 52 | 307 | 26 |
| VOC Emissions (g/hr) | 52 | 43 | | 3 | 21 | | 106 | 176 | | 62 | 367 | 31 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 25 | | 0 | 49 | 0 |
| Queue Length 50th (m) | 17.1 | 16.4 | | 1.8 | 12.8 | | 25.4 | 45.5 | | 25.1 | 74.0 | 4.9 |
| Queue Length 95th (m) | 26.7 | 43.9 | | 6.9 | 27.9 | | 36.8 | 72.6 | | m41.4 | 115.2 | m12.2 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 310 | 496 | | 102 | 415 | | 369 | 1617 | | 194 | 1621 | 842 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.47 | | 0.08 | 0.20 | | 0.59 | 0.36 | | 0.56 | 0.47 | 0.14 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 85 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.60 | | | |
| Intersection Signal Delay: 33.7 | | Intersection LOS: C | |
| Intersection Capacity Utilization 61.0% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Future Volume (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 180 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 80.1 | 80.1 | | 26.8 | 26.8 |
| Actuated g/C Ratio | | 0.67 | 0.67 | | 0.22 | 0.22 |
| v/c Ratio | | 0.49 | 0.34 | | 0.78 | 0.47 |
| Control Delay | | 11.6 | 4.2 | | 51.8 | 10.8 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 11.6 | 4.2 | | 51.8 | 10.8 |
| LOS | | B | A | | D | B |
| Approach Delay | | 11.6 | 4.2 | | 40.4 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 73.3 | 73.3 | | 33.6 | 33.6 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 77.0 | 77.0 | | 29.9 | 29.9 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 80.4 | 80.4 | | 26.5 | 26.5 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 83.1 | 83.1 | | 23.8 | 23.8 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 86.9 | 86.9 | | 20.0 | 20.0 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 488 | 154 | | 480 | 34 |
| Fuel Used(l) | | 51 | 38 | | 40 | 5 |
| CO Emissions (g/hr) | | 956 | 700 | | 738 | 102 |
| NOx Emissions (g/hr) | | 185 | 135 | | 142 | 20 |
| VOC Emissions (g/hr) | | 221 | 161 | | 170 | 24 |
| Dilemma Vehicles (#) | | 42 | 27 | | 0 | 0 |
| Queue Length 50th (m) | | 56.6 | 3.7 | | 60.5 | 4.1 |
| Queue Length 95th (m) | | 85.7 | 16.0 | | 73.8 | 22.8 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2053 | 2151 | | 1106 | 593 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.49 | 0.34 | | 0.48 | 0.34 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.78 | | | |
| Intersection Signal Delay: 17.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 56.4% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



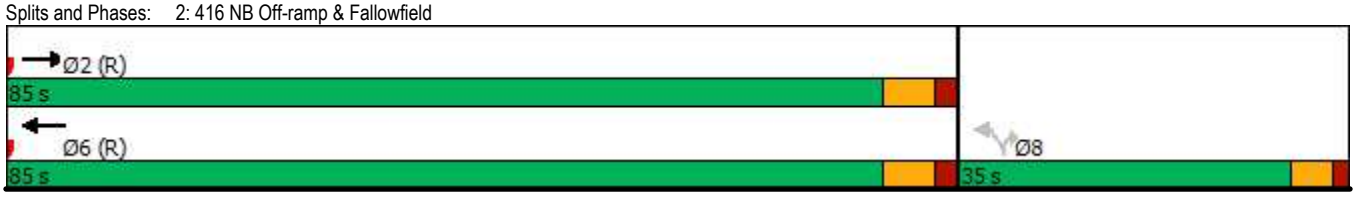


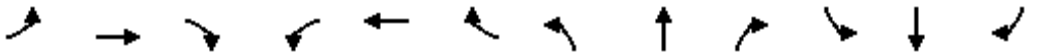
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Future Volume (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 99 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.4 | | | 92.4 | 15.6 | 15.6 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.48 | | | 0.27 | 0.65 | 0.66 |
| Control Delay | 8.8 | | | 1.3 | 64.5 | 33.6 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.8 | | | 1.3 | 64.5 | 33.6 |
| LOS | A | | | A | E | C |
| Approach Delay | 8.8 | | | 1.3 | 46.3 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 86.2 | | | 86.2 | 21.8 | 21.8 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 90.0 | | | 90.0 | 18.0 | 18.0 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 92.6 | | | 92.6 | 15.4 | 15.4 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 95.1 | | | 95.1 | 12.9 | 12.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 438 | | | 56 | 116 | 79 |
| Fuel Used(l) | 76 | | | 30 | 12 | 10 |
| CO Emissions (g/hr) | 1419 | | | 557 | 216 | 178 |
| NOx Emissions (g/hr) | 274 | | | 107 | 42 | 34 |
| VOC Emissions (g/hr) | 327 | | | 128 | 50 | 41 |
| Dilemma Vehicles (#) | 82 | | | 5 | 0 | 0 |
| Queue Length 50th (m) | 50.0 | | | 9.3 | 28.4 | 17.4 |
| Queue Length 95th (m) | 98.4 | | | m2.7 | 45.8 | 39.0 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2456 | | | 2527 | 367 | 427 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.48 | | | 0.27 | 0.34 | 0.42 |

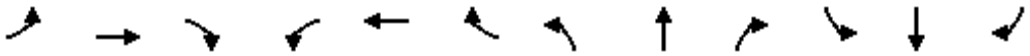
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.66 | | | |
| Intersection Signal Delay: 11.6 | | Intersection LOS: B | |
| Intersection Capacity Utilization 56.4% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Future Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1724 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1446 | 1655 | 3191 | 1457 | 3203 | 1724 | 0 | 1651 | 1745 | 1421 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 3 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 5 | | 5 | 5 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 57 | 0 | 91 | 28 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 2 | | | 2 | 2 | | 4 | | | 4 | |
| Act Effct Green (s) | 24.4 | 71.7 | 88.0 | 5.8 | 42.8 | 42.8 | 15.9 | 16.3 | | 12.4 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.20 | 0.60 | 0.73 | 0.05 | 0.36 | 0.36 | 0.13 | 0.14 | | 0.10 | 0.14 | 1.00 |
| v/c Ratio | 0.81 | 0.53 | 0.13 | 0.05 | 1.31 | 0.07 | 0.33 | 0.24 | | 0.53 | 0.12 | 0.20 |
| Control Delay | 59.5 | 18.3 | 3.4 | 79.8 | 172.5 | 0.2 | 51.2 | 42.5 | | 63.8 | 41.8 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.5 | 18.3 | 3.4 | 79.8 | 172.5 | 0.2 | 51.2 | 42.5 | | 63.8 | 41.8 | 0.3 |
| LOS | E | B | A | E | F | A | D | D | | E | D | A |
| Approach Delay | | 30.4 | | | 166.9 | | | 48.7 | | | 17.7 | |
| Approach LOS | | C | | | F | | | D | | | B | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 28.1 | 74.0 | 15.6 | 0.0 | 38.8 | 38.8 | 15.6 | 10.6 | | 15.0 | 10.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 50th %ile Green (s) | 26.7 | 75.4 | 14.2 | 0.0 | 41.6 | 41.6 | 14.2 | 10.0 | | 14.2 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Min | |
| 30th %ile Green (s) | 24.9 | 76.0 | 30.6 | 0.0 | 44.0 | 44.0 | 30.6 | 10.0 | | 13.6 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Skip | |
| 10th %ile Green (s) | 21.5 | 94.0 | 12.6 | 0.0 | 65.4 | 65.4 | 12.6 | 0.0 | | 12.6 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 467 | 486 | 20 | 7 | 1031 | 0 | 116 | 44 | | 71 | 24 | 0 |
| Fuel Used(l) | 61 | 67 | 7 | 1 | 287 | 1 | 12 | 5 | | 10 | 3 | 11 |
| CO Emissions (g/hr) | 1127 | 1250 | 131 | 14 | 5334 | 18 | 227 | 84 | | 179 | 47 | 206 |
| NOx Emissions (g/hr) | 218 | 241 | 25 | 3 | 1030 | 3 | 44 | 16 | | 35 | 9 | 40 |
| VOC Emissions (g/hr) | 260 | 288 | 30 | 3 | 1230 | 4 | 52 | 19 | | 41 | 11 | 47 |
| Dilemma Vehicles (#) | 0 | 35 | 0 | 0 | 42 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 59.5 | 50.2 | 0.0 | 1.0 | ~245.1 | 0.0 | 15.7 | 12.2 | | 20.3 | 6.3 | 0.0 |
| Queue Length 95th (m) | #97.9 | #151.4 | 15.2 | m1.7 | #341.2 | m0.0 | #33.8 | 18.1 | | #55.9 | 10.9 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 635 | 1727 | 1092 | 82 | 1137 | 664 | 426 | 591 | | 171 | 596 | 1421 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.53 | 0.13 | 0.05 | 1.31 | 0.07 | 0.33 | 0.10 | | 0.53 | 0.05 | 0.20 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.31 | | | |
| Intersection Signal Delay: 86.7 | | Intersection LOS: F | |
| Intersection Capacity Utilization 91.9% | | ICU Level of Service F | |
| Analysis Period (min) 15 | | | |

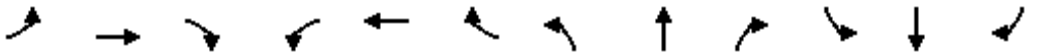
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

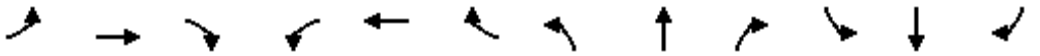
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Future Volume (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.744 | | | 0.750 | | |
| Satd. Flow (perm) | 1656 | 2941 | 1461 | 3212 | 3221 | 1442 | 1293 | 1745 | 1459 | 1303 | 1745 | 1458 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 158 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 5 | | 5 | 5 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 2 | 2 | | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 |
| Act Effct Green (s) | 7.4 | 79.7 | 79.7 | 6.2 | 76.0 | 76.0 | 20.4 | 20.4 | 20.4 | 20.4 | 20.4 | 20.4 |
| Actuated g/C Ratio | 0.06 | 0.66 | 0.66 | 0.05 | 0.63 | 0.63 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| v/c Ratio | 0.31 | 0.46 | 0.08 | 0.10 | 0.70 | 0.01 | 0.57 | 0.04 | 0.03 | 0.18 | 0.07 | 0.42 |
| Control Delay | 73.5 | 10.5 | 2.8 | 62.7 | 13.3 | 0.1 | 53.3 | 35.2 | 0.1 | 39.6 | 36.5 | 8.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 73.5 | 10.5 | 2.8 | 62.7 | 13.3 | 0.1 | 53.3 | 35.2 | 0.1 | 39.6 | 36.5 | 8.4 |
| LOS | E | B | A | E | B | A | D | D | A | D | D | A |
| Approach Delay | | 11.9 | | | 13.7 | | | 48.5 | | | 16.7 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.5 | 50.5 | 7.1 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 8.8 | 72.1 | 72.1 | 6.5 | 69.8 | 69.8 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 7.7 | 88.6 | 88.6 | 0.0 | 74.0 | 74.0 | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 91.6 | 91.6 | 0.0 | 91.6 | 91.6 | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Min | Min | Min | Min | Min | Min |
| Stops (vph) | 32 | 204 | 9 | 18 | 345 | 0 | 108 | 11 | 0 | 32 | 18 | 19 |
| Fuel Used(l) | 4 | 37 | 2 | 2 | 66 | 0 | 12 | 1 | 0 | 3 | 1 | 5 |
| CO Emissions (g/hr) | 80 | 691 | 44 | 42 | 1234 | 6 | 218 | 18 | 6 | 52 | 28 | 95 |
| NOx Emissions (g/hr) | 15 | 133 | 9 | 8 | 238 | 1 | 42 | 4 | 1 | 10 | 5 | 18 |
| VOC Emissions (g/hr) | 18 | 159 | 10 | 10 | 285 | 1 | 50 | 4 | 1 | 12 | 6 | 22 |
| Dilemma Vehicles (#) | 0 | 59 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 7.9 | 9.5 | 0.0 | 2.0 | 39.1 | 0.0 | 28.1 | 2.5 | 0.0 | 8.3 | 4.4 | 0.0 |
| Queue Length 95th (m) | m15.2 | 60.4 | 6.8 | m4.0 | #225.9 | m0.0 | 36.9 | 6.2 | 0.0 | 14.2 | 8.9 | 14.1 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 114 | 1952 | 1005 | 217 | 2040 | 952 | 445 | 600 | 565 | 448 | 600 | 605 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.46 | 0.08 | 0.08 | 0.70 | 0.01 | 0.28 | 0.02 | 0.02 | 0.09 | 0.04 | 0.26 |

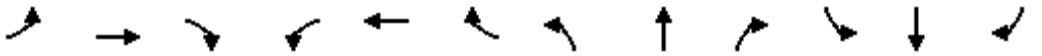
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 115 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.70 | | | |
| Intersection Signal Delay: 15.1 | | Intersection LOS: B | |
| Intersection Capacity Utilization 82.7% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd





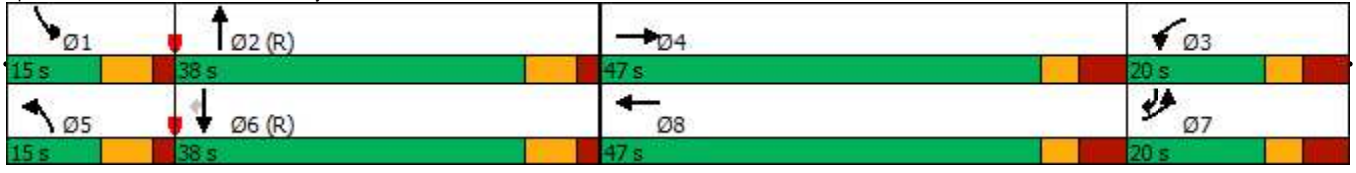
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Future Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | 0.882 | | | 0.887 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1352 | 0 | 1658 | 1531 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3142 | 1352 | 0 | 1652 | 1531 | 0 | 3151 | 3310 | 0 | 1320 | 3316 | 1345 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 44 | | | 99 | | | 1 | | | | 137 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 4 | 4 | | 3 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 135 | 56 | 0 | 6 | 132 | 0 | 160 | 1049 | 0 | 30 | 599 | 137 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

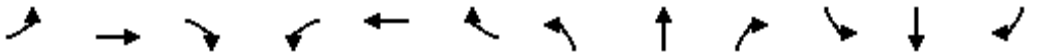
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 3 | | | 4 | | | 1 | | | 1 | |
| Act Effct Green (s) | 10.3 | 29.8 | | 7.2 | 16.0 | | 10.4 | 62.6 | | 7.6 | 54.8 | 64.3 |
| Actuated g/C Ratio | 0.09 | 0.25 | | 0.06 | 0.13 | | 0.09 | 0.52 | | 0.06 | 0.46 | 0.54 |
| v/c Ratio | 0.50 | 0.15 | | 0.06 | 0.46 | | 0.59 | 0.61 | | 0.36 | 0.40 | 0.17 |
| Control Delay | 58.4 | 13.2 | | 52.3 | 18.0 | | 55.9 | 21.0 | | 83.2 | 22.1 | 5.4 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.4 | 13.2 | | 52.3 | 18.0 | | 55.9 | 21.0 | | 83.2 | 22.1 | 5.4 |
| LOS | E | B | | D | B | | E | C | | F | C | A |
| Approach Delay | | 45.2 | | | 19.5 | | | 25.6 | | | 21.5 | |
| Approach LOS | | D | | | B | | | C | | | C | |
| 90th %ile Green (s) | 12.8 | 39.0 | | 12.8 | 39.0 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.8 |
| 90th %ile Term Code | Max | Ped | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 11.7 | 30.2 | | 0.0 | 10.9 | | 13.0 | 59.4 | | 9.5 | 55.9 | 11.7 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 10.5 | 28.1 | | 0.0 | 10.0 | | 11.7 | 62.9 | | 8.1 | 59.3 | 10.5 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 9.2 | 26.8 | | 0.0 | 10.0 | | 10.3 | 78.9 | | 0.0 | 62.0 | 9.2 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 7.4 | 25.0 | | 0.0 | 10.0 | | 8.4 | 80.7 | | 0.0 | 65.7 | 7.4 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| Stops (vph) | 126 | 16 | | 7 | 36 | | 131 | 694 | | 32 | 301 | 35 |
| Fuel Used(l) | 12 | 2 | | 0 | 4 | | 20 | 91 | | 4 | 41 | 6 |
| CO Emissions (g/hr) | 214 | 38 | | 8 | 82 | | 366 | 1700 | | 82 | 762 | 106 |
| NOx Emissions (g/hr) | 41 | 7 | | 2 | 16 | | 71 | 328 | | 16 | 147 | 20 |
| VOC Emissions (g/hr) | 49 | 9 | | 2 | 19 | | 84 | 392 | | 19 | 176 | 24 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 36 | | 0 | 27 | 0 |
| Queue Length 50th (m) | 15.8 | 2.2 | | 1.4 | 7.4 | | 14.7 | 98.5 | | 7.5 | 36.3 | 2.9 |
| Queue Length 95th (m) | 25.5 | 11.2 | | 5.4 | 19.3 | | #33.3 | #203.3 | | m16.5 | 71.6 | 18.8 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 327 | 473 | | 172 | 569 | | 272 | 1728 | | 94 | 1515 | 807 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.41 | 0.12 | | 0.03 | 0.23 | | 0.59 | 0.61 | | 0.32 | 0.40 | 0.17 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 25.5 Intersection LOS: C
Intersection Capacity Utilization 74.1% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista





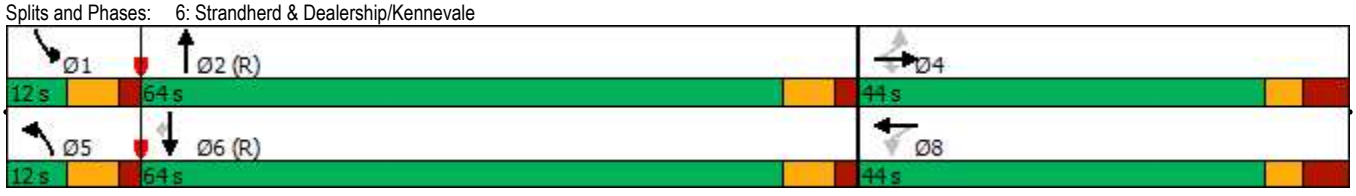
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 5 | 26 | 64 | 20 | 103 | 83 | 1060 | 46 | 51 | 476 | 68 |
| Future Volume (vph) | 44 | 5 | 26 | 64 | 20 | 103 | 83 | 1060 | 46 | 51 | 476 | 68 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | 0.874 | | | 0.994 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1506 | 0 | 2711 | 3290 | 0 | 1523 | 3283 | 1363 |
| Flt Permitted | 0.677 | | | 0.754 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 962 | 1745 | 1461 | 1311 | 1506 | 0 | 2708 | 3290 | 0 | 1523 | 3283 | 1345 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 103 | | | 5 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Confl. Peds. (#/hr) | 3 | | 3 | 3 | | 3 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 44 | 5 | 26 | 64 | 20 | 103 | 83 | 1060 | 46 | 51 | 476 | 68 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 44 | 5 | 26 | 64 | 123 | 0 | 83 | 1106 | 0 | 51 | 476 | 68 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 12.0 | 64.0 | | 12.0 | 64.0 | 64.0 |
| Total Split (%) | 36.7% | 36.7% | 36.7% | 36.7% | 36.7% | | 10.0% | 53.3% | | 10.0% | 53.3% | 53.3% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 5.4 | 57.3 | | 5.4 | 57.3 | 57.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |

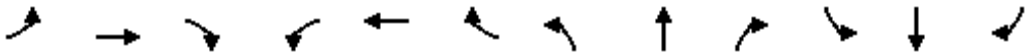
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 3 | 3 | 3 | 3 | 3 | | | 1 | | | 1 | 1 |
| Act Effct Green (s) | 16.1 | 16.1 | 16.1 | 16.1 | 16.1 | | 8.1 | 77.0 | | 8.6 | 74.9 | 74.9 |
| Actuated g/C Ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | | 0.07 | 0.64 | | 0.07 | 0.62 | 0.62 |
| v/c Ratio | 0.34 | 0.02 | 0.09 | 0.36 | 0.42 | | 0.46 | 0.52 | | 0.47 | 0.23 | 0.08 |
| Control Delay | 50.7 | 38.0 | 0.7 | 50.0 | 15.3 | | 62.4 | 15.0 | | 44.4 | 21.5 | 12.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.7 | 38.0 | 0.7 | 50.0 | 15.3 | | 62.4 | 15.0 | | 44.4 | 21.5 | 12.6 |
| LOS | D | D | A | D | B | | E | B | | D | C | B |
| Approach Delay | | 32.5 | | | 27.2 | | | 18.3 | | | 22.5 | |
| Approach LOS | | C | | | C | | | B | | | C | |
| 90th %ile Green (s) | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | | 5.8 | 57.3 | | 5.8 | 57.3 | 57.3 |
| 90th %ile Term Code | Hold | Hold | Hold | Ped | Ped | | Max | Coord | | Max | Coord | Coord |
| 70th %ile Green (s) | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | | 10.4 | 74.2 | | 11.6 | 75.4 | 75.4 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 | | 9.3 | 77.6 | | 10.3 | 78.6 | 78.6 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 8.2 | 80.4 | | 8.7 | 80.9 | 80.9 |
| 30th %ile Term Code | Min | Min | Min | Min | Min | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 6.6 | 95.7 | | 0.0 | 82.5 | 82.5 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Gap | Coord | | Skip | Coord | Coord |
| Stops (vph) | 39 | 6 | 0 | 55 | 29 | | 76 | 599 | | 44 | 292 | 42 |
| Fuel Used(l) | 4 | 0 | 1 | 6 | 7 | | 10 | 67 | | 6 | 40 | 5 |
| CO Emissions (g/hr) | 76 | 8 | 17 | 109 | 127 | | 183 | 1248 | | 111 | 751 | 99 |
| NOx Emissions (g/hr) | 15 | 2 | 3 | 21 | 25 | | 35 | 241 | | 21 | 145 | 19 |
| VOC Emissions (g/hr) | 18 | 2 | 4 | 25 | 29 | | 42 | 288 | | 26 | 173 | 23 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 46 | | 0 | 18 | 0 |
| Queue Length 50th (m) | 10.0 | 1.1 | 0.0 | 14.6 | 4.4 | | 9.7 | 67.0 | | 11.6 | 30.9 | 2.1 |
| Queue Length 95th (m) | 17.2 | 3.9 | 0.0 | 22.2 | 17.3 | | #21.0 | 129.0 | | #33.7 | 79.4 | 22.3 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 291 | 529 | 508 | 397 | 528 | | 182 | 2113 | | 108 | 2050 | 878 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.15 | 0.01 | 0.05 | 0.16 | 0.23 | | 0.46 | 0.52 | | 0.47 | 0.23 | 0.08 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 29 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 20.9 Intersection LOS: C
Intersection Capacity Utilization 79.1% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd & Dealership/Kennevale





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 2 | 27 | 37 | 2 | 56 | 24 | 519 | 17 | 18 | 468 | 14 |
| Future Volume (Veh/h) | 14 | 2 | 27 | 37 | 2 | 56 | 24 | 519 | 17 | 18 | 468 | 14 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 14 | 2 | 27 | 37 | 2 | 56 | 24 | 519 | 17 | 18 | 468 | 14 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1128 | 1088 | 468 | 1099 | 1085 | 519 | 482 | | | 536 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1128 | 1088 | 468 | 1099 | 1085 | 519 | 482 | | | 536 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 91 | 99 | 95 | 79 | 99 | 90 | 98 | | | 98 | | |
| cM capacity (veh/h) | 149 | 207 | 591 | 174 | 208 | 557 | 1055 | | | 1017 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 14 | 29 | 95 | 24 | 519 | 17 | 18 | 468 | 14 |
| Volume Left | 14 | 0 | 37 | 24 | 0 | 0 | 18 | 0 | 0 |
| Volume Right | 0 | 27 | 56 | 0 | 0 | 17 | 0 | 0 | 14 |
| cSH | 149 | 524 | 295 | 1055 | 1700 | 1700 | 1017 | 1700 | 1700 |
| Volume to Capacity | 0.09 | 0.06 | 0.32 | 0.02 | 0.31 | 0.01 | 0.02 | 0.28 | 0.01 |
| Queue Length 95th (m) | 2.3 | 1.3 | 10.3 | 0.5 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Control Delay (s) | 31.7 | 12.3 | 22.9 | 8.5 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 |
| Lane LOS | D | B | C | A | | | A | | |
| Approach Delay (s) | 18.6 | | 22.9 | 0.4 | | | 0.3 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.8 | | | | |
| Intersection Capacity Utilization | 48.1% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 11 | 0 | 47 | 11 | 0 | 49 |
| Future Volume (Veh/h) | 11 | 0 | 47 | 11 | 0 | 49 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 11 | 0 | 47 | 11 | 0 | 49 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 11 | | 116 | 11 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 11 | | 116 | 11 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 97 | | 100 | 95 |
| cM capacity (veh/h) | | | 1608 | | 854 | 1070 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 11 | 58 | 49 |
| Volume Left | 0 | 47 | 0 |
| Volume Right | 0 | 0 | 49 |
| cSH | 1700 | 1608 | 1070 |
| Volume to Capacity | 0.01 | 0.03 | 0.05 |
| Queue Length 95th (m) | 0.0 | 0.7 | 1.1 |
| Control Delay (s) | 0.0 | 6.0 | 8.5 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 6.0 | 8.5 |
| Approach LOS | | | A |

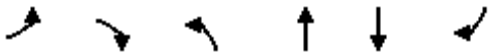
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.5 | | |
| Intersection Capacity Utilization | 20.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 61 | 0 | 82 | 58 | 0 | 86 |
| Future Volume (Veh/h) | 61 | 0 | 82 | 58 | 0 | 86 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 61 | 0 | 82 | 58 | 0 | 86 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 61 | | 283 | 61 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 61 | | 283 | 61 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 95 | | 100 | 91 |
| cM capacity (veh/h) | | | 1542 | | 670 | 1004 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 61 | 140 | 86 |
| Volume Left | 0 | 82 | 0 |
| Volume Right | 0 | 0 | 86 |
| cSH | 1700 | 1542 | 1004 |
| Volume to Capacity | 0.04 | 0.05 | 0.09 |
| Queue Length 95th (m) | 0.0 | 1.3 | 2.1 |
| Control Delay (s) | 0.0 | 4.5 | 8.9 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 4.5 | 8.9 |
| Approach LOS | | | A |

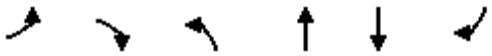
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.9 | | |
| Intersection Capacity Utilization | 27.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 66 | 47 | 45 | 0 | 0 | 64 |
| Future Volume (Veh/h) | 66 | 47 | 45 | 0 | 0 | 64 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 66 | 47 | 45 | 0 | 0 | 64 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 122 | 32 | 64 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 122 | 32 | 64 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 92 | 95 | 97 | | | |
| cM capacity (veh/h) | 848 | 1042 | 1538 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 113 | 45 | 64 |
| Volume Left | 66 | 45 | 0 |
| Volume Right | 47 | 0 | 64 |
| cSH | 919 | 1538 | 1700 |
| Volume to Capacity | 0.12 | 0.03 | 0.04 |
| Queue Length 95th (m) | 3.2 | 0.7 | 0.0 |
| Control Delay (s) | 9.5 | 7.4 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.5 | 7.4 | 0.0 |
| Approach LOS | A | | |

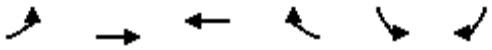
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.3 | | |
| Intersection Capacity Utilization | 22.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



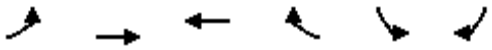
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 47 | 45 | 45 | 47 | 0 |
| Future Volume (Veh/h) | 0 | 47 | 45 | 45 | 47 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 47 | 45 | 45 | 47 | 0 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 182 | 47 | 47 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 182 | 47 | 47 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 95 | 97 | | | |
| cM capacity (veh/h) | 784 | 1022 | 1560 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 47 | 90 | 47 |
| Volume Left | 0 | 45 | 0 |
| Volume Right | 47 | 0 | 0 |
| cSH | 1022 | 1560 | 1700 |
| Volume to Capacity | 0.05 | 0.03 | 0.03 |
| Queue Length 95th (m) | 1.1 | 0.7 | 0.0 |
| Control Delay (s) | 8.7 | 3.8 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.7 | 3.8 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.1 | | |
| Intersection Capacity Utilization | 21.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



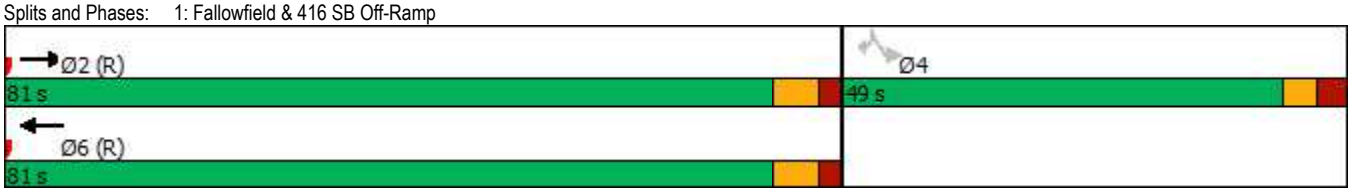
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Future Volume (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 202 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1015 | 724 | 0 | 526 | 202 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 81.0 | 81.0 | | 49.0 | 49.0 |
| Total Split (%) | | 62.3% | 62.3% | | 37.7% | 37.7% |
| Maximum Green (s) | | 74.2 | 74.2 | | 42.7 | 42.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 88.5 | 88.5 | | 28.4 | 28.4 |
| Actuated g/C Ratio | | 0.68 | 0.68 | | 0.22 | 0.22 |
| v/c Ratio | | 0.48 | 0.33 | | 0.79 | 0.45 |
| Control Delay | | 11.5 | 4.5 | | 57.0 | 8.4 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 11.5 | 4.5 | | 57.0 | 8.4 |
| LOS | | B | A | | E | A |
| Approach Delay | | 11.5 | 4.5 | | 43.5 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 81.5 | 81.5 | | 35.4 | 35.4 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 85.3 | 85.3 | | 31.6 | 31.6 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 88.8 | 88.8 | | 28.1 | 28.1 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 91.5 | 91.5 | | 25.4 | 25.4 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 95.5 | 95.5 | | 21.4 | 21.4 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 470 | 177 | | 484 | 22 |
| Fuel Used(l) | | 50 | 39 | | 42 | 5 |
| CO Emissions (g/hr) | | 936 | 727 | | 778 | 90 |
| NOx Emissions (g/hr) | | 181 | 140 | | 150 | 17 |
| VOC Emissions (g/hr) | | 216 | 168 | | 180 | 21 |
| Dilemma Vehicles (#) | | 39 | 15 | | 0 | 0 |
| Queue Length 50th (m) | | 59.3 | 17.4 | | 66.4 | 0.0 |
| Queue Length 95th (m) | | 88.2 | 32.6 | | 80.2 | 18.6 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2093 | 2193 | | 997 | 567 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.48 | 0.33 | | 0.53 | 0.36 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 18 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.79 | | | |
| Intersection Signal Delay: 18.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 56.4% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



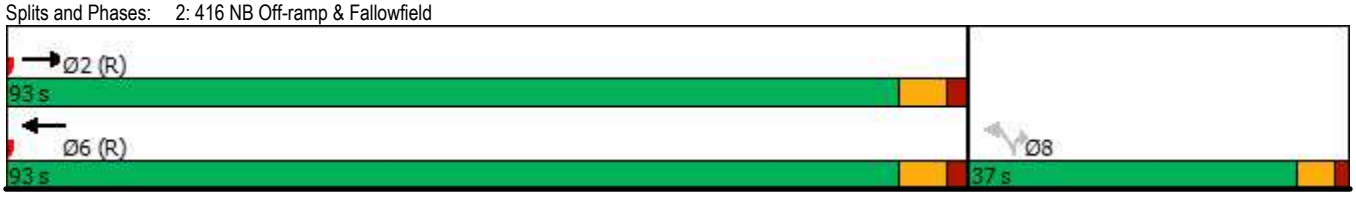


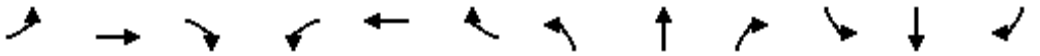
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Future Volume (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 103 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1183 | 0 | 0 | 687 | 125 | 178 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 93.0 | | | 93.0 | 37.0 | 37.0 |
| Total Split (%) | 71.5% | | | 71.5% | 28.5% | 28.5% |
| Maximum Green (s) | 86.3 | | | 86.3 | 31.7 | 31.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 101.7 | | | 101.7 | 16.3 | 16.3 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.13 | 0.13 |
| v/c Ratio | 0.47 | | | 0.27 | 0.67 | 0.66 |
| Control Delay | 3.5 | | | 1.4 | 71.1 | 34.7 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.5 | | | 1.4 | 71.1 | 34.7 |
| LOS | A | | | A | E | C |
| Approach Delay | 3.5 | | | 1.4 | 49.7 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 95.2 | | | 95.2 | 22.8 | 22.8 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 99.0 | | | 99.0 | 19.0 | 19.0 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 101.7 | | | 101.7 | 16.3 | 16.3 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 104.4 | | | 104.4 | 13.6 | 13.6 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 108.0 | | | 108.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 254 | | | 48 | 117 | 75 |
| Fuel Used(l) | 61 | | | 30 | 12 | 10 |
| CO Emissions (g/hr) | 1134 | | | 549 | 229 | 178 |
| NOx Emissions (g/hr) | 219 | | | 106 | 44 | 34 |
| VOC Emissions (g/hr) | 261 | | | 127 | 53 | 41 |
| Dilemma Vehicles (#) | 30 | | | 7 | 0 | 0 |
| Queue Length 50th (m) | 24.9 | | | 10.0 | 31.1 | 18.0 |
| Queue Length 95th (m) | 35.2 | | | m2.6 | 49.4 | 40.7 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2495 | | | 2567 | 361 | 425 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | | | 0.27 | 0.35 | 0.42 |

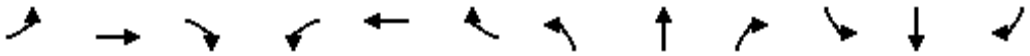
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 128 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.67 | | | |
| Intersection Signal Delay: 9.3 | | Intersection LOS: A | |
| Intersection Capacity Utilization 56.4% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Future Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1724 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1445 | 1655 | 3191 | 1457 | 3202 | 1724 | 0 | 1651 | 1745 | 1421 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 93 | | | 207 | | 3 | | | | 279 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 5 | | 5 | 5 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 57 | 0 | 91 | 28 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 22.0 | 57.0 | 12.0 | 13.0 | 48.0 | 48.0 | 12.0 | 48.0 | | 12.0 | 48.0 | |
| Total Split (%) | 16.9% | 43.8% | 9.2% | 10.0% | 36.9% | 36.9% | 9.2% | 36.9% | | 9.2% | 36.9% | |
| Maximum Green (s) | 14.9 | 50.1 | 5.5 | 5.9 | 41.1 | 41.1 | 5.5 | 41.0 | | 5.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 2 | | | 2 | 2 | | 4 | | | 4 | |
| Act Effct Green (s) | 32.9 | 79.4 | 98.0 | 5.8 | 42.0 | 42.0 | 18.2 | 16.4 | | 14.6 | 16.2 | 130.0 |
| Actuated g/C Ratio | 0.25 | 0.61 | 0.75 | 0.04 | 0.32 | 0.32 | 0.14 | 0.13 | | 0.11 | 0.12 | 1.00 |
| v/c Ratio | 0.65 | 0.52 | 0.13 | 0.05 | 1.45 | 0.08 | 0.31 | 0.26 | | 0.49 | 0.13 | 0.20 |
| Control Delay | 53.3 | 18.1 | 2.9 | 64.0 | 235.5 | 0.2 | 54.2 | 47.7 | | 64.5 | 46.9 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.3 | 18.1 | 2.9 | 64.0 | 235.5 | 0.2 | 54.2 | 47.7 | | 64.5 | 46.9 | 0.3 |
| LOS | D | B | A | E | F | A | D | D | | E | D | A |
| Approach Delay | | 28.2 | | | 227.8 | | | 52.3 | | | 18.3 | |
| Approach LOS | | C | | | F | | | D | | | B | |
| 90th %ile Green (s) | 14.9 | 50.1 | 5.5 | 5.9 | 41.1 | 41.1 | 5.5 | 41.0 | | 5.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 31.7 | 82.6 | 17.0 | 0.0 | 43.8 | 43.8 | 17.0 | 11.0 | | 16.0 | 10.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 50th %ile Green (s) | 33.6 | 83.8 | 15.8 | 0.0 | 43.1 | 43.1 | 15.8 | 10.0 | | 15.8 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Min | |
| 30th %ile Green (s) | 35.0 | 83.2 | 33.4 | 0.0 | 41.1 | 41.1 | 33.4 | 10.0 | | 16.4 | 0.0 | |
| 30th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Skip | |
| 10th %ile Green (s) | 49.3 | 97.5 | 19.1 | 0.0 | 41.1 | 41.1 | 19.1 | 0.0 | | 19.1 | 0.0 | |
| 10th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 420 | 497 | 21 | 6 | 1082 | 0 | 109 | 46 | | 69 | 24 | 0 |
| Fuel Used(l) | 57 | 67 | 7 | 1 | 362 | 1 | 12 | 5 | | 10 | 3 | 11 |
| CO Emissions (g/hr) | 1052 | 1254 | 130 | 12 | 6735 | 18 | 230 | 89 | | 179 | 49 | 206 |
| NOx Emissions (g/hr) | 203 | 242 | 25 | 2 | 1300 | 3 | 44 | 17 | | 35 | 10 | 40 |
| VOC Emissions (g/hr) | 243 | 289 | 30 | 3 | 1553 | 4 | 53 | 21 | | 41 | 11 | 47 |
| Dilemma Vehicles (#) | 0 | 29 | 0 | 0 | 48 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 66.8 | 57.6 | 2.3 | 1.0 | ~273.3 | 0.0 | 17.1 | 13.4 | | 22.0 | 6.9 | 0.0 |
| Queue Length 95th (m) | #129.1 | 100.5 | 16.8 | m1.8 | #316.4 | m0.0 | #40.8 | 20.0 | | #64.9 | 12.2 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 790 | 1766 | 1117 | 76 | 1031 | 611 | 449 | 545 | | 185 | 550 | 1421 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.52 | 0.13 | 0.05 | 1.45 | 0.08 | 0.31 | 0.10 | | 0.49 | 0.05 | 0.20 |

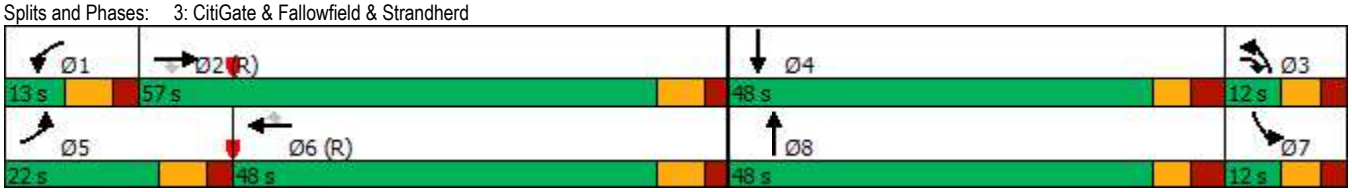
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.45 | | | |
| Intersection Signal Delay: 111.3 | | Intersection LOS: F | |
| Intersection Capacity Utilization 91.9% | | ICU Level of Service F | |
| Analysis Period (min) 15 | | | |

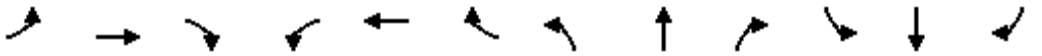
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

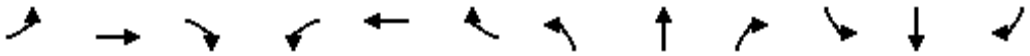
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Future Volume (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.744 | | | 0.750 | | |
| Satd. Flow (perm) | 1656 | 2941 | 1461 | 3211 | 3221 | 1441 | 1292 | 1745 | 1459 | 1303 | 1745 | 1458 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 97 | | | 97 | | | 90 | | | 99 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 5 | | 5 | 5 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 32 | 907 | 84 | 17 | 1420 | 14 | 124 | 12 | 9 | 39 | 21 | 158 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 11.9 | 69.4 | 69.4 | 11.9 | 69.4 | 69.4 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (%) | 9.2% | 53.4% | 53.4% | 9.2% | 53.4% | 53.4% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Maximum Green (s) | 5.0 | 62.6 | 62.6 | 5.0 | 62.6 | 62.6 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



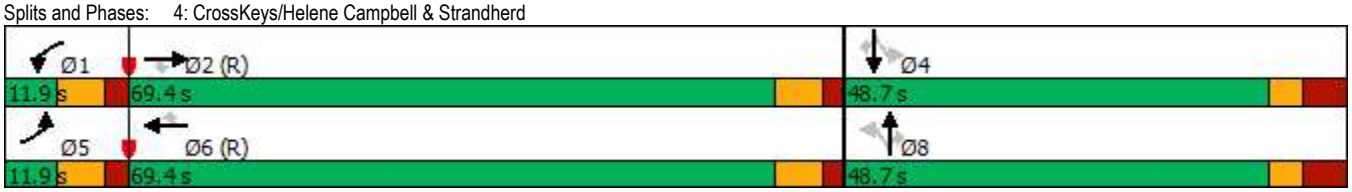
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 2 | 2 | | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 |
| Act Effct Green (s) | 6.9 | 89.4 | 89.4 | 5.8 | 85.9 | 85.9 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| Actuated g/C Ratio | 0.05 | 0.69 | 0.69 | 0.04 | 0.66 | 0.66 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| v/c Ratio | 0.36 | 0.45 | 0.08 | 0.12 | 0.67 | 0.01 | 0.60 | 0.04 | 0.03 | 0.19 | 0.07 | 0.50 |
| Control Delay | 87.1 | 4.1 | 0.7 | 71.2 | 8.5 | 0.0 | 59.9 | 39.6 | 0.2 | 44.3 | 41.0 | 22.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 87.1 | 4.1 | 0.7 | 71.2 | 8.5 | 0.0 | 59.9 | 39.6 | 0.2 | 44.3 | 41.0 | 22.8 |
| LOS | F | A | A | E | A | A | E | D | A | D | D | C |
| Approach Delay | | 6.5 | | | 9.1 | | | 54.5 | | | 28.4 | |
| Approach LOS | | A | | | A | | | D | | | C | |
| 90th %ile Green (s) | 5.0 | 62.6 | 62.6 | 5.0 | 62.6 | 62.6 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Max | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 9.3 | 80.9 | 80.9 | 6.6 | 78.2 | 78.2 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 8.0 | 97.6 | 97.6 | 0.0 | 82.7 | 82.7 | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 100.7 | 100.7 | 0.0 | 100.7 | 100.7 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 105.2 | 105.2 | 0.0 | 105.2 | 105.2 | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 30 | 212 | 4 | 17 | 348 | 0 | 110 | 11 | 0 | 32 | 18 | 54 |
| Fuel Used(l) | 5 | 33 | 2 | 2 | 61 | 0 | 12 | 1 | 0 | 3 | 2 | 8 |
| CO Emissions (g/hr) | 84 | 617 | 36 | 43 | 1140 | 6 | 230 | 19 | 6 | 55 | 29 | 143 |
| NOx Emissions (g/hr) | 16 | 119 | 7 | 8 | 220 | 1 | 44 | 4 | 1 | 11 | 6 | 28 |
| VOC Emissions (g/hr) | 19 | 142 | 8 | 10 | 263 | 1 | 53 | 4 | 1 | 13 | 7 | 33 |
| Dilemma Vehicles (#) | 0 | 5 | 0 | 0 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 7.8 | 12.1 | 0.1 | 2.2 | 39.0 | 0.0 | 30.7 | 2.7 | 0.0 | 9.0 | 4.8 | 13.8 |
| Queue Length 95th (m) | m17.0 | 14.7 | 0.0 | m4.4 | #68.8 | m0.0 | 41.0 | 6.8 | 0.0 | 15.7 | 10.0 | 28.1 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 88 | 2022 | 1034 | 143 | 2128 | 984 | 407 | 550 | 521 | 410 | 550 | 527 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.45 | 0.08 | 0.12 | 0.67 | 0.01 | 0.30 | 0.02 | 0.02 | 0.10 | 0.04 | 0.30 |

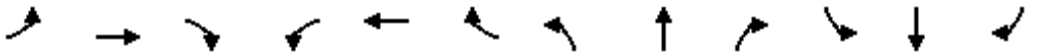
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 115 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.67 | | | |
| Intersection Signal Delay: 12.0 | | Intersection LOS: B | |
| Intersection Capacity Utilization 82.7% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd



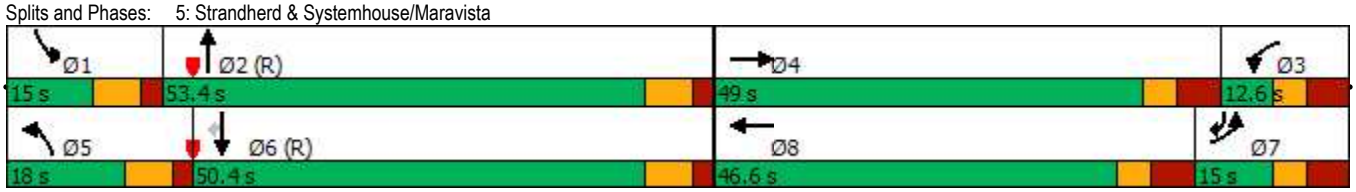


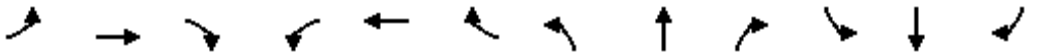
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Future Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | 0.882 | | | 0.887 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1351 | 0 | 1658 | 1531 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3141 | 1351 | 0 | 1652 | 1531 | 0 | 3151 | 3310 | 0 | 1320 | 3316 | 1345 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 44 | | | 99 | | | 1 | | | | 137 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 4 | 4 | | 3 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 135 | 56 | 0 | 6 | 132 | 0 | 160 | 1049 | 0 | 30 | 599 | 137 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 49.0 | | 12.6 | 46.6 | | 18.0 | 53.4 | | 15.0 | 50.4 | 15.0 |
| Total Split (%) | 11.5% | 37.7% | | 9.7% | 35.8% | | 13.8% | 41.1% | | 11.5% | 38.8% | 11.5% |
| Maximum Green (s) | 7.4 | 41.4 | | 5.0 | 39.0 | | 11.4 | 46.7 | | 8.4 | 43.7 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 3 | | | 4 | | | 1 | | | 1 | |
| Act Effct Green (s) | 9.8 | 30.5 | | 6.1 | 16.1 | | 11.1 | 73.0 | | 7.8 | 64.5 | 73.4 |
| Actuated g/C Ratio | 0.08 | 0.23 | | 0.05 | 0.12 | | 0.09 | 0.56 | | 0.06 | 0.50 | 0.56 |
| v/c Ratio | 0.57 | 0.16 | | 0.08 | 0.48 | | 0.59 | 0.56 | | 0.38 | 0.36 | 0.17 |
| Control Delay | 67.6 | 14.6 | | 60.8 | 20.2 | | 88.0 | 13.6 | | 92.7 | 14.3 | 2.5 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.6 | 14.6 | | 60.8 | 20.2 | | 88.0 | 13.6 | | 92.7 | 14.3 | 2.5 |
| LOS | E | B | | E | C | | F | B | | F | B | A |
| Approach Delay | | 52.1 | | | 21.9 | | | 23.5 | | | 15.3 | |
| Approach LOS | | D | | | C | | | C | | | B | |
| 90th %ile Green (s) | 7.4 | 39.0 | | 7.4 | 39.0 | | 11.4 | 46.7 | | 8.4 | 43.7 | 7.4 |
| 90th %ile Term Code | Max | Ped | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 12.5 | 31.4 | | 0.0 | 11.3 | | 13.3 | 67.9 | | 9.8 | 64.4 | 12.5 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 11.2 | 28.8 | | 0.0 | 10.0 | | 11.9 | 72.0 | | 8.3 | 68.4 | 11.2 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 9.9 | 27.5 | | 0.0 | 10.0 | | 10.5 | 88.2 | | 0.0 | 71.1 | 9.9 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 8.1 | 25.7 | | 0.0 | 10.0 | | 8.5 | 90.0 | | 0.0 | 74.9 | 8.1 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| Stops (vph) | 121 | 16 | | 7 | 36 | | 157 | 549 | | 32 | 218 | 17 |
| Fuel Used(l) | 12 | 2 | | 0 | 5 | | 25 | 77 | | 5 | 33 | 4 |
| CO Emissions (g/hr) | 230 | 39 | | 9 | 86 | | 467 | 1434 | | 87 | 607 | 81 |
| NOx Emissions (g/hr) | 44 | 7 | | 2 | 17 | | 90 | 277 | | 17 | 117 | 16 |
| VOC Emissions (g/hr) | 53 | 9 | | 2 | 20 | | 108 | 331 | | 20 | 140 | 19 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 46 | | 0 | 42 | 0 |
| Queue Length 50th (m) | 17.3 | 2.4 | | 1.5 | 8.1 | | 22.5 | 57.0 | | 8.1 | 31.3 | 1.0 |
| Queue Length 95th (m) | #33.5 | 12.3 | | 6.0 | 21.2 | | 34.1 | #95.5 | | m18.7 | 29.7 | 8.2 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 238 | 460 | | 78 | 528 | | 288 | 1858 | | 88 | 1645 | 820 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.57 | 0.12 | | 0.08 | 0.25 | | 0.56 | 0.56 | | 0.34 | 0.36 | 0.17 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 8 (6%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 120 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.59 | | | |
| Intersection Signal Delay: 23.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 74.1% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 5: Strandherd & Systemhouse/Maravista





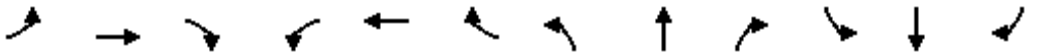
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 5 | 26 | 64 | 20 | 103 | 83 | 1060 | 46 | 51 | 476 | 68 |
| Future Volume (vph) | 44 | 5 | 26 | 64 | 20 | 103 | 83 | 1060 | 46 | 51 | 476 | 68 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | 0.874 | | | 0.994 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1506 | 0 | 2711 | 3290 | 0 | 1523 | 3283 | 1363 |
| Flt Permitted | 0.647 | | | 0.754 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 919 | 1745 | 1460 | 1311 | 1506 | 0 | 2708 | 3290 | 0 | 1523 | 3283 | 1345 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 86 | | 103 | | | 4 | | | | 94 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Confl. Peds. (#/hr) | 3 | | 3 | 3 | | 3 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 44 | 5 | 26 | 64 | 20 | 103 | 83 | 1060 | 46 | 51 | 476 | 68 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 44 | 5 | 26 | 64 | 123 | 0 | 83 | 1106 | 0 | 51 | 476 | 68 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 16.0 | 68.0 | | 18.0 | 70.0 | 70.0 |
| Total Split (%) | 33.8% | 33.8% | 33.8% | 33.8% | 33.8% | | 12.3% | 52.3% | | 13.8% | 53.8% | 53.8% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 9.4 | 61.3 | | 11.4 | 63.3 | 63.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 3 | 3 | 3 | 3 | 3 | | | 1 | | | 1 | 1 |
| Act Effct Green (s) | 16.3 | 16.3 | 16.3 | 16.3 | 16.3 | | 8.9 | 85.9 | | 9.3 | 83.9 | 83.9 |
| Actuated g/C Ratio | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | | 0.07 | 0.66 | | 0.07 | 0.65 | 0.65 |
| v/c Ratio | 0.38 | 0.02 | 0.10 | 0.39 | 0.44 | | 0.45 | 0.51 | | 0.47 | 0.22 | 0.08 |
| Control Delay | 58.1 | 42.8 | 0.8 | 56.1 | 16.9 | | 65.8 | 15.0 | | 66.9 | 12.1 | 3.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.1 | 42.8 | 0.8 | 56.1 | 16.9 | | 65.8 | 15.0 | | 66.9 | 12.1 | 3.7 |
| LOS | E | D | A | E | B | | E | B | | E | B | A |
| Approach Delay | | 37.2 | | | 30.3 | | | 18.6 | | | 15.8 | |
| Approach LOS | | D | | | C | | | B | | | B | |
| 90th %ile Green (s) | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | | 9.8 | 61.3 | | 11.8 | 63.3 | 63.3 |
| 90th %ile Term Code | Hold | Hold | Hold | Ped | Ped | | Max | Coord | | Max | Coord | Coord |
| 70th %ile Green (s) | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 | | 10.5 | 83.8 | | 11.4 | 84.7 | 84.7 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 11.7 | 11.7 | 11.7 | 11.7 | 11.7 | | 9.3 | 87.7 | | 9.7 | 88.1 | 88.1 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 8.2 | 91.1 | | 8.0 | 90.9 | 90.9 |
| 30th %ile Term Code | Min | Min | Min | Min | Min | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 6.5 | 105.7 | | 0.0 | 92.6 | 92.6 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Gap | Coord | | Skip | Coord | Coord |
| Stops (vph) | 39 | 6 | 0 | 56 | 28 | | 78 | 571 | | 51 | 140 | 11 |
| Fuel Used(l) | 4 | 0 | 1 | 6 | 7 | | 10 | 65 | | 7 | 28 | 3 |
| CO Emissions (g/hr) | 81 | 9 | 17 | 114 | 130 | | 189 | 1218 | | 135 | 524 | 57 |
| NOx Emissions (g/hr) | 16 | 2 | 3 | 22 | 25 | | 37 | 235 | | 26 | 101 | 11 |
| VOC Emissions (g/hr) | 19 | 2 | 4 | 26 | 30 | | 44 | 281 | | 31 | 121 | 13 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 43 | | 0 | 21 | 0 |
| Queue Length 50th (m) | 11.0 | 1.2 | 0.0 | 16.0 | 4.8 | | 10.6 | 67.0 | | 13.7 | 18.3 | 0.7 |
| Queue Length 95th (m) | 18.8 | 4.1 | 0.0 | 24.5 | 18.6 | | 19.1 | 141.0 | | 27.9 | 35.4 | 6.6 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 257 | 488 | 470 | 367 | 495 | | 202 | 2175 | | 134 | 2119 | 901 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.01 | 0.06 | 0.17 | 0.25 | | 0.41 | 0.51 | | 0.38 | 0.22 | 0.08 |

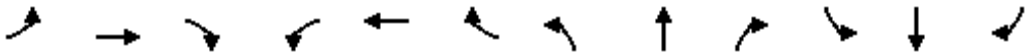
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 118 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 95 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.51 | | | |
| Intersection Signal Delay: 19.5 | | Intersection LOS: B | |
| Intersection Capacity Utilization 79.1% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Future Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1726 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1726 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 121 | | | 225 | | 2 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 57 | 0 | 91 | 28 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 27.0 | 77.0 | 12.2 | 13.0 | 63.0 | 63.0 | 12.2 | 17.0 | | 13.0 | 17.8 | |
| Total Split (%) | 22.5% | 64.2% | 10.2% | 10.8% | 52.5% | 52.5% | 10.2% | 14.2% | | 10.8% | 14.8% | |
| Maximum Green (s) | 19.9 | 70.1 | 5.7 | 5.9 | 56.1 | 56.1 | 5.7 | 10.0 | | 6.5 | 10.8 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 20.8 | 82.7 | 102.0 | 5.7 | 57.3 | 57.3 | 11.1 | 10.0 | | 7.7 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.17 | 0.69 | 0.85 | 0.05 | 0.48 | 0.48 | 0.09 | 0.08 | | 0.06 | 0.08 | 1.00 |
| v/c Ratio | 0.95 | 0.46 | 0.11 | 0.05 | 0.98 | 0.06 | 0.47 | 0.39 | | 0.86 | 0.19 | 0.20 |
| Control Delay | 77.9 | 10.5 | 1.1 | 62.2 | 40.0 | 0.1 | 58.9 | 58.8 | | 112.1 | 54.7 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.9 | 10.5 | 1.1 | 62.2 | 40.0 | 0.1 | 58.9 | 58.8 | | 112.1 | 54.7 | 0.3 |
| LOS | E | B | A | E | D | A | E | E | | F | D | A |
| Approach Delay | | 31.7 | | | 38.8 | | | 58.8 | | | 29.7 | |
| Approach LOS | | C | | | D | | | E | | | C | |
| 90th %ile Green (s) | 19.9 | 70.1 | 6.5 | 5.9 | 56.1 | 56.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Max | | Max | Min | |
| 70th %ile Green (s) | 19.9 | 83.1 | 6.5 | 0.0 | 56.1 | 56.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Min | |
| 50th %ile Green (s) | 19.9 | 83.1 | 6.5 | 0.0 | 56.1 | 56.1 | 6.5 | 10.0 | | 6.5 | 10.0 | |
| 50th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Min | |
| 30th %ile Green (s) | 19.9 | 83.1 | 23.5 | 0.0 | 56.1 | 56.1 | 23.5 | 10.0 | | 6.5 | 0.0 | |
| 30th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Max | | Max | Skip | |
| 10th %ile Green (s) | 24.6 | 94.0 | 12.6 | 0.0 | 62.3 | 62.3 | 12.6 | 0.0 | | 12.6 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 454 | 410 | 10 | 7 | 1298 | 0 | 122 | 51 | | 69 | 27 | 0 |
| Fuel Used(l) | 67 | 48 | 3 | 1 | 184 | 2 | 11 | 5 | | 12 | 3 | 5 |
| CO Emissions (g/hr) | 1239 | 893 | 63 | 14 | 3418 | 38 | 206 | 85 | | 218 | 48 | 95 |
| NOx Emissions (g/hr) | 239 | 172 | 12 | 3 | 660 | 7 | 40 | 16 | | 42 | 9 | 18 |
| VOC Emissions (g/hr) | 286 | 206 | 14 | 3 | 788 | 9 | 48 | 20 | | 50 | 11 | 22 |
| Dilemma Vehicles (#) | 0 | 38 | 0 | 0 | 33 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 63.2 | 46.1 | 0.9 | 1.1 | ~183.8 | 0.0 | 17.0 | 12.5 | | ~22.2 | 6.3 | 0.0 |
| Queue Length 95th (m) | #98.5 | 83.0 | 4.2 | m0.0 | #236.1 | m0.0 | #33.8 | 26.1 | | #55.9 | 15.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 542 | 1992 | 1278 | 81 | 1524 | 817 | 298 | 145 | | 106 | 157 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.95 | 0.46 | 0.11 | 0.05 | 0.98 | 0.06 | 0.47 | 0.39 | | 0.86 | 0.18 | 0.20 |

Intersection Summary

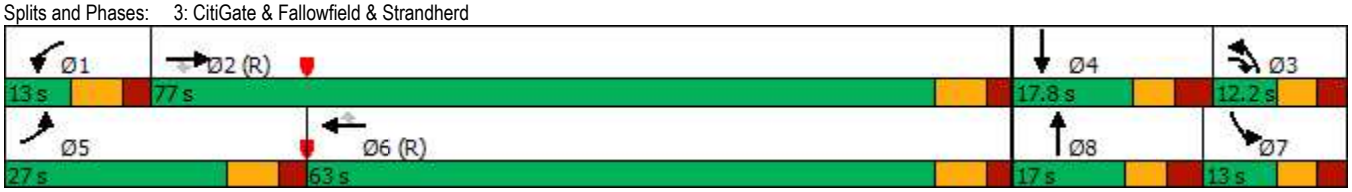
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 35.9 Intersection LOS: D
Intersection Capacity Utilization 88.5% ICU Level of Service E
Analysis Period (min) 15

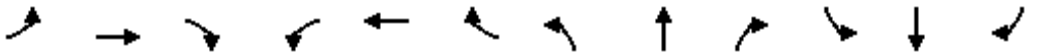
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





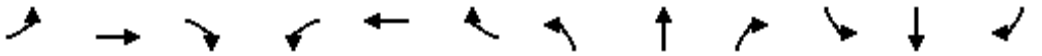
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Future Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.882 | | | 0.887 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1369 | 0 | 1658 | 1548 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1369 | 0 | 1658 | 1548 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 44 | | | 99 | | | 1 | | | | 137 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 135 | 56 | 0 | 6 | 132 | 0 | 160 | 1049 | 0 | 30 | 599 | 137 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 10.5 | 24.2 | | 8.1 | 11.1 | | 11.3 | 66.8 | | 8.3 | 58.7 | 68.2 |
| Actuated g/C Ratio | 0.09 | 0.20 | | 0.07 | 0.09 | | 0.09 | 0.56 | | 0.07 | 0.49 | 0.57 |
| v/c Ratio | 0.49 | 0.18 | | 0.05 | 0.57 | | 0.54 | 0.57 | | 0.33 | 0.37 | 0.16 |
| Control Delay | 58.0 | 19.0 | | 50.0 | 26.1 | | 58.6 | 21.1 | | 61.7 | 18.7 | 2.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.0 | 19.0 | | 50.0 | 26.1 | | 58.6 | 21.1 | | 61.7 | 18.7 | 2.0 |
| LOS | E | B | | D | C | | E | C | | E | B | A |
| Approach Delay | | 46.6 | | | 27.2 | | | 26.1 | | | 17.4 | |
| Approach LOS | | D | | | C | | | C | | | B | |
| 90th %ile Green (s) | 13.5 | 11.2 | | 17.0 | 14.7 | | 13.0 | 51.8 | | 11.5 | 50.3 | 13.5 |
| 90th %ile Term Code | Gap | Gap | | Hold | Gap | | Max | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 11.7 | 30.1 | | 0.0 | 10.8 | | 13.0 | 59.5 | | 9.5 | 56.0 | 11.7 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 10.5 | 28.1 | | 0.0 | 10.0 | | 11.7 | 62.9 | | 8.1 | 59.3 | 10.5 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 9.2 | 26.8 | | 0.0 | 10.0 | | 10.3 | 78.9 | | 0.0 | 62.0 | 9.2 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 7.4 | 25.0 | | 0.0 | 10.0 | | 8.4 | 80.7 | | 0.0 | 65.7 | 7.4 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| Stops (vph) | 125 | 19 | | 7 | 41 | | 149 | 683 | | 32 | 257 | 11 |
| Fuel Used(l) | 11 | 2 | | 0 | 5 | | 18 | 74 | | 5 | 49 | 7 |
| CO Emissions (g/hr) | 213 | 43 | | 8 | 99 | | 342 | 1367 | | 84 | 908 | 124 |
| NOx Emissions (g/hr) | 41 | 8 | | 2 | 19 | | 66 | 264 | | 16 | 175 | 24 |
| VOC Emissions (g/hr) | 49 | 10 | | 2 | 23 | | 79 | 315 | | 19 | 210 | 29 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 44 | | 0 | 32 | 0 |
| Queue Length 50th (m) | 15.8 | 2.2 | | 1.4 | 7.4 | | 18.7 | 87.1 | | 7.0 | 29.1 | 0.0 |
| Queue Length 95th (m) | 25.3 | 15.3 | | 5.2 | 26.0 | | 29.4 | 131.3 | | m15.7 | m56.3 | m10.2 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 331 | 332 | | 184 | 345 | | 296 | 1841 | | 101 | 1620 | 855 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.41 | 0.17 | | 0.03 | 0.38 | | 0.54 | 0.57 | | 0.30 | 0.37 | 0.16 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.57 | | | |
| Intersection Signal Delay: 24.9 | | Intersection LOS: C | |
| Intersection Capacity Utilization 71.1% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





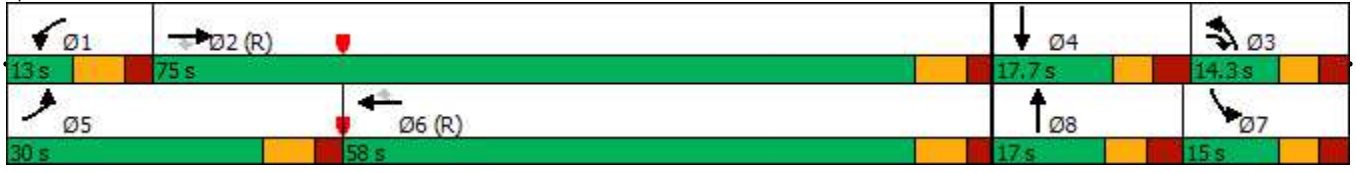
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 917 | 144 | 4 | 1316 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Future Volume (vph) | 516 | 917 | 144 | 4 | 1316 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1726 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1726 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 122 | | | 225 | | 2 | | | | 287 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 917 | 144 | 4 | 1316 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 917 | 144 | 4 | 1316 | 48 | 139 | 57 | 0 | 91 | 28 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 30.0 | 75.0 | 14.3 | 13.0 | 58.0 | 58.0 | 14.3 | 17.0 | | 15.0 | 17.7 | |
| Total Split (%) | 25.0% | 62.5% | 11.9% | 10.8% | 48.3% | 48.3% | 11.9% | 14.2% | | 12.5% | 14.8% | |
| Maximum Green (s) | 22.9 | 68.1 | 7.8 | 5.9 | 51.1 | 51.1 | 7.8 | 10.0 | | 8.5 | 10.7 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

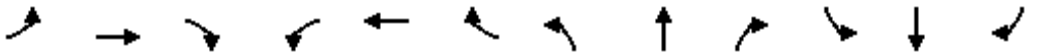
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 22.3 | 82.0 | 102.0 | 5.7 | 55.2 | 55.2 | 11.8 | 10.0 | | 8.4 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.19 | 0.68 | 0.85 | 0.05 | 0.46 | 0.46 | 0.10 | 0.08 | | 0.07 | 0.08 | 1.00 |
| v/c Ratio | 0.89 | 0.46 | 0.11 | 0.05 | 0.90 | 0.06 | 0.44 | 0.39 | | 0.78 | 0.19 | 0.20 |
| Control Delay | 66.3 | 11.3 | 1.1 | 60.5 | 28.8 | 0.1 | 56.7 | 58.8 | | 95.3 | 54.7 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 11.3 | 1.1 | 60.5 | 28.8 | 0.1 | 56.7 | 58.8 | | 95.3 | 54.7 | 0.3 |
| LOS | E | B | A | E | C | A | E | E | | F | D | A |
| Approach Delay | | 28.4 | | | 27.9 | | | 57.3 | | | 25.8 | |
| Approach LOS | | C | | | C | | | E | | | C | |
| 90th %ile Green (s) | 22.9 | 68.1 | 8.5 | 5.9 | 51.1 | 51.1 | 8.5 | 10.0 | | 8.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Max | | Max | Min | |
| 70th %ile Green (s) | 22.9 | 81.1 | 8.5 | 0.0 | 51.1 | 51.1 | 8.5 | 10.0 | | 8.5 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Min | |
| 50th %ile Green (s) | 22.9 | 81.1 | 8.5 | 0.0 | 51.1 | 51.1 | 8.5 | 10.0 | | 8.5 | 10.0 | |
| 50th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Min | |
| 30th %ile Green (s) | 22.9 | 81.1 | 25.5 | 0.0 | 51.1 | 51.1 | 25.5 | 10.0 | | 8.5 | 0.0 | |
| 30th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Max | | Max | Skip | |
| 10th %ile Green (s) | 19.7 | 98.4 | 8.2 | 0.0 | 71.6 | 71.6 | 8.2 | 0.0 | | 8.2 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 477 | 424 | 10 | 6 | 1093 | 0 | 129 | 51 | | 80 | 27 | 0 |
| Fuel Used(l) | 63 | 49 | 3 | 1 | 148 | 2 | 11 | 5 | | 11 | 3 | 5 |
| CO Emissions (g/hr) | 1178 | 918 | 63 | 13 | 2750 | 38 | 205 | 85 | | 203 | 48 | 95 |
| NOx Emissions (g/hr) | 227 | 177 | 12 | 3 | 531 | 7 | 40 | 16 | | 39 | 9 | 18 |
| VOC Emissions (g/hr) | 272 | 212 | 14 | 3 | 634 | 9 | 47 | 20 | | 47 | 11 | 22 |
| Dilemma Vehicles (#) | 0 | 38 | 0 | 0 | 47 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 61.2 | 49.0 | 0.8 | 0.9 | 160.3 | 0.0 | 16.7 | 12.5 | | 21.5 | 6.3 | 0.0 |
| Queue Length 95th (m) | #88.6 | 86.7 | 4.2 | m1.9 | #207.5 | m0.0 | 27.2 | 26.1 | | #49.1 | 15.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 596 | 1974 | 1279 | 81 | 1467 | 795 | 317 | 145 | | 117 | 155 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.87 | 0.46 | 0.11 | 0.05 | 0.90 | 0.06 | 0.44 | 0.39 | | 0.78 | 0.18 | 0.20 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 29.5 Intersection LOS: C
Intersection Capacity Utilization 83.4% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





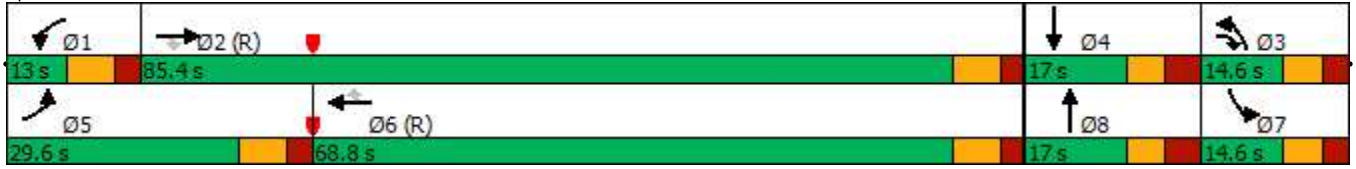
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Future Volume (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1726 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1726 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 123 | | | 207 | | 2 | | | | 279 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 917 | 144 | 4 | 1491 | 48 | 139 | 57 | 0 | 91 | 28 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 29.6 | 85.4 | 14.6 | 13.0 | 68.8 | 68.8 | 14.6 | 17.0 | | 14.6 | 17.0 | |
| Total Split (%) | 22.8% | 65.7% | 11.2% | 10.0% | 52.9% | 52.9% | 11.2% | 13.1% | | 11.2% | 13.1% | |
| Maximum Green (s) | 22.5 | 78.5 | 8.1 | 5.9 | 61.9 | 61.9 | 8.1 | 10.0 | | 8.1 | 10.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

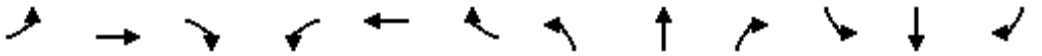
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 22.6 | 92.0 | 112.0 | 5.7 | 64.9 | 64.9 | 11.8 | 10.0 | | 8.4 | 10.0 | 130.0 |
| Actuated g/C Ratio | 0.17 | 0.71 | 0.86 | 0.04 | 0.50 | 0.50 | 0.09 | 0.08 | | 0.06 | 0.08 | 1.00 |
| v/c Ratio | 0.95 | 0.45 | 0.11 | 0.05 | 0.94 | 0.06 | 0.48 | 0.43 | | 0.85 | 0.21 | 0.20 |
| Control Delay | 81.1 | 10.2 | 1.0 | 64.8 | 33.2 | 0.1 | 63.0 | 65.5 | | 113.9 | 60.4 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 81.1 | 10.2 | 1.0 | 64.8 | 33.2 | 0.1 | 63.0 | 65.5 | | 113.9 | 60.4 | 0.3 |
| LOS | F | B | A | E | C | A | E | E | | F | E | A |
| Approach Delay | | 32.6 | | | 32.3 | | | 63.8 | | | 30.5 | |
| Approach LOS | | C | | | C | | | E | | | C | |
| 90th %ile Green (s) | 22.5 | 78.5 | 8.1 | 5.9 | 61.9 | 61.9 | 8.1 | 10.0 | | 8.1 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Max | | Max | Max | |
| 70th %ile Green (s) | 22.5 | 91.5 | 8.1 | 0.0 | 61.9 | 61.9 | 8.1 | 10.0 | | 8.1 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Max | |
| 50th %ile Green (s) | 22.5 | 91.5 | 8.1 | 0.0 | 61.9 | 61.9 | 8.1 | 10.0 | | 8.1 | 10.0 | |
| 50th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Max | |
| 30th %ile Green (s) | 22.5 | 91.5 | 25.1 | 0.0 | 61.9 | 61.9 | 25.1 | 10.0 | | 8.1 | 0.0 | |
| 30th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Max | | Max | Skip | |
| 10th %ile Green (s) | 23.2 | 107.0 | 9.6 | 0.0 | 76.7 | 76.7 | 9.6 | 0.0 | | 9.6 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 465 | 387 | 9 | 5 | 1156 | 0 | 127 | 51 | | 77 | 27 | 0 |
| Fuel Used(l) | 68 | 46 | 3 | 1 | 168 | 2 | 12 | 5 | | 12 | 3 | 5 |
| CO Emissions (g/hr) | 1274 | 865 | 61 | 12 | 3122 | 38 | 217 | 90 | | 225 | 50 | 95 |
| NOx Emissions (g/hr) | 246 | 167 | 12 | 2 | 603 | 7 | 42 | 17 | | 43 | 10 | 18 |
| VOC Emissions (g/hr) | 294 | 199 | 14 | 3 | 720 | 9 | 50 | 21 | | 52 | 11 | 22 |
| Dilemma Vehicles (#) | 0 | 35 | 0 | 0 | 55 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 68.2 | 48.4 | 0.8 | 0.0 | 197.3 | 0.0 | 18.3 | 13.7 | | 23.6 | 6.9 | 0.0 |
| Queue Length 95th (m) | #101.9 | 84.6 | 4.0 | m2.7 | #241.3 | m0.0 | #32.0 | 27.8 | | #56.1 | 16.8 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 543 | 2045 | 1295 | 75 | 1592 | 835 | 291 | 134 | | 107 | 134 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.95 | 0.45 | 0.11 | 0.05 | 0.94 | 0.06 | 0.48 | 0.43 | | 0.85 | 0.21 | 0.20 |

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 33.9 Intersection LOS: C
Intersection Capacity Utilization 88.5% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd



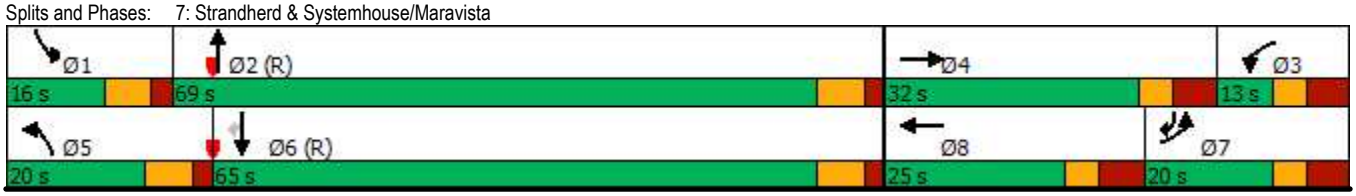


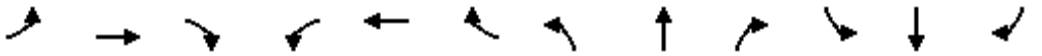
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Future Volume (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.882 | | | 0.887 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1369 | 0 | 1658 | 1548 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1369 | 0 | 1658 | 1548 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 44 | | | 96 | | | 1 | | | | 137 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 135 | 12 | 44 | 6 | 33 | 99 | 160 | 1042 | 7 | 30 | 599 | 137 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 135 | 56 | 0 | 6 | 132 | 0 | 160 | 1049 | 0 | 30 | 599 | 137 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 32.0 | | 13.0 | 25.0 | | 20.0 | 69.0 | | 16.0 | 65.0 | 20.0 |
| Total Split (%) | 15.4% | 24.6% | | 10.0% | 19.2% | | 15.4% | 53.1% | | 12.3% | 50.0% | 15.4% |
| Maximum Green (s) | 12.4 | 24.4 | | 5.4 | 17.4 | | 13.4 | 62.3 | | 9.4 | 58.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 10.9 | 24.7 | | 8.3 | 11.4 | | 11.6 | 76.3 | | 8.1 | 67.7 | 77.6 |
| Actuated g/C Ratio | 0.08 | 0.19 | | 0.06 | 0.09 | | 0.09 | 0.59 | | 0.06 | 0.52 | 0.60 |
| v/c Ratio | 0.51 | 0.19 | | 0.06 | 0.59 | | 0.57 | 0.54 | | 0.37 | 0.35 | 0.16 |
| Control Delay | 63.6 | 20.2 | | 54.7 | 29.9 | | 64.7 | 19.6 | | 84.9 | 12.6 | 1.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.6 | 20.2 | | 54.7 | 29.9 | | 64.7 | 19.6 | | 84.9 | 12.6 | 1.0 |
| LOS | E | C | | D | C | | E | B | | F | B | A |
| Approach Delay | | 50.9 | | | 31.0 | | | 25.5 | | | 13.4 | |
| Approach LOS | | D | | | C | | | C | | | B | |
| 90th %ile Green (s) | 14.0 | 11.4 | | 18.0 | 15.4 | | 13.8 | 62.3 | | 9.8 | 58.3 | 14.0 |
| 90th %ile Term Code | Gap | Gap | | Hold | Gap | | Max | Coord | | Max | Coord | Gap |
| 70th %ile Green (s) | 12.2 | 31.2 | | 0.0 | 11.4 | | 13.3 | 68.1 | | 9.8 | 64.6 | 12.2 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 10.9 | 28.5 | | 0.0 | 10.0 | | 11.9 | 72.3 | | 8.3 | 68.7 | 10.9 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 9.6 | 27.2 | | 0.0 | 10.0 | | 10.5 | 88.5 | | 0.0 | 71.4 | 9.6 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 7.7 | 25.3 | | 0.0 | 10.0 | | 8.5 | 90.4 | | 0.0 | 75.3 | 7.7 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| Stops (vph) | 126 | 19 | | 7 | 44 | | 149 | 633 | | 31 | 214 | 7 |
| Fuel Used(l) | 12 | 2 | | 0 | 6 | | 19 | 69 | | 5 | 44 | 6 |
| CO Emissions (g/hr) | 224 | 44 | | 8 | 107 | | 356 | 1291 | | 93 | 811 | 118 |
| NOx Emissions (g/hr) | 43 | 9 | | 2 | 21 | | 69 | 249 | | 18 | 156 | 23 |
| VOC Emissions (g/hr) | 52 | 10 | | 2 | 25 | | 82 | 298 | | 22 | 187 | 27 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 40 | | 0 | 21 | 0 |
| Queue Length 50th (m) | 17.3 | 2.4 | | 1.5 | 8.9 | | 20.5 | 88.2 | | 8.2 | 24.7 | 0.2 |
| Queue Length 95th (m) | 27.2 | 16.2 | | 5.5 | 28.3 | | 31.4 | 128.3 | | m16.0 | m30.1 | m2.7 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 308 | 322 | | 105 | 290 | | 327 | 1943 | | 97 | 1725 | 886 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.44 | 0.17 | | 0.06 | 0.46 | | 0.49 | 0.54 | | 0.31 | 0.35 | 0.15 |

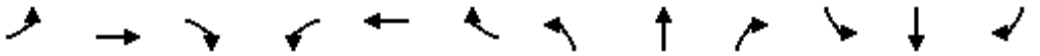
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.59 | | | |
| Intersection Signal Delay: 23.9 | | Intersection LOS: C | |
| Intersection Capacity Utilization 71.1% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 516 | 917 | 144 | 4 | 1416 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Future Volume (vph) | 516 | 917 | 144 | 4 | 1416 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.989 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1726 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1726 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 123 | | | 207 | | 2 | | | | 279 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 516 | 917 | 144 | 4 | 1416 | 48 | 139 | 53 | 4 | 91 | 28 | 279 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 917 | 144 | 4 | 1416 | 48 | 139 | 57 | 0 | 91 | 28 | 279 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 31.5 | 88.5 | 11.5 | 13.0 | 70.0 | 70.0 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (%) | 24.2% | 68.1% | 8.8% | 10.0% | 53.8% | 53.8% | 8.8% | 13.1% | | 8.8% | 13.1% | |
| Maximum Green (s) | 24.4 | 81.6 | 5.0 | 5.9 | 63.1 | 63.1 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 23.8 | 92.1 | 112.0 | 5.7 | 63.9 | 63.9 | 11.7 | 10.0 | | 8.3 | 10.0 | 130.0 |
| Actuated g/C Ratio | 0.18 | 0.71 | 0.86 | 0.04 | 0.49 | 0.49 | 0.09 | 0.08 | | 0.06 | 0.08 | 1.00 |
| v/c Ratio | 0.90 | 0.45 | 0.11 | 0.05 | 0.90 | 0.06 | 0.48 | 0.43 | | 0.87 | 0.21 | 0.20 |
| Control Delay | 72.2 | 9.5 | 1.0 | 64.0 | 28.6 | 0.1 | 63.8 | 65.5 | | 118.4 | 60.4 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 72.2 | 9.5 | 1.0 | 64.0 | 28.6 | 0.1 | 63.8 | 65.5 | | 118.4 | 60.4 | 0.3 |
| LOS | E | A | A | E | C | A | E | E | | F | E | A |
| Approach Delay | | 29.2 | | | 27.8 | | | 64.3 | | | 31.5 | |
| Approach LOS | | C | | | C | | | E | | | C | |
| 90th %ile Green (s) | 24.4 | 81.6 | 5.0 | 5.9 | 63.1 | 63.1 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Max | | Max | Max | |
| 70th %ile Green (s) | 24.4 | 94.6 | 5.0 | 0.0 | 63.1 | 63.1 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Max | |
| 50th %ile Green (s) | 24.4 | 94.6 | 5.0 | 0.0 | 63.1 | 63.1 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| 50th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Max | | Max | Max | |
| 30th %ile Green (s) | 24.4 | 94.6 | 22.0 | 0.0 | 63.1 | 63.1 | 22.0 | 10.0 | | 5.0 | 0.0 | |
| 30th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Max | | Max | Skip | |
| 10th %ile Green (s) | 21.3 | 95.3 | 21.3 | 0.0 | 66.9 | 66.9 | 21.3 | 0.0 | | 21.3 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 479 | 376 | 9 | 6 | 1078 | 0 | 100 | 51 | | 54 | 27 | 0 |
| Fuel Used(l) | 66 | 45 | 3 | 1 | 153 | 2 | 11 | 5 | | 12 | 3 | 5 |
| CO Emissions (g/hr) | 1223 | 844 | 61 | 13 | 2851 | 38 | 207 | 90 | | 217 | 50 | 95 |
| NOx Emissions (g/hr) | 236 | 163 | 12 | 3 | 550 | 7 | 40 | 17 | | 42 | 10 | 18 |
| VOC Emissions (g/hr) | 282 | 195 | 14 | 3 | 658 | 9 | 48 | 21 | | 50 | 11 | 22 |
| Dilemma Vehicles (#) | 0 | 35 | 0 | 0 | 51 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 66.9 | 43.8 | 0.8 | 1.2 | 178.2 | 0.0 | ~21.1 | 13.7 | | ~31.5 | 6.9 | 0.0 |
| Queue Length 95th (m) | #95.7 | 78.9 | 4.0 | m0.0 | #80.0 | m0.0 | #42.5 | 27.8 | | #66.6 | 16.8 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 586 | 2048 | 1295 | 75 | 1567 | 824 | 288 | 134 | | 105 | 134 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.88 | 0.45 | 0.11 | 0.05 | 0.90 | 0.06 | 0.48 | 0.43 | | 0.87 | 0.21 | 0.20 |

Intersection Summary

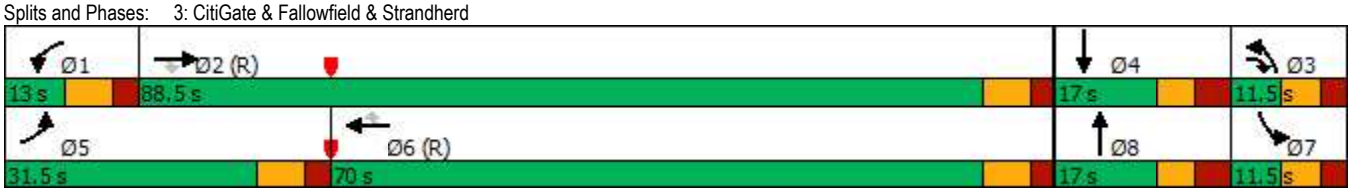
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 30.8 Intersection LOS: C
Intersection Capacity Utilization 86.3% ICU Level of Service E
Analysis Period (min) 15

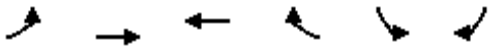
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

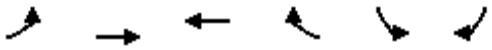
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Future Volume (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 81 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Actuated g/C Ratio | | 0.53 | 0.53 | | 0.36 | 0.36 |
| v/c Ratio | | 0.54 | 0.61 | | 0.98 | 0.42 |
| Control Delay | | 20.4 | 11.0 | | 61.0 | 20.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 20.4 | 11.0 | | 61.0 | 20.3 |
| LOS | | C | B | | E | C |
| Approach Delay | | 20.4 | 11.0 | | 54.1 | |
| Approach LOS | | C | B | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 30th %ile Term Code | | Coord | Coord | | Max | Max |
| 10th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 10th %ile Term Code | | Coord | Coord | | Max | Max |
| Stops (vph) | | 561 | 379 | | 966 | 103 |
| Fuel Used(l) | | 55 | 67 | | 86 | 9 |
| CO Emissions (g/hr) | | 1028 | 1244 | | 1603 | 158 |
| NOx Emissions (g/hr) | | 198 | 240 | | 309 | 31 |
| VOC Emissions (g/hr) | | 237 | 287 | | 370 | 36 |
| Dilemma Vehicles (#) | | 37 | 30 | | 0 | 0 |
| Queue Length 50th (m) | | 69.4 | 39.6 | | 129.1 | 23.5 |
| Queue Length 95th (m) | | 87.5 | 65.3 | | #174.4 | 45.3 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1619 | 1696 | | 1106 | 530 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.54 | 0.61 | | 0.98 | 0.42 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.98 | | | |
| Intersection Signal Delay: 31.1 | | Intersection LOS: C | |
| Intersection Capacity Utilization 75.9% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp

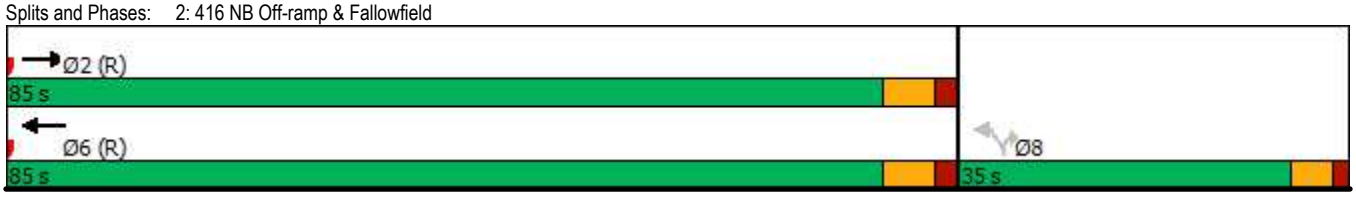


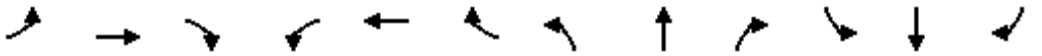
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1902 | 0 | 0 | 1158 | 99 | 159 |
| Future Volume (vph) | 1902 | 0 | 0 | 1158 | 99 | 159 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 21 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1902 | 0 | 0 | 1158 | 99 | 159 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1902 | 0 | 0 | 1158 | 99 | 159 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 90.9 | | | 90.9 | 17.1 | 17.1 |
| Actuated g/C Ratio | 0.76 | | | 0.76 | 0.14 | 0.14 |
| v/c Ratio | 0.79 | | | 0.47 | 0.47 | 0.72 |
| Control Delay | 8.2 | | | 3.9 | 53.1 | 59.6 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.2 | | | 3.9 | 53.1 | 59.6 |
| LOS | A | | | A | D | E |
| Approach Delay | 8.2 | | | 3.9 | 57.1 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 83.5 | | | 83.5 | 24.5 | 24.5 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 87.9 | | | 87.9 | 20.1 | 20.1 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 90.9 | | | 90.9 | 17.1 | 17.1 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 94.0 | | | 94.0 | 14.0 | 14.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 1200 | | | 214 | 88 | 129 |
| Fuel Used(l) | 148 | | | 60 | 8 | 14 |
| CO Emissions (g/hr) | 2755 | | | 1109 | 153 | 253 |
| NOx Emissions (g/hr) | 532 | | | 214 | 30 | 49 |
| VOC Emissions (g/hr) | 636 | | | 256 | 35 | 58 |
| Dilemma Vehicles (#) | 36 | | | 25 | 0 | 0 |
| Queue Length 50th (m) | 58.1 | | | 25.5 | 21.7 | 31.5 |
| Queue Length 95th (m) | m168.7 | | | m24.2 | 36.3 | 51.1 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2416 | | | 2485 | 367 | 368 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.79 | | | 0.47 | 0.27 | 0.43 |

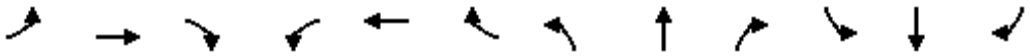
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 80 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.79 | | | |
| Intersection Signal Delay: 10.5 | | Intersection LOS: B | |
| Intersection Capacity Utilization 75.9% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 284 | 426 | 180 | 2 | 1134 | 103 | 182 | 70 | 2 | 130 | 36 | 411 |
| Future Volume (vph) | 284 | 426 | 180 | 2 | 1134 | 103 | 182 | 70 | 2 | 130 | 36 | 411 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.996 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1737 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3119 | 2891 | 1450 | 1655 | 3191 | 1457 | 3203 | 1737 | 0 | 1651 | 1745 | 1421 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 168 | | | 160 | | 1 | | | | 411 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 3 | | 1 | 1 | | 3 | 5 | | 5 | 5 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 284 | 426 | 180 | 2 | 1134 | 103 | 182 | 70 | 2 | 130 | 36 | 411 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 284 | 426 | 180 | 2 | 1134 | 103 | 182 | 72 | 0 | 130 | 36 | 411 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

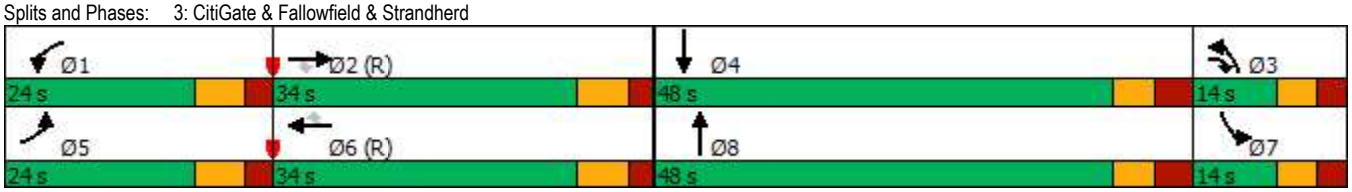


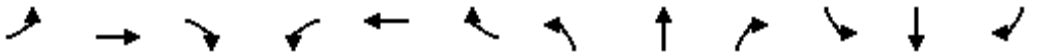
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 2 | | | 2 | 2 | | 5 | | | 5 | |
| Act Effct Green (s) | 15.4 | 66.3 | 87.9 | 5.8 | 46.5 | 46.5 | 21.2 | 16.6 | | 17.4 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.13 | 0.55 | 0.73 | 0.05 | 0.39 | 0.39 | 0.18 | 0.14 | | 0.14 | 0.14 | 1.00 |
| v/c Ratio | 0.71 | 0.27 | 0.16 | 0.03 | 0.92 | 0.16 | 0.32 | 0.30 | | 0.54 | 0.15 | 0.29 |
| Control Delay | 50.0 | 24.6 | 4.9 | 88.5 | 33.6 | 1.1 | 47.3 | 45.6 | | 58.4 | 42.8 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.0 | 24.6 | 4.9 | 88.5 | 33.6 | 1.1 | 47.3 | 45.6 | | 58.4 | 42.8 | 0.5 |
| LOS | D | C | A | F | C | A | D | D | | E | D | A |
| Approach Delay | | 28.7 | | | 31.0 | | | 46.8 | | | 16.2 | |
| Approach LOS | | C | | | C | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 37.7 | 7.5 | 6.3 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 17.9 | 68.8 | 20.8 | 0.0 | 43.8 | 43.8 | 20.8 | 12.0 | | 18.8 | 10.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 50th %ile Green (s) | 16.1 | 70.8 | 18.8 | 0.0 | 47.6 | 47.6 | 18.8 | 10.2 | | 18.6 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Gap | | Gap | Min | |
| 30th %ile Green (s) | 14.3 | 70.3 | 36.3 | 0.0 | 48.9 | 48.9 | 36.3 | 10.0 | | 19.3 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Gap | Skip | |
| 10th %ile Green (s) | 11.7 | 84.0 | 22.6 | 0.0 | 65.2 | 65.2 | 22.6 | 0.0 | | 22.6 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 274 | 282 | 41 | 3 | 857 | 8 | 143 | 60 | | 98 | 30 | 0 |
| Fuel Used(l) | 32 | 35 | 10 | 0 | 101 | 3 | 15 | 6 | | 13 | 3 | 16 |
| CO Emissions (g/hr) | 593 | 654 | 177 | 6 | 1881 | 48 | 283 | 112 | | 245 | 61 | 304 |
| NOx Emissions (g/hr) | 114 | 126 | 34 | 1 | 363 | 9 | 55 | 22 | | 47 | 12 | 59 |
| VOC Emissions (g/hr) | 137 | 151 | 41 | 1 | 434 | 11 | 65 | 26 | | 56 | 14 | 70 |
| Dilemma Vehicles (#) | 0 | 28 | 0 | 0 | 17 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 35.6 | 35.5 | 4.5 | 0.5 | 148.6 | 0.0 | 20.0 | 16.2 | | 28.4 | 8.1 | 0.0 |
| Queue Length 95th (m) | m46.1 | m62.5 | m16.4 | m1.0 | #237.6 | m4.6 | #43.8 | 22.0 | | #77.5 | 13.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 444 | 1597 | 1113 | 233 | 1236 | 662 | 568 | 594 | | 239 | 596 | 1421 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.64 | 0.27 | 0.16 | 0.01 | 0.92 | 0.16 | 0.32 | 0.12 | | 0.54 | 0.06 | 0.29 |

Intersection Summary

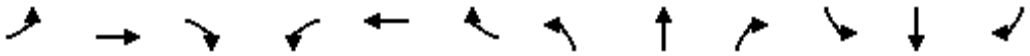
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 28.8 Intersection LOS: C
Intersection Capacity Utilization 76.5% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 114 | 1259 | 275 | 35 | 1067 | 29 | 198 | 81 | 23 | 18 | 86 | 83 |
| Future Volume (vph) | 114 | 1259 | 275 | 35 | 1067 | 29 | 198 | 81 | 23 | 18 | 86 | 83 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.99 | 1.00 | | 0.97 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.701 | | | 0.704 | | |
| Satd. Flow (perm) | 1657 | 2941 | 1463 | 3215 | 3221 | 1445 | 1214 | 1745 | 1454 | 1224 | 1745 | 1448 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 118 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 1 | | 1 | 1 | | 1 | 10 | | 5 | 5 | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 114 | 1259 | 275 | 35 | 1067 | 29 | 198 | 81 | 23 | 18 | 86 | 83 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 114 | 1259 | 275 | 35 | 1067 | 29 | 198 | 81 | 23 | 18 | 86 | 83 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



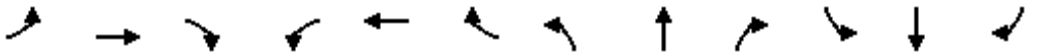
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 6 | 6 | 6 | 8 | 8 | 8 |
| Act Effct Green (s) | 14.3 | 70.6 | 70.6 | 6.8 | 58.0 | 58.0 | 26.3 | 26.3 | 26.3 | 26.3 | 26.3 | 26.3 |
| Actuated g/C Ratio | 0.12 | 0.59 | 0.59 | 0.06 | 0.48 | 0.48 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 |
| v/c Ratio | 0.58 | 0.73 | 0.30 | 0.19 | 0.69 | 0.04 | 0.74 | 0.21 | 0.06 | 0.07 | 0.22 | 0.21 |
| Control Delay | 66.3 | 22.8 | 8.4 | 62.1 | 16.6 | 0.6 | 59.2 | 36.6 | 0.3 | 32.7 | 36.9 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 22.8 | 8.4 | 62.1 | 16.6 | 0.6 | 59.2 | 36.6 | 0.3 | 32.7 | 36.9 | 5.5 |
| LOS | E | C | A | E | B | A | E | D | A | C | D | A |
| Approach Delay | | 23.4 | | | 17.6 | | | 48.6 | | | 22.6 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.3 | 49.3 | 8.3 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 17.0 | 62.1 | 62.1 | 7.3 | 52.4 | 52.4 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 16.2 | 66.7 | 66.7 | 6.7 | 57.2 | 57.2 | 25.2 | 25.2 | 25.2 | 25.2 | 25.2 | 25.2 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 15.4 | 84.4 | 84.4 | 0.0 | 62.1 | 62.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 | 21.1 |
| 30th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 14.5 | 90.3 | 90.3 | 0.0 | 68.9 | 68.9 | 15.2 | 15.2 | 15.2 | 15.2 | 15.2 | 15.2 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 91 | 835 | 72 | 35 | 734 | 1 | 177 | 62 | 0 | 15 | 67 | 9 |
| Fuel Used(l) | 13 | 95 | 11 | 4 | 80 | 1 | 20 | 6 | 1 | 1 | 6 | 2 |
| CO Emissions (g/hr) | 248 | 1768 | 212 | 83 | 1485 | 14 | 367 | 119 | 15 | 22 | 111 | 46 |
| NOx Emissions (g/hr) | 48 | 341 | 41 | 16 | 287 | 3 | 71 | 23 | 3 | 4 | 21 | 9 |
| VOC Emissions (g/hr) | 57 | 408 | 49 | 19 | 343 | 3 | 85 | 28 | 3 | 5 | 26 | 11 |
| Dilemma Vehicles (#) | 0 | 54 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 24.4 | 135.6 | 16.6 | 4.4 | 43.7 | 0.0 | 44.4 | 15.9 | 0.0 | 3.4 | 17.0 | 0.0 |
| Queue Length 95th (m) | #65.3 | #206.0 | 27.3 | m6.8 | 52.0 | m0.3 | 59.5 | 24.6 | 0.0 | 8.1 | 25.8 | 8.3 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 197 | 1729 | 908 | 218 | 1555 | 752 | 417 | 600 | 564 | 421 | 600 | 561 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.58 | 0.73 | 0.30 | 0.16 | 0.69 | 0.04 | 0.47 | 0.14 | 0.04 | 0.04 | 0.14 | 0.15 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 23.7 Intersection LOS: C
Intersection Capacity Utilization 79.4% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd





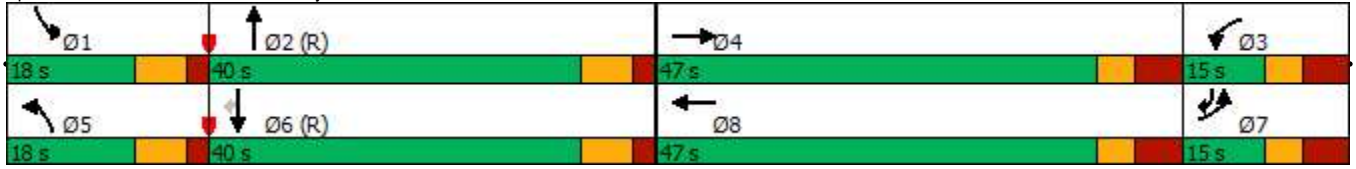
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 245 | 62 | 204 | 8 | 56 | 36 | 226 | 728 | 6 | 172 | 933 | 124 |
| Future Volume (vph) | 245 | 62 | 204 | 8 | 56 | 36 | 226 | 728 | 6 | 172 | 933 | 124 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 0.99 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | 0.885 | | | 0.941 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1523 | 0 | 1658 | 1555 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3199 | 1523 | 0 | 1650 | 1555 | 0 | 3214 | 3312 | 0 | 1656 | 3316 | 1333 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 147 | | | 29 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | 4 | | 7 | 7 | | 4 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 245 | 62 | 204 | 8 | 56 | 36 | 226 | 728 | 6 | 172 | 933 | 124 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 245 | 266 | 0 | 8 | 92 | 0 | 226 | 734 | 0 | 172 | 933 | 124 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

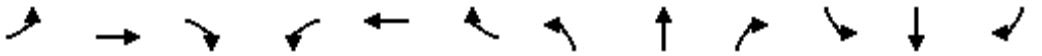
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 4 | | | 7 | | | 1 | | | 1 | |
| Act Effct Green (s) | 16.5 | 37.3 | | 6.3 | 16.4 | | 12.7 | 39.1 | | 19.6 | 46.0 | 61.6 |
| Actuated g/C Ratio | 0.14 | 0.31 | | 0.05 | 0.14 | | 0.11 | 0.33 | | 0.16 | 0.38 | 0.51 |
| v/c Ratio | 0.56 | 0.46 | | 0.09 | 0.39 | | 0.67 | 0.68 | | 0.64 | 0.73 | 0.17 |
| Control Delay | 54.8 | 17.2 | | 55.9 | 34.4 | | 50.3 | 45.0 | | 69.3 | 32.5 | 8.8 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.8 | 17.2 | | 55.9 | 34.4 | | 50.3 | 45.0 | | 69.3 | 32.5 | 8.8 |
| LOS | D | B | | E | C | | D | D | | E | C | A |
| Approach Delay | | 35.2 | | | 36.1 | | | 46.2 | | | 35.2 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| 90th %ile Green (s) | 7.8 | 39.0 | | 7.8 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Ped | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 17.4 | 37.5 | | 0.0 | 12.5 | | 15.5 | 39.6 | | 22.0 | 46.1 | 17.4 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 17.4 | 35.3 | | 0.0 | 10.3 | | 13.9 | 42.5 | | 21.3 | 49.9 | 17.4 |
| 50th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 18.2 | 35.8 | | 0.0 | 10.0 | | 12.4 | 42.1 | | 21.2 | 50.9 | 18.2 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 21.5 | 39.1 | | 0.0 | 10.0 | | 10.1 | 37.9 | | 22.1 | 49.9 | 21.5 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| Stops (vph) | 195 | 98 | | 9 | 54 | | 211 | 710 | | 144 | 504 | 35 |
| Fuel Used(l) | 19 | 11 | | 1 | 5 | | 28 | 90 | | 21 | 73 | 6 |
| CO Emissions (g/hr) | 362 | 203 | | 11 | 87 | | 527 | 1681 | | 396 | 1364 | 105 |
| NOx Emissions (g/hr) | 70 | 39 | | 2 | 17 | | 102 | 324 | | 77 | 263 | 20 |
| VOC Emissions (g/hr) | 84 | 47 | | 3 | 20 | | 121 | 388 | | 91 | 315 | 24 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 3 | | 0 | 64 | 0 |
| Queue Length 50th (m) | 27.8 | 21.7 | | 1.8 | 14.4 | | 27.0 | 87.2 | | 43.5 | 41.8 | 2.0 |
| Queue Length 95th (m) | #61.2 | 44.7 | | 6.9 | 22.7 | | #43.8 | 115.8 | | m#80.5 | #155.8 | m21.2 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 441 | 598 | | 103 | 530 | | 346 | 1079 | | 270 | 1271 | 736 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.44 | | 0.08 | 0.17 | | 0.65 | 0.68 | | 0.64 | 0.73 | 0.17 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 39.0 Intersection LOS: D
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista





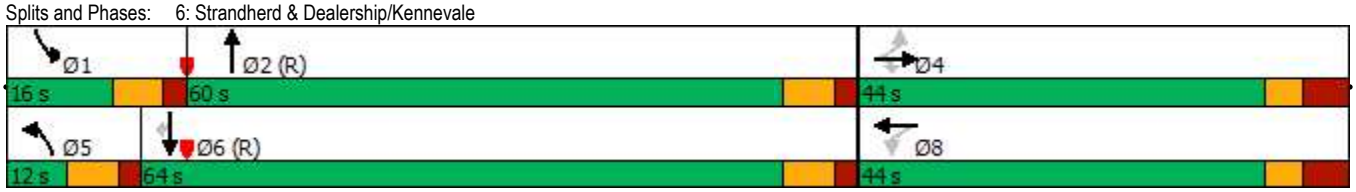
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 14 | 71 | 85 | 13 | 70 | 52 | 762 | 78 | 133 | 1067 | 52 |
| Future Volume (vph) | 125 | 14 | 71 | 85 | 13 | 70 | 52 | 762 | 78 | 133 | 1067 | 52 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | 1.00 | | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | 0.873 | | | 0.986 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1479 | 0 | 3216 | 3262 | 0 | 1642 | 3316 | 1483 |
| Flt Permitted | 0.703 | | | 0.748 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 1222 | 1745 | 1459 | 1300 | 1479 | 0 | 3215 | 3262 | 0 | 1640 | 3316 | 1464 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 70 | | | 12 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Confl. Peds. (#/hr) | 4 | | 4 | 4 | | 4 | 1 | | 1 | 1 | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 125 | 14 | 71 | 85 | 13 | 70 | 52 | 762 | 78 | 133 | 1067 | 52 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 125 | 14 | 71 | 85 | 83 | 0 | 52 | 840 | 0 | 133 | 1067 | 52 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 12.0 | 60.0 | | 16.0 | 64.0 | 64.0 |
| Total Split (%) | 36.7% | 36.7% | 36.7% | 36.7% | 36.7% | | 10.0% | 50.0% | | 13.3% | 53.3% | 53.3% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 5.4 | 53.3 | | 9.4 | 57.3 | 57.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |

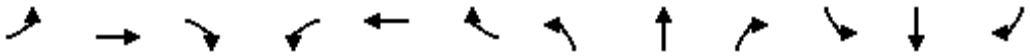
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 4 | 4 | 4 | 4 | 4 | | | 1 | | | 1 | 1 |
| Act Effct Green (s) | 19.8 | 19.8 | 19.8 | 19.8 | 19.8 | | 6.7 | 63.3 | | 16.0 | 75.1 | 75.1 |
| Actuated g/C Ratio | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | | 0.06 | 0.53 | | 0.13 | 0.63 | 0.63 |
| v/c Ratio | 0.62 | 0.05 | 0.22 | 0.40 | 0.27 | | 0.29 | 0.49 | | 0.61 | 0.51 | 0.05 |
| Control Delay | 58.0 | 36.9 | 4.8 | 47.3 | 13.3 | | 58.7 | 20.1 | | 54.1 | 17.0 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.0 | 36.9 | 4.8 | 47.3 | 13.3 | | 58.7 | 20.1 | | 54.1 | 17.0 | 3.0 |
| LOS | E | D | A | D | B | | E | C | | D | B | A |
| Approach Delay | | 38.6 | | | 30.5 | | | 22.4 | | | 20.4 | |
| Approach LOS | | D | | | C | | | C | | | C | |
| 90th %ile Green (s) | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | | 5.8 | 53.3 | | 9.8 | 57.3 | 57.3 |
| 90th %ile Term Code | Hold | Hold | Hold | Ped | Ped | | Max | Coord | | Max | Coord | Coord |
| 70th %ile Green (s) | 20.8 | 20.8 | 20.8 | 20.8 | 20.8 | | 8.1 | 59.6 | | 18.7 | 70.2 | 70.2 |
| 70th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | | 7.3 | 63.5 | | 17.9 | 74.1 | 74.1 |
| 50th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | | 6.6 | 67.3 | | 17.3 | 78.0 | 78.0 |
| 30th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 0.0 | 72.6 | | 16.5 | 95.7 | 95.7 |
| 10th %ile Term Code | Min | Min | Min | Min | Min | | Skip | Coord | | Gap | Coord | Coord |
| Stops (vph) | 112 | 13 | 5 | 72 | 20 | | 50 | 520 | | 91 | 855 | 12 |
| Fuel Used(l) | 12 | 1 | 3 | 8 | 4 | | 6 | 58 | | 15 | 98 | 3 |
| CO Emissions (g/hr) | 230 | 22 | 52 | 141 | 84 | | 115 | 1079 | | 282 | 1828 | 47 |
| NOx Emissions (g/hr) | 44 | 4 | 10 | 27 | 16 | | 22 | 208 | | 54 | 353 | 9 |
| VOC Emissions (g/hr) | 53 | 5 | 12 | 32 | 19 | | 26 | 249 | | 65 | 422 | 11 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 35 | | 0 | 8 | 0 |
| Queue Length 50th (m) | 28.3 | 2.9 | 0.0 | 18.5 | 2.7 | | 6.1 | 62.4 | | 26.8 | 121.8 | 0.5 |
| Queue Length 95th (m) | 40.1 | 7.3 | 6.4 | 28.2 | 13.7 | | 12.7 | 94.7 | | m#57.6 | 156.4 | m5.0 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 370 | 529 | 508 | 394 | 497 | | 178 | 1725 | | 219 | 2074 | 954 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.03 | 0.14 | 0.22 | 0.17 | | 0.29 | 0.49 | | 0.61 | 0.51 | 0.05 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 23.3 Intersection LOS: C
Intersection Capacity Utilization 68.3% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd & Dealership/Kennevale

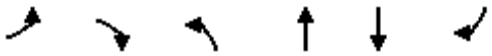




| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 31 | 6 | 39 | 14 | 2 | 34 | 26 | 366 | 25 | 32 | 390 | 26 |
| Future Volume (Veh/h) | 31 | 6 | 39 | 14 | 2 | 34 | 26 | 366 | 25 | 32 | 390 | 26 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 31 | 6 | 39 | 14 | 2 | 34 | 26 | 366 | 25 | 32 | 390 | 26 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 907 | 897 | 390 | 914 | 898 | 366 | 416 | | | 391 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 907 | 897 | 390 | 914 | 898 | 366 | 416 | | | 391 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 87 | 98 | 94 | 94 | 99 | 95 | 98 | | | 97 | | |
| cM capacity (veh/h) | 233 | 266 | 658 | 226 | 265 | 679 | 1143 | | | 1168 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 31 | 45 | 50 | 26 | 366 | 25 | 32 | 390 | 26 |
| Volume Left | 31 | 0 | 14 | 26 | 0 | 0 | 32 | 0 | 0 |
| Volume Right | 0 | 39 | 34 | 0 | 0 | 25 | 0 | 0 | 26 |
| cSH | 233 | 550 | 418 | 1143 | 1700 | 1700 | 1168 | 1700 | 1700 |
| Volume to Capacity | 0.13 | 0.08 | 0.12 | 0.02 | 0.22 | 0.01 | 0.03 | 0.23 | 0.02 |
| Queue Length 95th (m) | 3.4 | 2.0 | 3.1 | 0.5 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Control Delay (s) | 22.8 | 12.1 | 14.8 | 8.2 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 |
| Lane LOS | C | B | B | A | | | A | | |
| Approach Delay (s) | 16.5 | | 14.8 | 0.5 | | | 0.6 | | |
| Approach LOS | C | | B | | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.5 | | | |
| Intersection Capacity Utilization | 44.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 61 | 60 | 60 | 61 | 0 |
| Future Volume (Veh/h) | 0 | 61 | 60 | 60 | 61 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 0 | 61 | 60 | 60 | 61 | 0 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 241 | 61 | 61 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 241 | 61 | 61 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 94 | 96 | | | |
| cM capacity (veh/h) | 718 | 1004 | 1542 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 61 | 120 | 61 |
| Volume Left | 0 | 60 | 0 |
| Volume Right | 61 | 0 | 0 |
| cSH | 1004 | 1542 | 1700 |
| Volume to Capacity | 0.06 | 0.04 | 0.04 |
| Queue Length 95th (m) | 1.5 | 0.9 | 0.0 |
| Control Delay (s) | 8.8 | 3.9 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.8 | 3.9 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.1 | | |
| Intersection Capacity Utilization | 24.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 0 | 62 | 10 | 0 | 63 |
| Future Volume (Veh/h) | 10 | 0 | 62 | 10 | 0 | 63 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 10 | 0 | 62 | 10 | 0 | 63 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 10 | | 144 | 10 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 10 | | 144 | 10 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 96 | | 100 | 94 |
| cM capacity (veh/h) | | | 1610 | | 816 | 1071 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 10 | 72 | 63 |
| Volume Left | 0 | 62 | 0 |
| Volume Right | 0 | 0 | 63 |
| cSH | 1700 | 1610 | 1071 |
| Volume to Capacity | 0.01 | 0.04 | 0.06 |
| Queue Length 95th (m) | 0.0 | 0.9 | 1.4 |
| Control Delay (s) | 0.0 | 6.3 | 8.6 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 6.3 | 8.6 |
| Approach LOS | | | A |

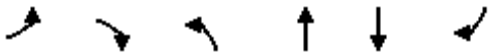
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.9 | | |
| Intersection Capacity Utilization | 21.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 75 | 0 | 109 | 72 | 0 | 110 |
| Future Volume (Veh/h) | 75 | 0 | 109 | 72 | 0 | 110 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 75 | 0 | 109 | 72 | 0 | 110 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 75 | | 365 | 75 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 75 | | 365 | 75 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 93 | | 100 | 89 |
| cM capacity (veh/h) | | | 1524 | | 589 | 986 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 75 | 181 | 110 |
| Volume Left | 0 | 109 | 0 |
| Volume Right | 0 | 0 | 110 |
| cSH | 1700 | 1524 | 986 |
| Volume to Capacity | 0.04 | 0.07 | 0.11 |
| Queue Length 95th (m) | 0.0 | 1.8 | 2.9 |
| Control Delay (s) | 0.0 | 4.8 | 9.1 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 4.8 | 9.1 |
| Approach LOS | | | A |

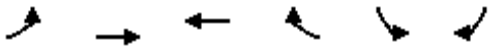
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.1 | | |
| Intersection Capacity Utilization | 30.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



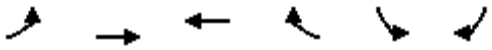
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 86 | 61 | 60 | 0 | 0 | 84 |
| Future Volume (Veh/h) | 86 | 61 | 60 | 0 | 0 | 84 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 86 | 61 | 60 | 0 | 0 | 84 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 162 | 42 | 84 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 162 | 42 | 84 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 89 | 94 | 96 | | | |
| cM capacity (veh/h) | 796 | 1029 | 1513 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 147 | 60 | 84 |
| Volume Left | 86 | 60 | 0 |
| Volume Right | 61 | 0 | 84 |
| cSH | 878 | 1513 | 1700 |
| Volume to Capacity | 0.17 | 0.04 | 0.05 |
| Queue Length 95th (m) | 4.6 | 0.9 | 0.0 |
| Control Delay (s) | 9.9 | 7.5 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.9 | 7.5 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.6 | | |
| Intersection Capacity Utilization | 25.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



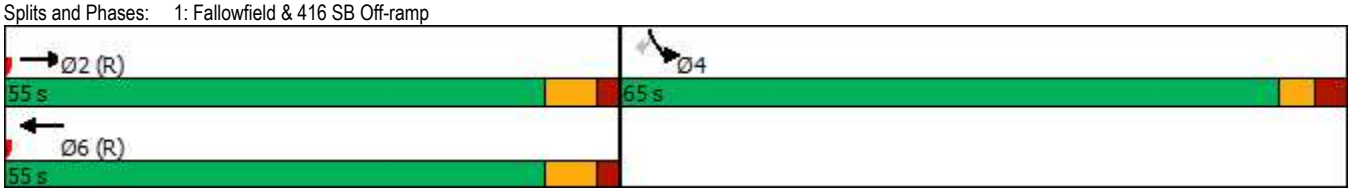
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Future Volume (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 34 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 879 | 1029 | 0 | 1085 | 220 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 55.0 | 55.0 | | 65.0 | 65.0 |
| Total Split (%) | | 45.8% | 45.8% | | 54.2% | 54.2% |
| Maximum Green (s) | | 48.2 | 48.2 | | 58.7 | 58.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

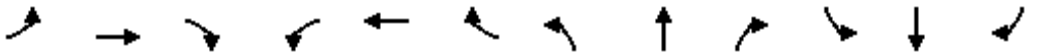


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 55.8 | 55.8 | | 51.1 | 51.1 |
| Actuated g/C Ratio | | 0.46 | 0.46 | | 0.43 | 0.43 |
| v/c Ratio | | 0.62 | 0.69 | | 0.84 | 0.38 |
| Control Delay | | 27.6 | 21.9 | | 37.0 | 20.7 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 27.6 | 21.9 | | 37.0 | 20.7 |
| LOS | | C | C | | D | C |
| Approach Delay | | 27.6 | 21.9 | | 34.2 | |
| Approach LOS | | C | C | | C | |
| 90th %ile Green (s) | | 48.3 | 48.3 | | 58.6 | 58.6 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 51.8 | 51.8 | | 55.1 | 55.1 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 55.2 | 55.2 | | 51.7 | 51.7 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 58.7 | 58.7 | | 48.2 | 48.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 64.8 | 64.8 | | 42.1 | 42.1 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 653 | 495 | | 929 | 120 |
| Fuel Used(l) | | 65 | 82 | | 65 | 9 |
| CO Emissions (g/hr) | | 1216 | 1528 | | 1214 | 166 |
| NOx Emissions (g/hr) | | 235 | 295 | | 234 | 32 |
| VOC Emissions (g/hr) | | 280 | 353 | | 280 | 38 |
| Dilemma Vehicles (#) | | 37 | 69 | | 0 | 0 |
| Queue Length 50th (m) | | 80.4 | 55.8 | | 114.4 | 28.8 |
| Queue Length 95th (m) | | 113.2 | 111.8 | | 127.0 | 43.4 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1428 | 1496 | | 1486 | 661 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.62 | 0.69 | | 0.73 | 0.33 |

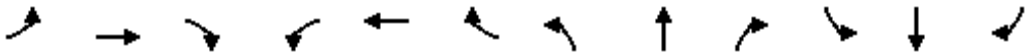
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.84 | | | |
| Intersection Signal Delay: 28.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 75.9% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 284 | 1426 | 180 | 2 | 1134 | 103 | 182 | 70 | 2 | 130 | 36 | 411 |
| Future Volume (vph) | 284 | 1426 | 180 | 2 | 1134 | 103 | 182 | 70 | 2 | 130 | 36 | 411 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.996 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1738 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1738 | 0 | 1643 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 1 | | | | 397 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 284 | 1426 | 180 | 2 | 1134 | 103 | 182 | 70 | 2 | 130 | 36 | 411 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 284 | 1426 | 180 | 2 | 1134 | 103 | 182 | 72 | 0 | 130 | 36 | 411 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 15.2 | 75.8 | 101.8 | 5.8 | 56.2 | 56.2 | 17.8 | 11.3 | | 13.2 | 10.1 | 120.0 |
| Actuated g/C Ratio | 0.13 | 0.63 | 0.85 | 0.05 | 0.47 | 0.47 | 0.15 | 0.09 | | 0.11 | 0.08 | 1.00 |
| v/c Ratio | 0.72 | 0.78 | 0.14 | 0.03 | 0.76 | 0.13 | 0.38 | 0.44 | | 0.71 | 0.24 | 0.29 |
| Control Delay | 61.0 | 21.4 | 1.7 | 78.0 | 30.7 | 1.9 | 50.8 | 58.9 | | 74.8 | 55.8 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.0 | 21.4 | 1.7 | 78.0 | 30.7 | 1.9 | 50.8 | 58.9 | | 74.8 | 55.8 | 0.5 |
| LOS | E | C | A | E | C | A | D | E | | E | E | A |
| Approach Delay | | 25.5 | | | 28.4 | | | 53.1 | | | 20.7 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| 90th %ile Green (s) | 16.9 | 63.7 | 11.8 | 6.3 | 53.1 | 53.1 | 11.8 | 14.3 | | 8.2 | 10.7 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Gap | | Max | Gap | |
| 70th %ile Green (s) | 16.9 | 77.1 | 12.5 | 0.0 | 53.1 | 53.1 | 12.5 | 11.9 | | 10.6 | 10.0 | |
| 70th %ile Term Code | Max | Coord | Max | Skip | Coord | Coord | Max | Gap | | Max | Min | |
| 50th %ile Green (s) | 16.1 | 77.1 | 12.5 | 0.0 | 53.9 | 53.9 | 12.5 | 10.2 | | 12.3 | 10.0 | |
| 50th %ile Term Code | Gap | Coord | Max | Skip | Coord | Coord | Max | Gap | | Max | Min | |
| 30th %ile Green (s) | 14.3 | 77.1 | 29.5 | 0.0 | 55.7 | 55.7 | 29.5 | 10.0 | | 12.5 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Min | | Max | Skip | |
| 10th %ile Green (s) | 11.7 | 84.0 | 22.6 | 0.0 | 65.2 | 65.2 | 22.6 | 0.0 | | 22.6 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| Stops (vph) | 268 | 967 | 20 | 3 | 1063 | 14 | 164 | 66 | | 102 | 34 | 0 |
| Fuel Used(l) | 34 | 105 | 5 | 0 | 136 | 5 | 13 | 6 | | 13 | 3 | 8 |
| CO Emissions (g/hr) | 632 | 1962 | 88 | 7 | 2530 | 99 | 251 | 108 | | 244 | 61 | 141 |
| NOx Emissions (g/hr) | 122 | 379 | 17 | 1 | 488 | 19 | 48 | 21 | | 47 | 12 | 27 |
| VOC Emissions (g/hr) | 146 | 453 | 20 | 2 | 583 | 23 | 58 | 25 | | 56 | 14 | 32 |
| Dilemma Vehicles (#) | 0 | 58 | 0 | 0 | 10 | 0 | 0 | 0 | | 0 | 1 | 0 |
| Queue Length 50th (m) | 33.2 | 115.4 | 3.1 | 0.4 | 143.2 | 0.7 | 21.2 | 16.2 | | 30.3 | 8.1 | 0.0 |
| Queue Length 95th (m) | 47.3 | #211.8 | 7.4 | m1.5 | 165.2 | m2.8 | 33.3 | 30.1 | | #75.1 | 18.5 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 439 | 1826 | 1273 | 233 | 1494 | 768 | 476 | 218 | | 182 | 218 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.78 | 0.14 | 0.01 | 0.76 | 0.13 | 0.38 | 0.33 | | 0.71 | 0.17 | 0.29 |

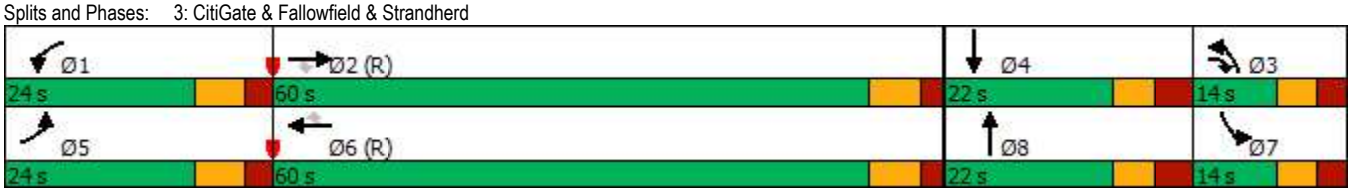
**Intersection Summary**

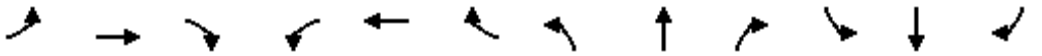
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 27.4 Intersection LOS: C
Intersection Capacity Utilization 77.5% ICU Level of Service D
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 245 | 62 | 204 | 8 | 56 | 36 | 226 | 728 | 6 | 172 | 933 | 124 |
| Future Volume (vph) | 245 | 62 | 204 | 8 | 56 | 36 | 226 | 728 | 6 | 172 | 933 | 124 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.885 | | | 0.941 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1525 | 0 | 1658 | 1564 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1525 | 0 | 1636 | 1564 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 132 | | | 26 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 245 | 62 | 204 | 8 | 56 | 36 | 226 | 728 | 6 | 172 | 933 | 124 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 245 | 266 | 0 | 8 | 92 | 0 | 226 | 734 | 0 | 172 | 933 | 124 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

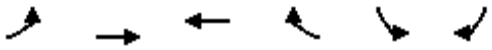
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 18.6 | 34.9 | | 6.2 | 11.8 | | 13.4 | 42.3 | | 18.9 | 47.7 | 65.4 |
| Actuated g/C Ratio | 0.16 | 0.29 | | 0.05 | 0.10 | | 0.11 | 0.35 | | 0.16 | 0.40 | 0.54 |
| v/c Ratio | 0.49 | 0.50 | | 0.09 | 0.52 | | 0.63 | 0.63 | | 0.66 | 0.71 | 0.16 |
| Control Delay | 50.6 | 21.7 | | 56.1 | 47.1 | | 58.8 | 35.2 | | 46.2 | 47.0 | 5.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.6 | 21.7 | | 56.1 | 47.1 | | 58.8 | 35.2 | | 46.2 | 47.0 | 5.2 |
| LOS | D | C | | E | D | | E | D | | D | D | A |
| Approach Delay | | 35.5 | | | 47.8 | | | 40.8 | | | 42.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| 90th %ile Green (s) | 18.3 | 26.6 | | 7.4 | 15.7 | | 15.2 | 42.3 | | 15.2 | 42.3 | 18.3 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Max | Coord | | Max | Coord | Hold |
| 70th %ile Green (s) | 17.4 | 37.7 | | 0.0 | 12.7 | | 15.5 | 42.3 | | 19.1 | 45.9 | 17.4 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Max | Coord | Gap |
| 50th %ile Green (s) | 17.4 | 35.5 | | 0.0 | 10.5 | | 13.9 | 42.3 | | 21.3 | 49.7 | 17.4 |
| 50th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Max | Coord | Gap |
| 30th %ile Green (s) | 18.2 | 35.8 | | 0.0 | 10.0 | | 12.4 | 42.3 | | 21.0 | 50.9 | 18.2 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Max | Coord | Gap |
| 10th %ile Green (s) | 21.5 | 39.1 | | 0.0 | 10.0 | | 10.1 | 42.3 | | 17.7 | 49.9 | 21.5 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Max | Coord | Gap |
| Stops (vph) | 220 | 115 | | 9 | 62 | | 212 | 595 | | 154 | 784 | 39 |
| Fuel Used(l) | 19 | 12 | | 1 | 6 | | 26 | 66 | | 22 | 118 | 8 |
| CO Emissions (g/hr) | 358 | 227 | | 11 | 106 | | 486 | 1230 | | 414 | 2203 | 149 |
| NOx Emissions (g/hr) | 69 | 44 | | 2 | 20 | | 94 | 237 | | 80 | 425 | 29 |
| VOC Emissions (g/hr) | 83 | 52 | | 3 | 24 | | 112 | 284 | | 96 | 508 | 34 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 31 | | 0 | 57 | 0 |
| Queue Length 50th (m) | 27.8 | 24.9 | | 1.8 | 15.1 | | 26.4 | 75.0 | | 39.2 | 96.6 | 5.9 |
| Queue Length 95th (m) | 40.5 | 56.4 | | 6.9 | 30.6 | | 38.8 | 95.4 | | m#58.4 | 144.9 | m8.3 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 497 | 546 | | 102 | 415 | | 366 | 1168 | | 260 | 1319 | 782 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.49 | 0.49 | | 0.08 | 0.22 | | 0.62 | 0.63 | | 0.66 | 0.71 | 0.16 |

Intersection Summary

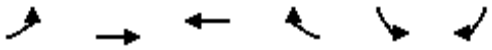
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 40.9 Intersection LOS: D
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





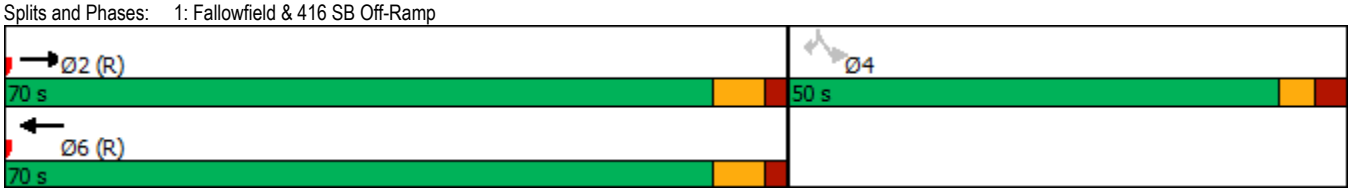
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1349 | 811 | 0 | 680 | 220 |
| Future Volume (vph) | 0 | 1349 | 811 | 0 | 680 | 220 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 144 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1349 | 811 | 0 | 680 | 220 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1349 | 811 | 0 | 680 | 220 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 73.8 | 73.8 | | 33.1 | 33.1 |
| Actuated g/C Ratio | | 0.62 | 0.62 | | 0.28 | 0.28 |
| v/c Ratio | | 0.71 | 0.41 | | 0.81 | 0.47 |
| Control Delay | | 19.6 | 21.0 | | 48.5 | 15.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 19.6 | 21.0 | | 48.5 | 15.3 |
| LOS | | B | C | | D | B |
| Approach Delay | | 19.6 | 21.0 | | 40.4 | |
| Approach LOS | | B | C | | D | |
| 90th %ile Green (s) | | 66.2 | 66.2 | | 40.7 | 40.7 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 70.7 | 70.7 | | 36.2 | 36.2 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 73.5 | 73.5 | | 33.4 | 33.4 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 77.2 | 77.2 | | 29.7 | 29.7 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 81.6 | 81.6 | | 25.3 | 25.3 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 913 | 535 | | 613 | 65 |
| Fuel Used(l) | | 92 | 73 | | 49 | 7 |
| CO Emissions (g/hr) | | 1708 | 1365 | | 919 | 137 |
| NOx Emissions (g/hr) | | 330 | 263 | | 177 | 26 |
| VOC Emissions (g/hr) | | 394 | 315 | | 212 | 32 |
| Dilemma Vehicles (#) | | 56 | 29 | | 0 | 0 |
| Queue Length 50th (m) | | 108.3 | 69.8 | | 76.8 | 13.7 |
| Queue Length 95th (m) | | 158.1 | 97.6 | | 90.2 | 33.4 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1892 | 1981 | | 1106 | 570 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.71 | 0.41 | | 0.61 | 0.39 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.81 | | | |
| Intersection Signal Delay: 26.1 | | Intersection LOS: C | |
| Intersection Capacity Utilization 73.7% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



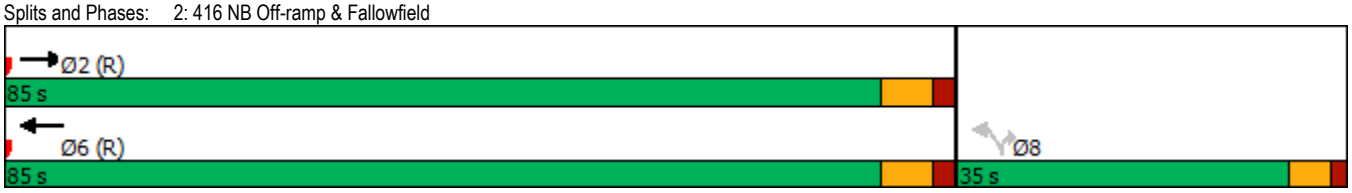


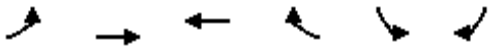
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1640 | 0 | 0 | 773 | 125 | 243 |
| Future Volume (vph) | 1640 | 0 | 0 | 773 | 125 | 243 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 37 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1640 | 0 | 0 | 773 | 125 | 243 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1640 | 0 | 0 | 773 | 125 | 243 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 85.5 | | | 85.5 | 22.5 | 22.5 |
| Actuated g/C Ratio | 0.71 | | | 0.71 | 0.19 | 0.19 |
| v/c Ratio | 0.72 | | | 0.33 | 0.45 | 0.82 |
| Control Delay | 17.4 | | | 7.6 | 47.1 | 60.3 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.4 | | | 7.6 | 47.1 | 60.3 |
| LOS | B | | | A | D | E |
| Approach Delay | 17.4 | | | 7.6 | 55.9 | |
| Approach LOS | B | | | A | E | |
| 90th %ile Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 81.3 | | | 81.3 | 26.7 | 26.7 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 85.0 | | | 85.0 | 23.0 | 23.0 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 88.8 | | | 88.8 | 19.2 | 19.2 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 94.3 | | | 94.3 | 13.7 | 13.7 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1103 | | | 280 | 105 | 197 |
| Fuel Used(l) | 145 | | | 35 | 10 | 21 |
| CO Emissions (g/hr) | 2699 | | | 660 | 179 | 389 |
| NOx Emissions (g/hr) | 521 | | | 127 | 35 | 75 |
| VOC Emissions (g/hr) | 622 | | | 152 | 41 | 90 |
| Dilemma Vehicles (#) | 71 | | | 32 | 0 | 0 |
| Queue Length 50th (m) | 134.9 | | | 32.5 | 26.3 | 47.1 |
| Queue Length 95th (m) | 176.5 | | | 50.8 | 41.9 | 71.7 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2274 | | | 2340 | 367 | 381 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | | | 0.33 | 0.34 | 0.64 |

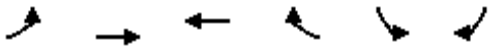
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 19.7 | | Intersection LOS: B | |
| Intersection Capacity Utilization 73.7% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





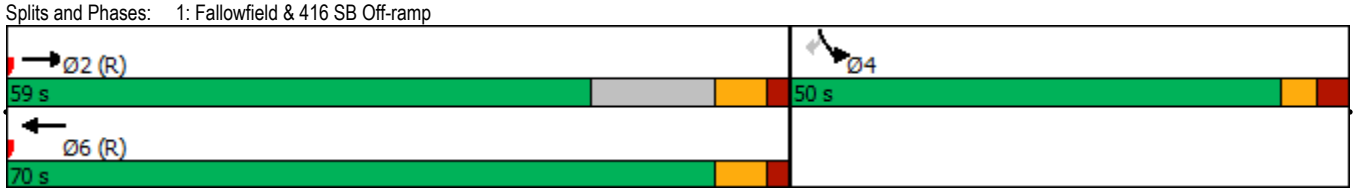
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Future Volume (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 37 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 59.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 49.2% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 52.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Actuated g/C Ratio | | 0.53 | 0.53 | | 0.36 | 0.36 |
| v/c Ratio | | 0.61 | 0.78 | | 1.07 | 0.48 |
| Control Delay | | 21.9 | 20.1 | | 84.0 | 28.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 21.9 | 20.1 | | 84.0 | 28.3 |
| LOS | | C | C | | F | C |
| Approach Delay | | 21.9 | 20.1 | | 74.6 | |
| Approach LOS | | C | C | | E | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 30th %ile Term Code | | Coord | Coord | | Max | Max |
| 10th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 10th %ile Term Code | | Coord | Coord | | Max | Max |
| Stops (vph) | | 666 | 1049 | | 1031 | 153 |
| Fuel Used(l) | | 65 | 127 | | 114 | 12 |
| CO Emissions (g/hr) | | 1214 | 2366 | | 2123 | 216 |
| NOx Emissions (g/hr) | | 234 | 457 | | 410 | 42 |
| VOC Emissions (g/hr) | | 280 | 546 | | 490 | 50 |
| Dilemma Vehicles (#) | | 41 | 52 | | 0 | 0 |
| Queue Length 50th (m) | | 82.3 | 131.1 | | ~158.2 | 36.1 |
| Queue Length 95th (m) | | 103.0 | 112.0 | | #198.9 | 60.0 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1619 | 1696 | | 1106 | 502 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.61 | 0.78 | | 1.07 | 0.48 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.07 | | | |
| Intersection Signal Delay: 41.3 | | Intersection LOS: D | |
| Intersection Capacity Utilization 84.9% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |
| ~ Volume exceeds capacity, queue is theoretically infinite. | | | |
| Queue shown is maximum after two cycles. | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp





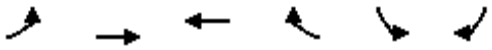
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Future Volume (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 13 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| Actuated g/C Ratio | 0.74 | | | 0.74 | 0.16 | 0.16 |
| v/c Ratio | 0.88 | | | 0.62 | 0.43 | 0.73 |
| Control Delay | 12.0 | | | 9.4 | 50.1 | 62.1 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 12.0 | | | 9.4 | 50.1 | 62.1 |
| LOS | B | | | A | D | E |
| Approach Delay | 12.0 | | | 9.4 | 57.7 | |
| Approach LOS | B | | | A | E | |
| 90th %ile Green (s) | 81.7 | | | 81.7 | 26.3 | 26.3 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 86.1 | | | 86.1 | 21.9 | 21.9 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 92.5 | | | 92.5 | 15.5 | 15.5 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 97.0 | | | 97.0 | 11.0 | 11.0 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1534 | | | 689 | 85 | 146 |
| Fuel Used(l) | 182 | | | 79 | 8 | 15 |
| CO Emissions (g/hr) | 3378 | | | 1478 | 147 | 283 |
| NOx Emissions (g/hr) | 652 | | | 285 | 28 | 55 |
| VOC Emissions (g/hr) | 779 | | | 341 | 34 | 65 |
| Dilemma Vehicles (#) | 39 | | | 63 | 0 | 0 |
| Queue Length 50th (m) | 174.6 | | | 76.3 | 21.4 | 35.9 |
| Queue Length 95th (m) | m217.1 | | | 122.2 | 35.6 | 55.8 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2375 | | | 2443 | 367 | 362 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.88 | | | 0.62 | 0.27 | 0.47 |

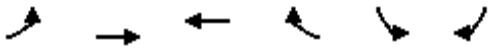
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.88 | | | |
| Intersection Signal Delay: 14.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 84.9% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 989 | 1168 | 0 | 1180 | 239 |
| Future Volume (vph) | 0 | 989 | 1168 | 0 | 1180 | 239 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 17 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 989 | 1168 | 0 | 1180 | 239 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 989 | 1168 | 0 | 1180 | 239 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 53.0 | 53.0 | | 67.0 | 67.0 |
| Total Split (%) | | 44.2% | 44.2% | | 55.8% | 55.8% |
| Maximum Green (s) | | 46.2 | 46.2 | | 60.7 | 60.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

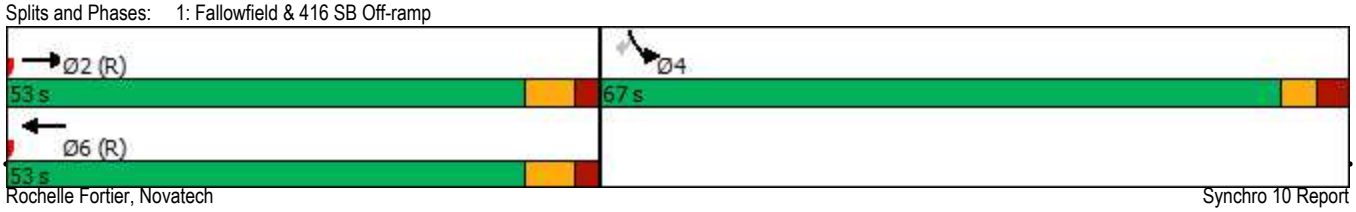


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 52.2 | 52.2 | | 54.7 | 54.7 |
| Actuated g/C Ratio | | 0.44 | 0.44 | | 0.46 | 0.46 |
| v/c Ratio | | 0.74 | 0.83 | | 0.85 | 0.39 |
| Control Delay | | 33.5 | 30.5 | | 35.6 | 21.2 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 33.5 | 30.5 | | 35.6 | 21.2 |
| LOS | | C | C | | D | C |
| Approach Delay | | 33.5 | 30.5 | | 33.2 | |
| Approach LOS | | C | C | | C | |
| 90th %ile Green (s) | | 46.2 | 46.2 | | 60.7 | 60.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 48.2 | 48.2 | | 58.7 | 58.7 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 50.9 | 50.9 | | 56.0 | 56.0 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 54.8 | 54.8 | | 52.1 | 52.1 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 60.9 | 60.9 | | 46.0 | 46.0 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 808 | 967 | | 1008 | 140 |
| Fuel Used(l) | | 82 | 124 | | 70 | 10 |
| CO Emissions (g/hr) | | 1530 | 2312 | | 1297 | 187 |
| NOx Emissions (g/hr) | | 295 | 446 | | 250 | 36 |
| VOC Emissions (g/hr) | | 353 | 533 | | 299 | 43 |
| Dilemma Vehicles (#) | | 41 | 44 | | 0 | 0 |
| Queue Length 50th (m) | | 102.2 | 113.1 | | 121.9 | 33.0 |
| Queue Length 95th (m) | | 137.4 | #183.4 | | 139.2 | 48.7 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1337 | 1401 | | 1536 | 674 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.74 | 0.83 | | 0.77 | 0.35 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 32.4 Intersection LOS: C
Intersection Capacity Utilization 81.9% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp



| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2082 | 0 | 0 | 1506 | 99 | 171 |
| Future Volume (vph) | 2082 | 0 | 0 | 1506 | 99 | 171 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 24 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2082 | 0 | 0 | 1506 | 99 | 171 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2082 | 0 | 0 | 1506 | 99 | 171 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 96.0 | | | 96.0 | 24.0 | 24.0 |
| Total Split (%) | 80.0% | | | 80.0% | 20.0% | 20.0% |
| Maximum Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

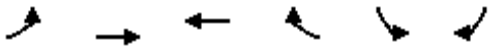
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 91.8 | | | 91.8 | 16.2 | 16.2 |
| Actuated g/C Ratio | 0.76 | | | 0.76 | 0.14 | 0.14 |
| v/c Ratio | 0.85 | | | 0.60 | 0.49 | 0.80 |
| Control Delay | 20.3 | | | 7.7 | 56.1 | 69.5 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.3 | | | 7.7 | 56.1 | 69.5 |
| LOS | C | | | A | E | E |
| Approach Delay | 20.3 | | | 7.7 | 64.6 | |
| Approach LOS | C | | | A | E | |
| 90th %ile Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 89.3 | | | 89.3 | 18.7 | 18.7 |
| 70th %ile Term Code | Coord | | | Coord | Max | Max |
| 50th %ile Green (s) | 89.8 | | | 89.8 | 18.2 | 18.2 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 93.0 | | | 93.0 | 15.0 | 15.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 97.5 | | | 97.5 | 10.5 | 10.5 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1964 | | | 617 | 89 | 137 |
| Fuel Used(l) | 219 | | | 73 | 8 | 16 |
| CO Emissions (g/hr) | 4072 | | | 1364 | 158 | 295 |
| NOx Emissions (g/hr) | 786 | | | 263 | 30 | 57 |
| VOC Emissions (g/hr) | 939 | | | 315 | 36 | 68 |
| Dilemma Vehicles (#) | 75 | | | 63 | 0 | 0 |
| Queue Length 50th (m) | 261.4 | | | 74.8 | 21.5 | 33.5 |
| Queue Length 95th (m) | 228.0 | | | 93.4 | 38.7 | #63.0 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2440 | | | 2511 | 231 | 242 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.85 | | | 0.60 | 0.43 | 0.71 |

Intersection Summary

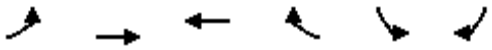
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 18.5 Intersection LOS: B
Intersection Capacity Utilization 81.9% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





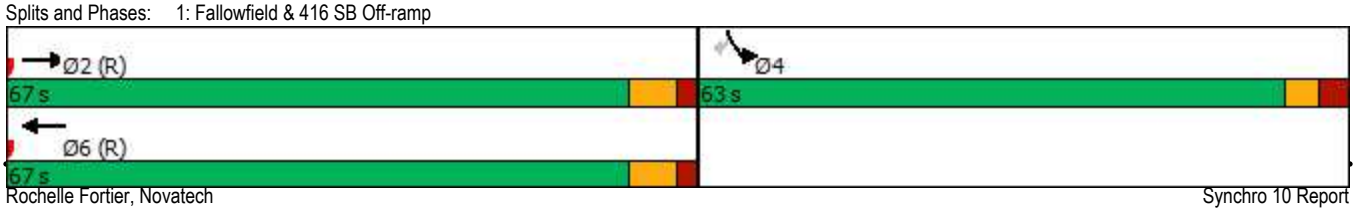
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Future Volume (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 23 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 989 | 1318 | 0 | 1180 | 239 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 67.0 | 67.0 | | 63.0 | 63.0 |
| Total Split (%) | | 51.5% | 51.5% | | 48.5% | 48.5% |
| Maximum Green (s) | | 60.2 | 60.2 | | 56.7 | 56.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 62.3 | 62.3 | | 54.6 | 54.6 |
| Actuated g/C Ratio | | 0.48 | 0.48 | | 0.42 | 0.42 |
| v/c Ratio | | 0.67 | 0.85 | | 0.92 | 0.42 |
| Control Delay | | 29.3 | 32.4 | | 48.4 | 26.0 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 29.3 | 32.4 | | 48.4 | 26.0 |
| LOS | | C | C | | D | C |
| Approach Delay | | 29.3 | 32.4 | | 44.6 | |
| Approach LOS | | C | C | | D | |
| 90th %ile Green (s) | | 60.2 | 60.2 | | 56.7 | 56.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 60.2 | 60.2 | | 56.7 | 56.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 60.2 | 60.2 | | 56.7 | 56.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 62.7 | 62.7 | | 54.2 | 54.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 68.1 | 68.1 | | 48.8 | 48.8 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 744 | 1137 | | 1061 | 149 |
| Fuel Used(l) | | 75 | 145 | | 83 | 11 |
| CO Emissions (g/hr) | | 1403 | 2692 | | 1535 | 207 |
| NOx Emissions (g/hr) | | 271 | 520 | | 296 | 40 |
| VOC Emissions (g/hr) | | 323 | 621 | | 354 | 48 |
| Dilemma Vehicles (#) | | 38 | 47 | | 0 | 0 |
| Queue Length 50th (m) | | 103.3 | 161.7 | | 141.4 | 37.2 |
| Queue Length 95th (m) | | 127.5 | 193.8 | | #174.1 | 59.3 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1472 | 1543 | | 1325 | 586 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.67 | 0.85 | | 0.89 | 0.41 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 42 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.92 | | | |
| Intersection Signal Delay: 36.2 | | Intersection LOS: D | |
| Intersection Capacity Utilization 84.9% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp



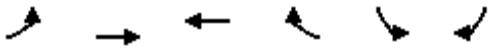
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Future Volume (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 25 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2097 | 0 | 0 | 1506 | 99 | 171 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 105.0 | | | 105.0 | 25.0 | 25.0 |
| Total Split (%) | 80.8% | | | 80.8% | 19.2% | 19.2% |
| Maximum Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 100.8 | | | 100.8 | 17.2 | 17.2 |
| Actuated g/C Ratio | 0.78 | | | 0.78 | 0.13 | 0.13 |
| v/c Ratio | 0.85 | | | 0.59 | 0.51 | 0.81 |
| Control Delay | 7.8 | | | 7.5 | 61.1 | 74.8 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 7.8 | | | 7.5 | 61.1 | 74.8 |
| LOS | A | | | A | E | E |
| Approach Delay | 7.8 | | | 7.5 | 69.8 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| 70th %ile Term Code | Coord | | | Coord | Max | Max |
| 50th %ile Green (s) | 98.8 | | | 98.8 | 19.2 | 19.2 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 102.0 | | | 102.0 | 16.0 | 16.0 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 106.8 | | | 106.8 | 11.2 | 11.2 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1146 | | | 589 | 91 | 138 |
| Fuel Used(l) | 153 | | | 72 | 9 | 17 |
| CO Emissions (g/hr) | 2837 | | | 1331 | 166 | 309 |
| NOx Emissions (g/hr) | 548 | | | 257 | 32 | 60 |
| VOC Emissions (g/hr) | 654 | | | 307 | 38 | 71 |
| Dilemma Vehicles (#) | 67 | | | 58 | 0 | 0 |
| Queue Length 50th (m) | 36.1 | | | 77.8 | 23.5 | 36.3 |
| Queue Length 95th (m) | 215.6 | | | 95.8 | 41.4 | #67.4 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2475 | | | 2546 | 224 | 237 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.85 | | | 0.59 | 0.44 | 0.72 |

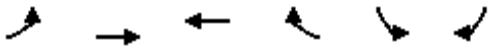
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 128 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.85 | | | |
| Intersection Signal Delay: 12.0 | | Intersection LOS: B | |
| Intersection Capacity Utilization 84.9% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





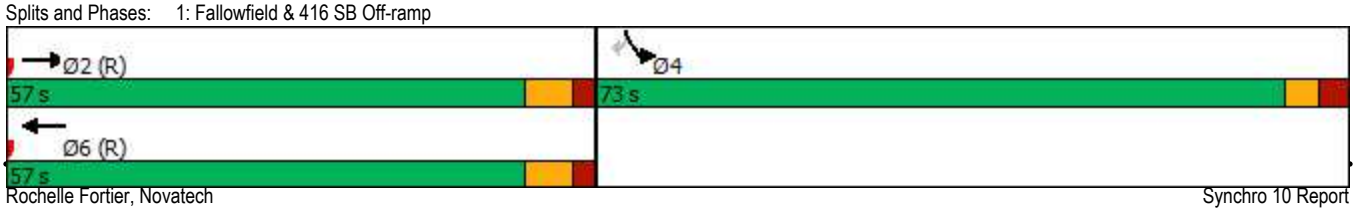
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 989 | 1213 | 0 | 1180 | 239 |
| Future Volume (vph) | 0 | 989 | 1213 | 0 | 1180 | 239 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 15 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 989 | 1213 | 0 | 1180 | 239 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 989 | 1213 | 0 | 1180 | 239 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 57.0 | 57.0 | | 73.0 | 73.0 |
| Total Split (%) | | 43.8% | 43.8% | | 56.2% | 56.2% |
| Maximum Green (s) | | 50.2 | 50.2 | | 66.7 | 66.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

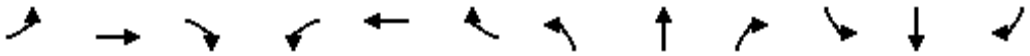


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 57.3 | 57.3 | | 59.6 | 59.6 |
| Actuated g/C Ratio | | 0.44 | 0.44 | | 0.46 | 0.46 |
| v/c Ratio | | 0.73 | 0.85 | | 0.85 | 0.39 |
| Control Delay | | 35.0 | 35.5 | | 37.4 | 22.8 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 35.0 | 35.5 | | 37.4 | 22.8 |
| LOS | | D | D | | D | C |
| Approach Delay | | 35.0 | 35.5 | | 35.0 | |
| Approach LOS | | D | D | | C | |
| 90th %ile Green (s) | | 50.2 | 50.2 | | 66.7 | 66.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 53.1 | 53.1 | | 63.8 | 63.8 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 56.2 | 56.2 | | 60.7 | 60.7 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 60.3 | 60.3 | | 56.6 | 56.6 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 66.8 | 66.8 | | 50.1 | 50.1 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 804 | 1026 | | 1005 | 141 |
| Fuel Used(l) | | 83 | 135 | | 71 | 10 |
| CO Emissions (g/hr) | | 1548 | 2509 | | 1326 | 193 |
| NOx Emissions (g/hr) | | 299 | 484 | | 256 | 37 |
| VOC Emissions (g/hr) | | 357 | 579 | | 306 | 44 |
| Dilemma Vehicles (#) | | 38 | 42 | | 0 | 0 |
| Queue Length 50th (m) | | 109.8 | 149.5 | | 132.9 | 36.4 |
| Queue Length 95th (m) | | 147.4 | #208.7 | | 147.4 | 51.9 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1356 | 1420 | | 1558 | 682 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.73 | 0.85 | | 0.76 | 0.35 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 42 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 80 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.85 | | | |
| Intersection Signal Delay: 35.2 | | Intersection LOS: D | |
| Intersection Capacity Utilization 82.4% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp

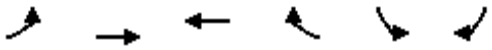




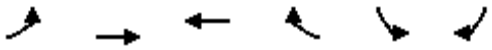
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 3 | 32 | 46 | 3 | 63 | 27 | 589 | 21 | 20 | 502 | 15 |
| Future Volume (Veh/h) | 14 | 3 | 32 | 46 | 3 | 63 | 27 | 589 | 21 | 20 | 502 | 15 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 14 | 3 | 32 | 46 | 3 | 63 | 27 | 589 | 21 | 20 | 502 | 15 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1250 | 1206 | 502 | 1218 | 1200 | 589 | 517 | | | 610 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1250 | 1206 | 502 | 1218 | 1200 | 589 | 517 | | | 610 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 88 | 98 | 94 | 67 | 98 | 88 | 97 | | | 98 | | |
| cM capacity (veh/h) | 118 | 175 | 565 | 141 | 176 | 508 | 1024 | | | 954 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 14 | 35 | 112 | 27 | 589 | 21 | 20 | 502 | 15 |
| Volume Left | 14 | 0 | 46 | 27 | 0 | 0 | 20 | 0 | 0 |
| Volume Right | 0 | 32 | 63 | 0 | 0 | 21 | 0 | 0 | 15 |
| cSH | 118 | 475 | 240 | 1024 | 1700 | 1700 | 954 | 1700 | 1700 |
| Volume to Capacity | 0.12 | 0.07 | 0.47 | 0.03 | 0.35 | 0.01 | 0.02 | 0.30 | 0.01 |
| Queue Length 95th (m) | 3.0 | 1.8 | 17.5 | 0.6 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Control Delay (s) | 39.6 | 13.2 | 32.5 | 8.6 | 0.0 | 0.0 | 8.9 | 0.0 | 0.0 |
| Lane LOS | E | B | D | A | | | A | | |
| Approach Delay (s) | 20.7 | | 32.5 | 0.4 | | | 0.3 | | |
| Approach LOS | C | | D | | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 3.8 | | | |
| Intersection Capacity Utilization | 53.0% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1340 | 830 | 0 | 413 | 115 |
| Future Volume (vph) | 0 | 1340 | 830 | 0 | 413 | 115 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 115 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 215.4 | 447.2 | | 179.9 | |
| Travel Time (s) | | 9.7 | 20.1 | | 13.0 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1340 | 830 | 0 | 413 | 115 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1340 | 830 | 0 | 413 | 115 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 85.0 | 85.0 | | 21.9 | 21.9 |
| Actuated g/C Ratio | | 0.71 | 0.71 | | 0.18 | 0.18 |
| v/c Ratio | | 0.62 | 0.36 | | 0.74 | 0.34 |
| Control Delay | | 11.2 | 10.0 | | 54.7 | 9.8 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 11.2 | 10.0 | | 54.7 | 9.8 |
| LOS | | B | B | | D | A |
| Approach Delay | | 11.2 | 10.0 | | 44.9 | |
| Approach LOS | | B | B | | D | |
| 90th %ile Green (s) | | 79.2 | 79.2 | | 27.7 | 27.7 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 82.6 | 82.6 | | 24.3 | 24.3 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 85.0 | 85.0 | | 21.9 | 21.9 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 87.3 | 87.3 | | 19.6 | 19.6 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 90.8 | 90.8 | | 16.1 | 16.1 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 670 | 309 | | 379 | 17 |
| Fuel Used(l) | | 73 | 53 | | 33 | 3 |
| CO Emissions (g/hr) | | 1352 | 992 | | 612 | 60 |
| NOx Emissions (g/hr) | | 261 | 192 | | 118 | 12 |
| VOC Emissions (g/hr) | | 312 | 229 | | 141 | 14 |
| Dilemma Vehicles (#) | | 56 | 62 | | 0 | 0 |
| Queue Length 50th (m) | | 76.6 | 21.4 | | 47.9 | 0.0 |
| Queue Length 95th (m) | | 113.8 | 90.8 | | 61.0 | 14.7 |
| Internal Link Dist (m) | | 191.4 | 423.2 | | 155.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2177 | 2281 | | 1106 | 552 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.62 | 0.36 | | 0.37 | 0.21 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.74 | | | |
| Intersection Signal Delay: 17.4 | | Intersection LOS: B | |
| Intersection Capacity Utilization 67.1% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp

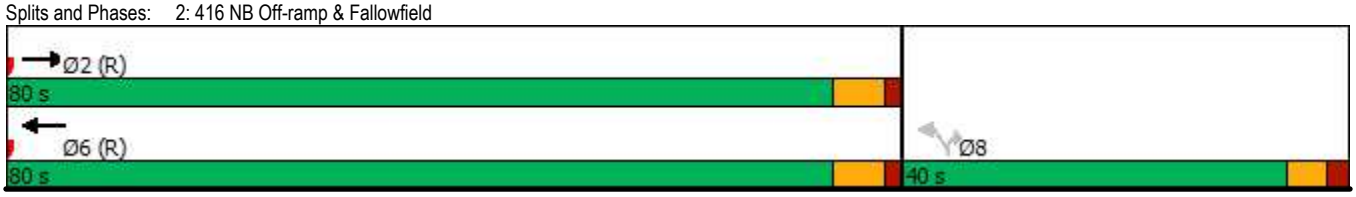


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1445 | 0 | 0 | 719 | 168 | 229 |
| Future Volume (vph) | 1445 | 0 | 0 | 719 | 168 | 229 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 46 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 447.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1445 | 0 | 0 | 719 | 168 | 229 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1445 | 0 | 0 | 719 | 168 | 229 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.4 | | | 30.4 | 25.8 | 25.8 |
| Total Split (s) | 80.0 | | | 80.0 | 40.0 | 40.0 |
| Total Split (%) | 66.7% | | | 66.7% | 33.3% | 33.3% |
| Maximum Green (s) | 73.8 | | | 73.8 | 34.2 | 34.2 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 1.6 | | | 1.6 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | | | 6.2 | 5.8 | 5.8 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 86.8 | | | 86.8 | 21.2 | 21.2 |
| Actuated g/C Ratio | 0.72 | | | 0.72 | 0.18 | 0.18 |
| v/c Ratio | 0.63 | | | 0.30 | 0.64 | 0.79 |
| Control Delay | 8.0 | | | 1.6 | 56.0 | 55.9 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.0 | | | 1.6 | 56.0 | 55.9 |
| LOS | A | | | A | E | E |
| Approach Delay | 8.0 | | | 1.6 | 55.9 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 77.8 | | | 77.8 | 30.2 | 30.2 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 82.9 | | | 82.9 | 25.1 | 25.1 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 86.7 | | | 86.7 | 21.3 | 21.3 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 90.6 | | | 90.6 | 17.4 | 17.4 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 95.9 | | | 95.9 | 12.1 | 12.1 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 666 | | | 58 | 150 | 175 |
| Fuel Used(l) | 98 | | | 31 | 14 | 19 |
| CO Emissions (g/hr) | 1822 | | | 585 | 267 | 346 |
| NOx Emissions (g/hr) | 352 | | | 113 | 52 | 67 |
| VOC Emissions (g/hr) | 420 | | | 135 | 62 | 80 |
| Dilemma Vehicles (#) | 46 | | | 11 | 0 | 0 |
| Queue Length 50th (m) | 64.4 | | | 4.3 | 37.1 | 42.0 |
| Queue Length 95th (m) | 74.0 | | | m6.3 | 55.1 | 64.3 |
| Internal Link Dist (m) | 423.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2307 | | | 2374 | 422 | 439 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | | | 0.30 | 0.40 | 0.52 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.79 | | | |
| Intersection Signal Delay: 13.6 | | Intersection LOS: B | |
| Intersection Capacity Utilization 67.1% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 3 | 4 | 49 | 5 | 317 |
| Future Volume (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 3 | 4 | 49 | 5 | 317 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3122 | 2891 | 1483 | 1658 | 3191 | 1459 | 3216 | 1595 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 317 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 3 | 4 | 49 | 5 | 317 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 7 | 0 | 49 | 5 | 317 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

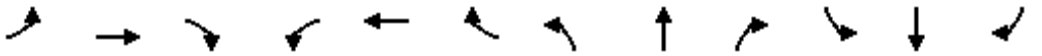
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 29.7 | 89.8 | 102.9 | 5.8 | 54.2 | 54.2 | 7.5 | 16.2 | | 8.4 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.25 | 0.75 | 0.86 | 0.05 | 0.45 | 0.45 | 0.06 | 0.14 | | 0.07 | 0.14 | 1.00 |
| v/c Ratio | 0.76 | 0.33 | 0.02 | 0.05 | 0.93 | 0.06 | 0.10 | 0.03 | | 0.42 | 0.02 | 0.22 |
| Control Delay | 48.7 | 14.7 | 0.3 | 72.8 | 37.9 | 0.1 | 52.2 | 33.6 | | 64.9 | 37.0 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.7 | 14.7 | 0.3 | 72.8 | 37.9 | 0.1 | 52.2 | 33.6 | | 64.9 | 37.0 | 0.4 |
| LOS | D | B | A | E | D | A | D | C | | E | D | A |
| Approach Delay | | 29.3 | | | 36.7 | | | 47.2 | | | 9.4 | |
| Approach LOS | | C | | | D | | | D | | | A | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 31.3 | 96.1 | 10.5 | 0.0 | 57.7 | 57.7 | 10.5 | 0.0 | | 10.5 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 31.0 | 97.5 | 9.1 | 0.0 | 59.4 | 59.4 | 9.1 | 0.0 | | 9.1 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 31.4 | 96.1 | 0.0 | 0.0 | 57.6 | 57.6 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 33.7 | 113.1 | 0.0 | 0.0 | 72.3 | 72.3 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| Stops (vph) | 505 | 287 | 0 | 7 | 1072 | 0 | 20 | 12 | | 44 | 6 | 0 |
| Fuel Used(l) | 63 | 48 | 1 | 1 | 127 | 1 | 2 | 1 | | 5 | 0 | 13 |
| CO Emissions (g/hr) | 1174 | 889 | 23 | 13 | 2363 | 18 | 45 | 17 | | 100 | 9 | 234 |
| NOx Emissions (g/hr) | 227 | 172 | 4 | 3 | 456 | 3 | 9 | 3 | | 19 | 2 | 45 |
| VOC Emissions (g/hr) | 271 | 205 | 5 | 3 | 545 | 4 | 10 | 4 | | 23 | 2 | 54 |
| Dilemma Vehicles (#) | 0 | 43 | 0 | 0 | 24 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 69.2 | 23.8 | 0.0 | 0.8 | 170.1 | 0.0 | 2.4 | 0.5 | | 11.2 | 1.1 | 0.0 |
| Queue Length 95th (m) | #116.7 | 88.1 | m0.0 | m2.1 | #300.6 | m0.0 | 5.4 | 3.8 | | #27.5 | 3.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 772 | 2162 | 1288 | 82 | 1441 | 782 | 209 | 547 | | 119 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.33 | 0.02 | 0.05 | 0.93 | 0.06 | 0.09 | 0.01 | | 0.41 | 0.01 | 0.22 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 30.4 Intersection LOS: C
Intersection Capacity Utilization 85.2% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 724 | 59 | 21 | 1289 | 14 | 108 | 11 | 11 | 23 | 22 | 176 |
| Future Volume (vph) | 36 | 724 | 59 | 21 | 1289 | 14 | 108 | 11 | 11 | 23 | 22 | 176 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.97 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.743 | | | 0.750 | | |
| Satd. Flow (perm) | 1657 | 2941 | 1483 | 3216 | 3221 | 1445 | 1297 | 1745 | 1483 | 1307 | 1745 | 1462 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 167 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 36 | 724 | 59 | 21 | 1289 | 14 | 108 | 11 | 11 | 23 | 22 | 176 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 36 | 724 | 59 | 21 | 1289 | 14 | 108 | 11 | 11 | 23 | 22 | 176 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

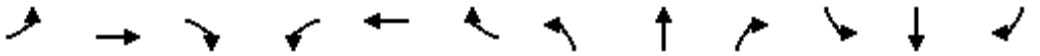
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Act Effct Green (s) | 7.6 | 80.5 | 80.5 | 6.3 | 76.8 | 76.8 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 |
| Actuated g/C Ratio | 0.06 | 0.67 | 0.67 | 0.05 | 0.64 | 0.64 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| v/c Ratio | 0.35 | 0.37 | 0.06 | 0.12 | 0.63 | 0.01 | 0.51 | 0.04 | 0.03 | 0.11 | 0.08 | 0.47 |
| Control Delay | 70.9 | 12.8 | 2.1 | 67.0 | 18.2 | 0.1 | 56.3 | 40.7 | 0.2 | 38.3 | 37.5 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 70.9 | 12.8 | 2.1 | 67.0 | 18.2 | 0.1 | 56.3 | 40.7 | 0.2 | 38.3 | 37.5 | 10.3 |
| LOS | E | B | A | E | B | A | E | D | A | D | D | B |
| Approach Delay | | 14.6 | | | 18.8 | | | 50.2 | | | 15.9 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.2 | 50.2 | 7.4 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 9.2 | 73.7 | 73.7 | 6.7 | 71.2 | 71.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 8.0 | 90.1 | 90.1 | 0.0 | 75.2 | 75.2 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 92.9 | 92.9 | 0.0 | 92.9 | 92.9 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Min | Min | Min | Min | Min | Min |
| Stops (vph) | 36 | 289 | 6 | 21 | 887 | 0 | 96 | 11 | 0 | 20 | 19 | 25 |
| Fuel Used(l) | 5 | 38 | 2 | 3 | 98 | 0 | 14 | 1 | 1 | 2 | 2 | 6 |
| CO Emissions (g/hr) | 88 | 710 | 30 | 51 | 1824 | 6 | 255 | 24 | 13 | 31 | 29 | 113 |
| NOx Emissions (g/hr) | 17 | 137 | 6 | 10 | 352 | 1 | 49 | 5 | 3 | 6 | 6 | 22 |
| VOC Emissions (g/hr) | 20 | 164 | 7 | 12 | 421 | 1 | 59 | 6 | 3 | 7 | 7 | 26 |
| Dilemma Vehicles (#) | 0 | 57 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 8.8 | 25.1 | 0.2 | 2.6 | 121.8 | 0.0 | 26.0 | 2.6 | 0.1 | 4.9 | 4.6 | 1.9 |
| Queue Length 95th (m) | 20.8 | 46.5 | 4.7 | m4.5 | #210.1 | m0.0 | 34.1 | 6.2 | 0.1 | 9.5 | 9.3 | 16.4 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 115 | 1972 | 1029 | 217 | 2061 | 962 | 446 | 600 | 574 | 449 | 600 | 612 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.31 | 0.37 | 0.06 | 0.10 | 0.63 | 0.01 | 0.24 | 0.02 | 0.02 | 0.05 | 0.04 | 0.29 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 77.6% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Crosskeys/Helene Campbell & Strandherd



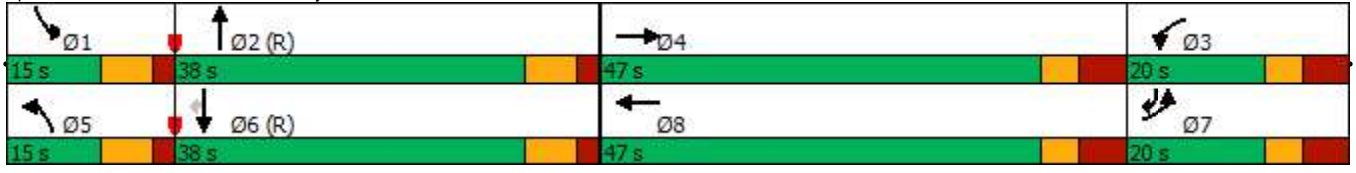


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 7 | 28 | 7 | 22 | 110 | 95 | 1056 | 9 | 18 | 568 | 9 |
| Future Volume (vph) | 52 | 7 | 28 | 7 | 22 | 110 | 95 | 1056 | 9 | 18 | 568 | 9 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.880 | | | 0.875 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1357 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1357 | 0 | 1656 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 28 | | | 110 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 52 | 7 | 28 | 7 | 22 | 110 | 95 | 1056 | 9 | 18 | 568 | 9 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 52 | 35 | 0 | 7 | 132 | 0 | 95 | 1065 | 0 | 18 | 568 | 9 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 30.7 | | 15.0 | 30.7 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 1 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.4 | 19.0 | | 12.3 | 15.8 | | 9.0 | 71.3 | | 7.3 | 61.9 | 70.0 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.10 | 0.13 | | 0.08 | 0.59 | | 0.06 | 0.52 | 0.58 |
| v/c Ratio | 0.27 | 0.15 | | 0.04 | 0.45 | | 0.40 | 0.54 | | 0.23 | 0.33 | 0.01 |
| Control Delay | 56.6 | 21.8 | | 40.6 | 15.5 | | 59.1 | 21.1 | | 55.1 | 26.0 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.6 | 21.8 | | 40.6 | 15.5 | | 59.1 | 21.1 | | 55.1 | 26.0 | 0.0 |
| LOS | E | C | | D | B | | E | C | | E | C | A |
| Approach Delay | | 42.6 | | | 16.7 | | | 24.2 | | | 26.5 | |
| Approach LOS | | D | | | B | | | C | | | C | |
| 90th %ile Green (s) | 9.3 | 10.0 | | 38.3 | 39.0 | | 11.5 | 33.5 | | 9.7 | 31.7 | 9.3 |
| 90th %ile Term Code | Gap | Min | | Hold | Ped | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 8.2 | 25.8 | | 0.0 | 10.0 | | 10.0 | 65.2 | | 8.1 | 63.3 | 8.2 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.4 | 25.0 | | 0.0 | 10.0 | | 9.0 | 80.7 | | 0.0 | 65.1 | 7.4 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 6.6 | 24.2 | | 0.0 | 10.0 | | 7.9 | 81.5 | | 0.0 | 67.0 | 6.6 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 6.5 | 95.7 | | 0.0 | 82.6 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 49 | 14 | | 7 | 30 | | 92 | 475 | | 20 | 310 | 0 |
| Fuel Used(l) | 4 | 2 | | 0 | 4 | | 13 | 80 | | 2 | 42 | 0 |
| CO Emissions (g/hr) | 81 | 29 | | 8 | 76 | | 237 | 1482 | | 43 | 781 | 4 |
| NOx Emissions (g/hr) | 16 | 6 | | 2 | 15 | | 46 | 286 | | 8 | 151 | 1 |
| VOC Emissions (g/hr) | 19 | 7 | | 2 | 18 | | 55 | 342 | | 10 | 180 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 54 | | 0 | 27 | 0 |
| Queue Length 50th (m) | 6.1 | 1.3 | | 1.6 | 4.9 | | 11.8 | 55.4 | | 4.1 | 27.7 | 0.0 |
| Queue Length 95th (m) | 12.3 | 11.7 | | 4.6 | 17.3 | | m15.7 | #194.8 | | m12.7 | 93.7 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 464 | | 243 | 575 | | 248 | 1967 | | 95 | 1711 | 873 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.08 | | 0.03 | 0.23 | | 0.38 | 0.54 | | 0.19 | 0.33 | 0.01 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 120 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.54 | | | |
| Intersection Signal Delay: 25.2 | | Intersection LOS: C | |
| Intersection Capacity Utilization 72.3% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



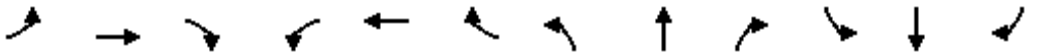
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 5 | 24 | 80 | 21 | 100 | 82 | 1021 | 57 | 36 | 505 | 53 |
| Future Volume (vph) | 28 | 5 | 24 | 80 | 21 | 100 | 82 | 1021 | 57 | 36 | 505 | 53 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.876 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1529 | 0 | 1398 | 1745 | 1455 | 1523 | 1728 | 1363 |
| Flt Permitted | 0.623 | | | 0.754 | | | 0.478 | | | 0.138 | | |
| Satd. Flow (perm) | 887 | 1745 | 1483 | 1316 | 1529 | 0 | 703 | 1745 | 1455 | 221 | 1728 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 100 | | | | 91 | | | 53 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 28 | 5 | 24 | 80 | 21 | 100 | 82 | 1021 | 57 | 36 | 505 | 53 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 28 | 5 | 24 | 80 | 121 | 0 | 82 | 1021 | 57 | 36 | 505 | 53 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | | 75.0 | 75.0 | 75.0 | 12.0 | 87.0 | 87.0 |
| Total Split (%) | 27.5% | 27.5% | 27.5% | 27.5% | 27.5% | | 62.5% | 62.5% | 62.5% | 10.0% | 72.5% | 72.5% |
| Maximum Green (s) | 26.4 | 26.4 | 26.4 | 26.4 | 26.4 | | 68.6 | 68.6 | 68.6 | 5.6 | 80.6 | 80.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | | 86.0 | 86.0 | 86.0 | 93.8 | 93.8 | 93.8 |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | | 0.72 | 0.72 | 0.72 | 0.78 | 0.78 | 0.78 |
| v/c Ratio | 0.29 | 0.03 | 0.10 | 0.55 | 0.47 | | 0.16 | 0.82 | 0.05 | 0.15 | 0.37 | 0.05 |
| Control Delay | 55.2 | 45.2 | 0.8 | 64.3 | 19.4 | | 8.4 | 21.2 | 0.7 | 7.3 | 7.1 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 45.2 | 0.8 | 64.3 | 19.4 | | 8.4 | 21.2 | 0.7 | 7.3 | 7.1 | 0.1 |
| LOS | E | D | A | E | B | | A | C | A | A | A | A |
| Approach Delay | | 31.5 | | | 37.3 | | | 19.3 | | | 6.5 | |
| Approach LOS | | C | | | D | | | B | | | A | |
| 90th %ile Green (s) | 18.3 | 18.3 | 18.3 | 18.3 | 18.3 | | 75.2 | 75.2 | 75.2 | 7.1 | 88.7 | 88.7 |
| 90th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 70th %ile Green (s) | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | | 79.1 | 79.1 | 79.1 | 6.5 | 92.0 | 92.0 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 50th %ile Green (s) | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | | 81.9 | 81.9 | 81.9 | 6.1 | 94.4 | 94.4 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 | | 96.7 | 96.7 | 96.7 | 0.0 | 96.7 | 96.7 |
| 30th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Coord | Coord | Coord | Skip | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 97.0 | 97.0 | 97.0 | 0.0 | 97.0 | 97.0 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 27 | 6 | 0 | 74 | 32 | | 29 | 663 | 1 | 10 | 171 | 0 |
| Fuel Used(l) | 3 | 0 | 1 | 8 | 7 | | 4 | 73 | 1 | 2 | 29 | 2 |
| CO Emissions (g/hr) | 51 | 9 | 15 | 154 | 133 | | 68 | 1360 | 21 | 37 | 544 | 33 |
| NOx Emissions (g/hr) | 10 | 2 | 3 | 30 | 26 | | 13 | 262 | 4 | 7 | 105 | 6 |
| VOC Emissions (g/hr) | 12 | 2 | 4 | 35 | 31 | | 16 | 314 | 5 | 8 | 126 | 8 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 41 | 0 | 0 | 13 | 0 |
| Queue Length 50th (m) | 6.2 | 1.1 | 0.0 | 18.2 | 4.6 | | 6.3 | 166.9 | 0.0 | 0.3 | 11.7 | 0.1 |
| Queue Length 95th (m) | 14.9 | 4.7 | 0.0 | 32.9 | 21.3 | | 15.4 | #309.3 | 1.8 | 5.9 | 56.0 | 0.1 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 195 | 383 | 395 | 289 | 414 | | 503 | 1250 | 1068 | 239 | 1350 | 1076 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.01 | 0.06 | 0.28 | 0.29 | | 0.16 | 0.82 | 0.05 | 0.15 | 0.37 | 0.05 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 29 (24%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | |
| Natural Cycle: 120 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 17.7 | | Intersection LOS: B | |
| Intersection Capacity Utilization 99.2% | | ICU Level of Service F | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale





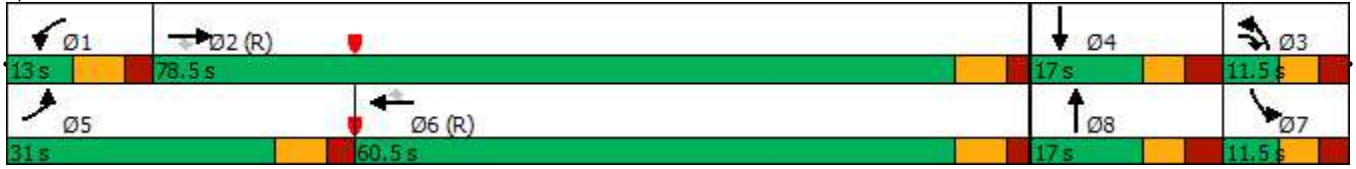
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 3 | 4 | 49 | 5 | 317 |
| Future Volume (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 3 | 4 | 49 | 5 | 317 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1595 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 317 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 3 | 4 | 49 | 5 | 317 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 586 | 723 | 30 | 4 | 1334 | 48 | 19 | 7 | 0 | 49 | 5 | 317 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 31.0 | 78.5 | 11.5 | 13.0 | 60.5 | 60.5 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (%) | 25.8% | 65.4% | 9.6% | 10.8% | 50.4% | 50.4% | 9.6% | 14.2% | | 9.6% | 14.2% | |
| Maximum Green (s) | 23.9 | 71.6 | 5.0 | 5.9 | 53.6 | 53.6 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

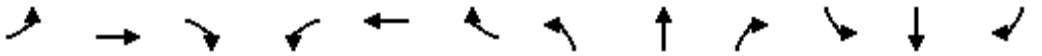
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 26.9 | 96.1 | 109.1 | 5.8 | 63.3 | 63.3 | 7.3 | 10.0 | | 8.4 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.22 | 0.80 | 0.91 | 0.05 | 0.53 | 0.53 | 0.06 | 0.08 | | 0.07 | 0.08 | 1.00 |
| v/c Ratio | 0.84 | 0.31 | 0.02 | 0.05 | 0.79 | 0.05 | 0.10 | 0.05 | | 0.42 | 0.03 | 0.22 |
| Control Delay | 56.0 | 5.8 | 0.0 | 62.8 | 20.5 | 0.1 | 54.3 | 38.9 | | 65.3 | 51.4 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.0 | 5.8 | 0.0 | 62.8 | 20.5 | 0.1 | 54.3 | 38.9 | | 65.3 | 51.4 | 0.4 |
| LOS | E | A | A | E | C | A | D | D | | E | D | A |
| Approach Delay | | 27.7 | | | 19.9 | | | 50.1 | | | 9.6 | |
| Approach LOS | | C | | | B | | | D | | | A | |
| 90th %ile Green (s) | 23.9 | 71.6 | 5.0 | 5.9 | 53.6 | 53.6 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Max | | Max | Max | |
| 70th %ile Green (s) | 30.8 | 95.8 | 10.8 | 0.0 | 57.9 | 57.9 | 10.8 | 0.0 | | 10.8 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 29.2 | 97.0 | 9.6 | 0.0 | 60.7 | 60.7 | 9.6 | 0.0 | | 9.6 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 27.2 | 96.1 | 0.0 | 0.0 | 61.8 | 61.8 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 23.6 | 113.1 | 0.0 | 0.0 | 82.4 | 82.4 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Skip | Skip | |
| Stops (vph) | 516 | 201 | 0 | 7 | 1040 | 0 | 19 | 7 | | 40 | 7 | 0 |
| Fuel Used(l) | 66 | 28 | 1 | 1 | 137 | 2 | 2 | 0 | | 5 | 1 | 6 |
| CO Emissions (g/hr) | 1224 | 525 | 10 | 14 | 2557 | 38 | 28 | 9 | | 86 | 10 | 108 |
| NOx Emissions (g/hr) | 236 | 101 | 2 | 3 | 494 | 7 | 5 | 2 | | 17 | 2 | 21 |
| VOC Emissions (g/hr) | 282 | 121 | 2 | 3 | 590 | 9 | 6 | 2 | | 20 | 2 | 25 |
| Dilemma Vehicles (#) | 0 | 26 | 0 | 0 | 52 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 66.5 | 18.2 | 0.0 | 0.8 | 139.7 | 0.0 | 2.1 | 0.7 | | 11.1 | 1.1 | 0.0 |
| Queue Length 95th (m) | #104.2 | 58.5 | 0.0 | m2.3 | #203.2 | m0.0 | 6.2 | 5.3 | | #32.6 | 5.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 703 | 2315 | 1358 | 82 | 1682 | 878 | 196 | 136 | | 116 | 145 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.31 | 0.02 | 0.05 | 0.79 | 0.05 | 0.10 | 0.05 | | 0.42 | 0.03 | 0.22 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 22.3 Intersection LOS: C
Intersection Capacity Utilization 83.6% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 7 | 28 | 7 | 22 | 110 | 95 | 1056 | 9 | 18 | 568 | 9 |
| Future Volume (vph) | 52 | 7 | 28 | 7 | 22 | 110 | 95 | 1056 | 9 | 18 | 568 | 9 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.880 | | | 0.875 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1372 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1372 | 0 | 1658 | 1527 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 28 | | | 110 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 52 | 7 | 28 | 7 | 22 | 110 | 95 | 1056 | 9 | 18 | 568 | 9 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 52 | 35 | 0 | 7 | 132 | 0 | 95 | 1065 | 0 | 18 | 568 | 9 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.4 | 19.0 | | 7.3 | 10.8 | | 9.0 | 76.3 | | 7.3 | 66.9 | 75.0 |
| Actuated g/C Ratio | 0.06 | 0.16 | | 0.06 | 0.09 | | 0.08 | 0.64 | | 0.06 | 0.56 | 0.62 |
| v/c Ratio | 0.27 | 0.15 | | 0.07 | 0.56 | | 0.40 | 0.51 | | 0.23 | 0.31 | 0.01 |
| Control Delay | 56.6 | 21.8 | | 52.3 | 23.0 | | 57.6 | 15.3 | | 60.4 | 13.6 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.6 | 21.8 | | 52.3 | 23.0 | | 57.6 | 15.3 | | 60.4 | 13.6 | 0.0 |
| LOS | E | C | | D | C | | E | B | | E | B | A |
| Approach Delay | | 42.6 | | | 24.5 | | | 18.8 | | | 14.8 | |
| Approach LOS | | D | | | C | | | B | | | B | |
| 90th %ile Green (s) | 9.3 | 10.0 | | 13.3 | 14.0 | | 11.5 | 58.5 | | 9.7 | 56.7 | 9.3 |
| 90th %ile Term Code | Gap | Min | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 8.2 | 25.8 | | 0.0 | 10.0 | | 10.0 | 65.2 | | 8.1 | 63.3 | 8.2 |
| 70th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.4 | 25.0 | | 0.0 | 10.0 | | 9.0 | 80.7 | | 0.0 | 65.1 | 7.4 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 30th %ile Green (s) | 6.6 | 24.2 | | 0.0 | 10.0 | | 7.9 | 81.5 | | 0.0 | 67.0 | 6.6 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 6.5 | 95.7 | | 0.0 | 82.6 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 49 | 14 | | 9 | 35 | | 88 | 577 | | 20 | 225 | 0 |
| Fuel Used(l) | 4 | 2 | | 1 | 5 | | 11 | 63 | | 3 | 43 | 0 |
| CO Emissions (g/hr) | 81 | 29 | | 10 | 92 | | 201 | 1176 | | 51 | 800 | 7 |
| NOx Emissions (g/hr) | 16 | 6 | | 2 | 18 | | 39 | 227 | | 10 | 154 | 1 |
| VOC Emissions (g/hr) | 19 | 7 | | 2 | 21 | | 46 | 271 | | 12 | 185 | 2 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 44 | | 0 | 23 | 0 |
| Queue Length 50th (m) | 6.1 | 1.3 | | 1.6 | 4.9 | | 11.1 | 58.1 | | 4.2 | 31.6 | 0.0 |
| Queue Length 95th (m) | 12.3 | 11.7 | | 6.1 | 23.4 | | 19.4 | 119.5 | | m12.5 | 33.6 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 287 | | 173 | 350 | | 248 | 2105 | | 95 | 1849 | 926 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.12 | | 0.04 | 0.38 | | 0.38 | 0.51 | | 0.19 | 0.31 | 0.01 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 19.0 Intersection LOS: B
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

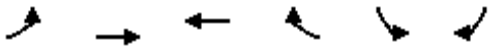
Splits and Phases: 7: Strandherd & Systemhouse/Maravista



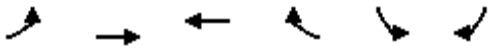
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 34 | 6 | 46 | 17 | 3 | 37 | 29 | 356 | 31 | 36 | 405 | 27 |
| Future Volume (Veh/h) | 34 | 6 | 46 | 17 | 3 | 37 | 29 | 356 | 31 | 36 | 405 | 27 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 34 | 6 | 46 | 17 | 3 | 37 | 29 | 356 | 31 | 36 | 405 | 27 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 930 | 922 | 405 | 940 | 918 | 356 | 432 | | | 387 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 930 | 922 | 405 | 940 | 918 | 356 | 432 | | | 387 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 85 | 98 | 93 | 92 | 99 | 95 | 97 | | | 97 | | |
| cM capacity (veh/h) | 222 | 255 | 646 | 213 | 256 | 688 | 1128 | | | 1171 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 34 | 52 | 57 | 29 | 356 | 31 | 36 | 405 | 27 |
| Volume Left | 34 | 0 | 17 | 29 | 0 | 0 | 36 | 0 | 0 |
| Volume Right | 0 | 46 | 37 | 0 | 0 | 31 | 0 | 0 | 27 |
| cSH | 222 | 549 | 392 | 1128 | 1700 | 1700 | 1171 | 1700 | 1700 |
| Volume to Capacity | 0.15 | 0.09 | 0.15 | 0.03 | 0.21 | 0.02 | 0.03 | 0.24 | 0.02 |
| Queue Length 95th (m) | 4.0 | 2.4 | 3.8 | 0.6 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Control Delay (s) | 24.1 | 12.2 | 15.7 | 8.3 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 |
| Lane LOS | C | B | C | A | | | A | | |
| Approach Delay (s) | 16.9 | | 15.7 | 0.6 | | | 0.6 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.8 | | | |
| Intersection Capacity Utilization | 46.1% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 804 | 845 | 0 | 810 | 262 |
| Future Volume (vph) | 0 | 804 | 845 | 0 | 810 | 262 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 131 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 85.0 | 468.2 | | 171.4 | |
| Travel Time (s) | | 3.8 | 21.1 | | 12.3 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 804 | 845 | 0 | 810 | 262 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 804 | 845 | 0 | 810 | 262 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 69.2 | 69.2 | | 37.7 | 37.7 |
| Actuated g/C Ratio | | 0.58 | 0.58 | | 0.31 | 0.31 |
| v/c Ratio | | 0.45 | 0.46 | | 0.85 | 0.52 |
| Control Delay | | 16.4 | 7.9 | | 47.3 | 19.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 16.4 | 7.9 | | 47.3 | 19.3 |
| LOS | | B | A | | D | B |
| Approach Delay | | 16.4 | 7.9 | | 40.5 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 65.2 | 65.2 | | 41.7 | 41.7 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 68.7 | 68.7 | | 38.2 | 38.2 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 71.7 | 71.7 | | 35.2 | 35.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 77.0 | 77.0 | | 29.9 | 29.9 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 451 | 310 | | 734 | 106 |
| Fuel Used(l) | | 41 | 54 | | 59 | 11 |
| CO Emissions (g/hr) | | 770 | 1006 | | 1100 | 196 |
| NOx Emissions (g/hr) | | 149 | 194 | | 212 | 38 |
| VOC Emissions (g/hr) | | 178 | 232 | | 254 | 45 |
| Dilemma Vehicles (#) | | 34 | 23 | | 0 | 0 |
| Queue Length 50th (m) | | 54.7 | 44.2 | | 91.0 | 24.1 |
| Queue Length 95th (m) | | 78.0 | 40.4 | | 107.2 | 46.3 |
| Internal Link Dist (m) | | 61.0 | 444.2 | | 147.4 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1772 | 1856 | | 1106 | 562 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.45 | 0.46 | | 0.73 | 0.47 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.85 | | | |
| Intersection Signal Delay: 23.3 | | Intersection LOS: C | |
| Intersection Capacity Utilization 61.8% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp

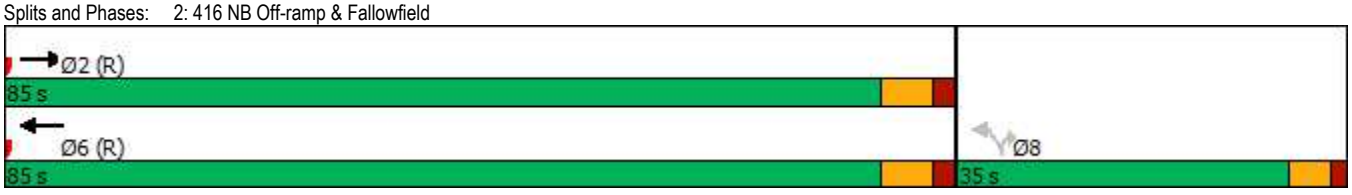


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1488 | 0 | 0 | 934 | 117 | 100 |
| Future Volume (vph) | 1488 | 0 | 0 | 934 | 117 | 100 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 51 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 468.2 | | | 245.0 | 156.0 | |
| Travel Time (s) | 21.1 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1488 | 0 | 0 | 934 | 117 | 100 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1488 | 0 | 0 | 934 | 117 | 100 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.9 | | | 92.9 | 15.1 | 15.1 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.60 | | | 0.37 | 0.63 | 0.45 |
| Control Delay | 3.9 | | | 1.9 | 64.2 | 30.9 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.9 | | | 1.9 | 64.2 | 30.9 |
| LOS | A | | | A | E | C |
| Approach Delay | 3.9 | | | 1.9 | 48.9 | |
| Approach LOS | A | | | A | D | |
| 90th %ile Green (s) | 87.1 | | | 87.1 | 20.9 | 20.9 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 90.7 | | | 90.7 | 17.3 | 17.3 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 93.2 | | | 93.2 | 14.8 | 14.8 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 95.7 | | | 95.7 | 12.3 | 12.3 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 518 | | | 94 | 110 | 48 |
| Fuel Used(l) | 89 | | | 42 | 11 | 5 |
| CO Emissions (g/hr) | 1656 | | | 784 | 203 | 98 |
| NOx Emissions (g/hr) | 320 | | | 151 | 39 | 19 |
| VOC Emissions (g/hr) | 382 | | | 181 | 47 | 23 |
| Dilemma Vehicles (#) | 31 | | | 13 | 0 | 0 |
| Queue Length 50th (m) | 18.1 | | | 8.1 | 26.6 | 10.6 |
| Queue Length 95th (m) | 69.2 | | | 12.3 | 43.6 | 26.1 |
| Internal Link Dist (m) | 444.2 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2471 | | | 2542 | 367 | 391 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | | | 0.37 | 0.32 | 0.26 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.63 | | | |
| Intersection Signal Delay: 6.9 | | Intersection LOS: A | |
| Intersection Capacity Utilization 61.8% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



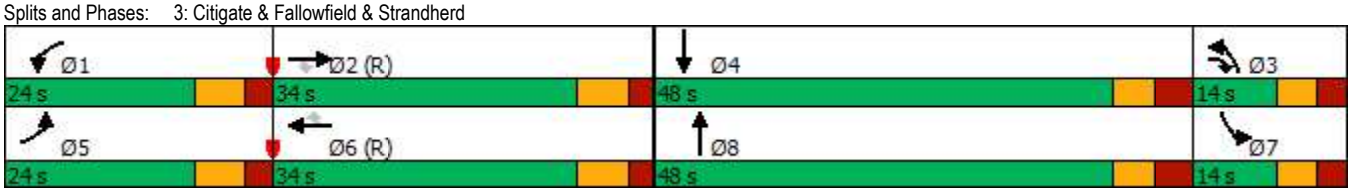
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 6 | 2 | 103 | 5 | 467 |
| Future Volume (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 6 | 2 | 103 | 5 | 467 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.962 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1679 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3120 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1679 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 467 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 6 | 2 | 103 | 5 | 467 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 8 | 0 | 103 | 5 | 467 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 16.5 | 81.2 | 102.4 | 5.8 | 60.2 | 60.2 | 11.7 | 16.2 | | 13.1 | 16.7 | 120.0 |
| Actuated g/C Ratio | 0.14 | 0.68 | 0.85 | 0.05 | 0.50 | 0.50 | 0.10 | 0.14 | | 0.11 | 0.14 | 1.00 |
| v/c Ratio | 0.75 | 0.61 | 0.02 | 0.03 | 0.55 | 0.11 | 0.09 | 0.04 | | 0.57 | 0.02 | 0.33 |
| Control Delay | 50.8 | 20.8 | 0.2 | 75.0 | 16.3 | 0.8 | 45.0 | 30.9 | | 64.2 | 37.0 | 0.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.8 | 20.8 | 0.2 | 75.0 | 16.3 | 0.8 | 45.0 | 30.9 | | 64.2 | 37.0 | 0.6 |
| LOS | D | C | A | E | B | A | D | C | | E | D | A |
| Approach Delay | | 26.6 | | | 14.9 | | | 41.9 | | | 12.3 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 37.7 | 7.5 | 6.3 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 19.5 | 90.6 | 16.0 | 0.0 | 64.0 | 64.0 | 16.0 | 0.0 | | 16.0 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 17.6 | 91.5 | 15.1 | 0.0 | 66.8 | 66.8 | 15.1 | 0.0 | | 15.1 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 15.7 | 92.3 | 14.3 | 0.0 | 69.5 | 69.5 | 14.3 | 0.0 | | 14.3 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 12.9 | 93.8 | 0.0 | 0.0 | 73.8 | 73.8 | 0.0 | 0.0 | | 12.8 | 12.3 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Gap | Hold | |
| Stops (vph) | 296 | 625 | 0 | 3 | 283 | 6 | 30 | 8 | | 82 | 6 | 0 |
| Fuel Used(l) | 36 | 90 | 1 | 0 | 45 | 2 | 4 | 1 | | 11 | 0 | 19 |
| CO Emissions (g/hr) | 666 | 1673 | 22 | 6 | 836 | 42 | 65 | 16 | | 204 | 9 | 346 |
| NOx Emissions (g/hr) | 129 | 323 | 4 | 1 | 161 | 8 | 13 | 3 | | 39 | 2 | 67 |
| VOC Emissions (g/hr) | 154 | 386 | 5 | 1 | 193 | 10 | 15 | 4 | | 47 | 2 | 80 |
| Dilemma Vehicles (#) | 0 | 92 | 0 | 0 | 5 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 34.5 | 81.1 | 0.0 | 0.4 | 25.0 | 0.0 | 3.6 | 1.6 | | 22.9 | 1.1 | 0.0 |
| Queue Length 95th (m) | 55.2 | #232.2 | m0.0 | m1.2 | #178.3 | 2.5 | 8.0 | m4.0 | | #60.4 | 3.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 456 | 1955 | 1284 | 233 | 1601 | 812 | 323 | 574 | | 181 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.61 | 0.02 | 0.01 | 0.55 | 0.11 | 0.09 | 0.01 | | 0.57 | 0.01 | 0.33 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 20.6 Intersection LOS: C
Intersection Capacity Utilization 70.8% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 128 | 1053 | 289 | 43 | 837 | 15 | 192 | 96 | 29 | 17 | 102 | 92 |
| Future Volume (vph) | 128 | 1053 | 289 | 43 | 837 | 15 | 192 | 96 | 29 | 17 | 102 | 92 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.99 | | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.691 | | | 0.695 | | |
| Satd. Flow (perm) | 1658 | 2941 | 1465 | 3216 | 3221 | 1448 | 1198 | 1745 | 1458 | 1211 | 1745 | 1449 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 149 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | | | | | | | 9 | | 2 | 2 | | 9 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 128 | 1053 | 289 | 43 | 837 | 15 | 192 | 96 | 29 | 17 | 102 | 92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 128 | 1053 | 289 | 43 | 837 | 15 | 192 | 96 | 29 | 17 | 102 | 92 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | 2 | 2 | 2 | 7 | 7 | 7 |
| Act Effct Green (s) | 16.4 | 68.0 | 68.0 | 7.0 | 56.1 | 56.1 | 26.1 | 26.1 | 26.1 | 26.1 | 26.1 | 26.1 |
| Actuated g/C Ratio | 0.14 | 0.57 | 0.57 | 0.06 | 0.47 | 0.47 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 |
| v/c Ratio | 0.56 | 0.63 | 0.32 | 0.23 | 0.56 | 0.02 | 0.74 | 0.25 | 0.07 | 0.06 | 0.27 | 0.24 |
| Control Delay | 62.1 | 29.0 | 13.3 | 73.7 | 11.2 | 0.1 | 61.1 | 39.6 | 0.4 | 32.7 | 38.1 | 6.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 62.1 | 29.0 | 13.3 | 73.7 | 11.2 | 0.1 | 61.1 | 39.6 | 0.4 | 32.7 | 38.1 | 6.8 |
| LOS | E | C | B | E | B | A | E | D | A | C | D | A |
| Approach Delay | | 28.8 | | | 14.0 | | | 49.0 | | | 24.0 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.2 | 49.2 | 8.4 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Max | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 18.4 | 62.0 | 62.0 | 7.7 | 51.3 | 51.3 | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 17.9 | 66.8 | 66.8 | 7.0 | 55.9 | 55.9 | 24.8 | 24.8 | 24.8 | 24.8 | 24.8 | 24.8 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 18.0 | 71.5 | 71.5 | 6.3 | 59.8 | 59.8 | 20.8 | 20.8 | 20.8 | 20.8 | 20.8 | 20.8 |
| 30th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 19.5 | 90.6 | 90.6 | 0.0 | 64.2 | 64.2 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 96 | 791 | 160 | 44 | 353 | 0 | 175 | 75 | 0 | 14 | 79 | 11 |
| Fuel Used(l) | 14 | 90 | 18 | 6 | 46 | 0 | 25 | 11 | 2 | 1 | 7 | 3 |
| CO Emissions (g/hr) | 264 | 1671 | 333 | 110 | 863 | 6 | 468 | 199 | 34 | 21 | 133 | 53 |
| NOx Emissions (g/hr) | 51 | 323 | 64 | 21 | 167 | 1 | 90 | 38 | 7 | 4 | 26 | 10 |
| VOC Emissions (g/hr) | 61 | 385 | 77 | 25 | 199 | 1 | 108 | 46 | 8 | 5 | 31 | 12 |
| Dilemma Vehicles (#) | 0 | 72 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 26.9 | 125.8 | 13.7 | 5.6 | 50.5 | 0.0 | 44.1 | 19.7 | 0.1 | 3.3 | 20.4 | 0.0 |
| Queue Length 95th (m) | #75.3 | #101.6 | 38.5 | 11.9 | 22.3 | m0.0 | 58.8 | 29.6 | 0.1 | 7.9 | 29.8 | 10.2 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 227 | 1667 | 894 | 219 | 1505 | 732 | 412 | 600 | 565 | 416 | 600 | 562 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.63 | 0.32 | 0.20 | 0.56 | 0.02 | 0.47 | 0.16 | 0.05 | 0.04 | 0.17 | 0.16 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.1 Intersection LOS: C
Intersection Capacity Utilization 71.7% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Crosskeys/Helene Campbell & Strandherd



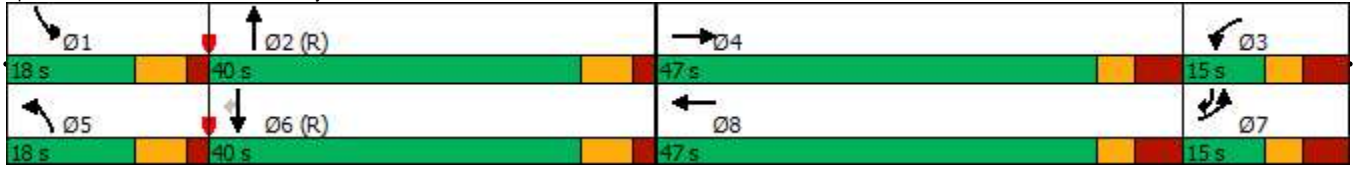
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 63 | 56 | 198 | 10 | 56 | 40 | 243 | 706 | 7 | 134 | 948 | 25 |
| Future Volume (vph) | 63 | 56 | 198 | 10 | 56 | 40 | 243 | 706 | 7 | 134 | 948 | 25 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.883 | | | 0.937 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1522 | 0 | 1658 | 1553 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1522 | 0 | 1654 | 1553 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 158 | | | 32 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 63 | 56 | 198 | 10 | 56 | 40 | 243 | 706 | 7 | 134 | 948 | 25 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 63 | 254 | 0 | 10 | 96 | 0 | 243 | 713 | 0 | 134 | 948 | 25 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 15.0 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 3 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.3 | 22.6 | | 9.4 | 16.4 | | 13.3 | 56.2 | | 14.2 | 57.2 | 63.6 |
| Actuated g/C Ratio | 0.06 | 0.19 | | 0.08 | 0.14 | | 0.11 | 0.47 | | 0.12 | 0.48 | 0.53 |
| v/c Ratio | 0.32 | 0.61 | | 0.08 | 0.40 | | 0.68 | 0.46 | | 0.68 | 0.60 | 0.03 |
| Control Delay | 58.1 | 23.0 | | 48.0 | 33.9 | | 66.3 | 21.2 | | 73.6 | 23.4 | 2.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.1 | 23.0 | | 48.0 | 33.9 | | 66.3 | 21.2 | | 73.6 | 23.4 | 2.0 |
| LOS | E | C | | D | C | | E | C | | E | C | A |
| Approach Delay | | 30.0 | | | 35.2 | | | 32.6 | | | 29.0 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| 90th %ile Green (s) | 7.8 | 23.8 | | 23.0 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Gap | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 8.6 | 28.8 | | 0.0 | 12.6 | | 16.3 | 52.1 | | 18.2 | 54.0 | 8.6 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.7 | 25.7 | | 0.0 | 10.4 | | 14.7 | 56.9 | | 16.5 | 58.7 | 7.7 |
| 50th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.9 | 24.5 | | 0.0 | 10.0 | | 13.1 | 60.4 | | 14.2 | 61.5 | 6.9 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 10.8 | 78.3 | | 10.8 | 78.3 | 0.0 |
| 10th %ile Term Code | Skip | Min | | Skip | Min | | Gap | Coord | | Gap | Coord | Skip |
| Stops (vph) | 59 | 93 | | 11 | 55 | | 232 | 334 | | 123 | 320 | 3 |
| Fuel Used(l) | 5 | 12 | | 1 | 5 | | 34 | 54 | | 18 | 57 | 1 |
| CO Emissions (g/hr) | 100 | 214 | | 13 | 89 | | 627 | 1010 | | 329 | 1058 | 14 |
| NOx Emissions (g/hr) | 19 | 41 | | 2 | 17 | | 121 | 195 | | 63 | 204 | 3 |
| VOC Emissions (g/hr) | 23 | 49 | | 3 | 21 | | 145 | 233 | | 76 | 244 | 3 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 48 | | 0 | 68 | 0 |
| Queue Length 50th (m) | 7.4 | 19.1 | | 2.3 | 14.6 | | 31.1 | 33.7 | | 33.8 | 26.5 | 0.0 |
| Queue Length 95th (m) | 14.6 | 47.2 | | 6.7 | 23.3 | | m37.1 | m78.8 | | m#68.1 | #160.3 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 208 | 605 | | 145 | 531 | | 358 | 1551 | | 198 | 1579 | 768 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | 0.42 | | 0.07 | 0.18 | | 0.68 | 0.46 | | 0.68 | 0.60 | 0.03 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 30.8 Intersection LOS: C
Intersection Capacity Utilization 70.7% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 103 | 15 | 70 | 103 | 14 | 71 | 50 | 772 | 98 | 76 | 1080 | 35 |
| Future Volume (vph) | 103 | 15 | 70 | 103 | 14 | 71 | 50 | 772 | 98 | 76 | 1080 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 100.0 | 50.0 | | 0.0 | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.875 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1502 | 0 | 1658 | 1745 | 1483 | 1642 | 1745 | 1483 |
| Flt Permitted | 0.702 | | | 0.748 | | | 0.069 | | | 0.102 | | |
| Satd. Flow (perm) | 1225 | 1745 | 1483 | 1305 | 1502 | 0 | 120 | 1745 | 1483 | 176 | 1745 | 1483 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 89 | | 71 | | | | 91 | | | 33 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 210.1 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 103 | 15 | 70 | 103 | 14 | 71 | 50 | 772 | 98 | 76 | 1080 | 35 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 103 | 15 | 70 | 103 | 85 | 0 | 50 | 772 | 98 | 76 | 1080 | 35 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Perm | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 2 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 20.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 32.6 | 32.6 | 32.6 | 32.6 | 32.6 | | 30.4 | 30.4 | 30.4 | 11.4 | 30.4 | 30.4 |
| Total Split (s) | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | | 62.0 | 62.0 | 62.0 | 15.0 | 77.0 | 77.0 |
| Total Split (%) | 35.8% | 35.8% | 35.8% | 35.8% | 35.8% | | 51.7% | 51.7% | 51.7% | 12.5% | 64.2% | 64.2% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | Max | Max | Max | Max | Max | | C-Max | C-Max | C-Max | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | | 17.0 | 17.0 | 17.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 59.1 | 59.1 | 59.1 | 70.6 | 70.6 | 70.6 |
| Actuated g/C Ratio | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | 0.49 | 0.49 | 0.49 | 0.59 | 0.59 | 0.59 |
| v/c Ratio | 0.28 | 0.03 | 0.14 | 0.26 | 0.17 | | 0.85 | 0.90 | 0.13 | 0.39 | 1.05 | 0.04 |
| Control Delay | 34.3 | 29.7 | 4.4 | 33.9 | 10.3 | | 117.3 | 44.0 | 4.7 | 28.7 | 74.4 | 12.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 34.3 | 29.7 | 4.4 | 33.9 | 10.3 | | 117.3 | 44.0 | 4.7 | 28.7 | 74.4 | 12.4 |
| LOS | C | C | A | C | B | | F | D | A | C | E | B |
| Approach Delay | | 22.8 | | | 23.2 | | | 43.8 | | | 69.7 | |
| Approach LOS | | C | | | C | | | D | | | E | |
| 90th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| 90th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Max | Coord | Coord |
| 70th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 55.6 | 55.6 | 55.6 | 8.6 | 70.6 | 70.6 |
| 70th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Max | Coord | Coord |
| 50th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 56.4 | 56.4 | 56.4 | 7.8 | 70.6 | 70.6 |
| 50th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 30th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 57.2 | 57.2 | 57.2 | 7.0 | 70.6 | 70.6 |
| 30th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Gap | Coord | Coord |
| 10th %ile Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 70.6 | 70.6 | 70.6 | 0.0 | 70.6 | 70.6 |
| 10th %ile Term Code | MaxR | MaxR | MaxR | MaxR | MaxR | | Coord | Coord | Coord | Skip | Coord | Coord |
| Stops (vph) | 77 | 13 | 7 | 77 | 19 | | 35 | 633 | 14 | 48 | 725 | 21 |
| Fuel Used(l) | 8 | 1 | 3 | 8 | 4 | | 7 | 76 | 3 | 7 | 139 | 3 |
| CO Emissions (g/hr) | 148 | 21 | 52 | 148 | 82 | | 138 | 1421 | 54 | 129 | 2587 | 50 |
| NOx Emissions (g/hr) | 29 | 4 | 10 | 29 | 16 | | 27 | 274 | 11 | 25 | 499 | 10 |
| VOC Emissions (g/hr) | 34 | 5 | 12 | 34 | 19 | | 32 | 328 | 13 | 30 | 597 | 12 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 31 | 0 | 0 | 90 | 0 |
| Queue Length 50th (m) | 18.4 | 2.5 | 0.0 | 18.3 | 2.3 | | 10.4 | 168.4 | 0.9 | 9.6 | ~266.7 | 1.6 |
| Queue Length 95th (m) | 33.5 | 7.6 | 7.1 | 33.1 | 13.8 | | #36.9 | #252.7 | 10.0 | m26.6 | #336.9 | m5.6 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 186.1 | |
| Turn Bay Length (m) | 75.0 | | 100.0 | 50.0 | | | 110.0 | | 40.0 | 150.0 | | 90.0 |
| Base Capacity (vph) | 371 | 529 | 511 | 395 | 505 | | 59 | 859 | 776 | 208 | 1026 | 886 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.03 | 0.14 | 0.26 | 0.17 | | 0.85 | 0.90 | 0.13 | 0.37 | 1.05 | 0.04 |

Intersection Summary

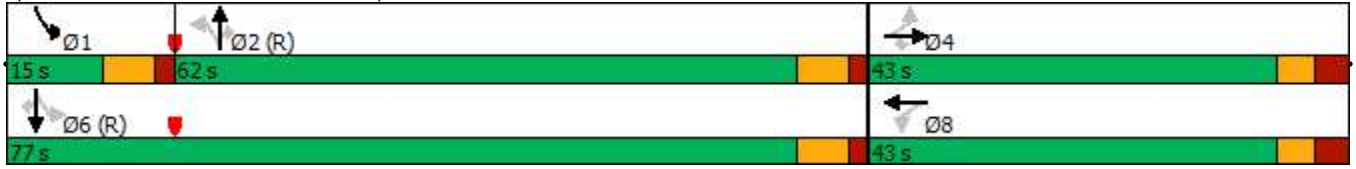
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 57 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 53.1 Intersection LOS: D
Intersection Capacity Utilization 93.0% ICU Level of Service F
Analysis Period (min) 15

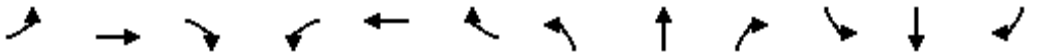
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

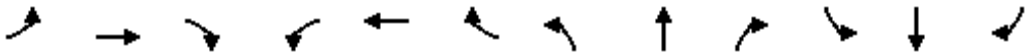
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd & Dealership/Kennevale





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 6 | 2 | 103 | 5 | 467 |
| Future Volume (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 6 | 2 | 103 | 5 | 467 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.962 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1679 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3120 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1679 | 0 | 1642 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 467 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 6 | 2 | 103 | 5 | 467 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 322 | 1202 | 28 | 2 | 884 | 93 | 29 | 8 | 0 | 103 | 5 | 467 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

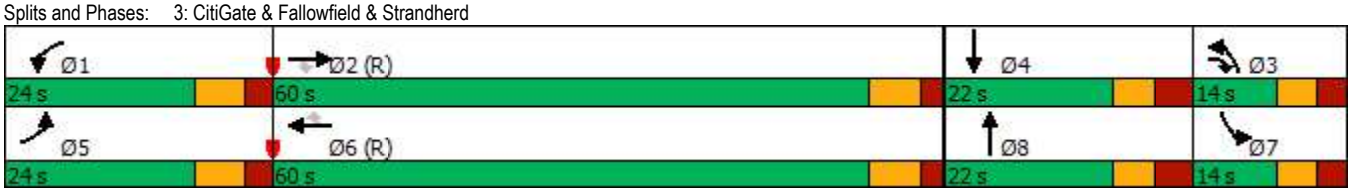


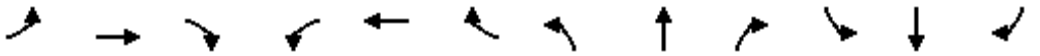
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 16.5 | 86.4 | 108.6 | 5.8 | 65.4 | 65.4 | 12.7 | 10.0 | | 14.1 | 10.5 | 120.0 |
| Actuated g/C Ratio | 0.14 | 0.72 | 0.90 | 0.05 | 0.54 | 0.54 | 0.11 | 0.08 | | 0.12 | 0.09 | 1.00 |
| v/c Ratio | 0.75 | 0.58 | 0.02 | 0.03 | 0.51 | 0.11 | 0.09 | 0.06 | | 0.53 | 0.03 | 0.33 |
| Control Delay | 61.1 | 11.7 | 0.0 | 87.0 | 15.9 | 1.0 | 47.9 | 45.9 | | 60.4 | 51.2 | 0.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.1 | 11.7 | 0.0 | 87.0 | 15.9 | 1.0 | 47.9 | 45.9 | | 60.4 | 51.2 | 0.6 |
| LOS | E | B | A | F | B | A | D | D | | E | D | A |
| Approach Delay | | 21.8 | | | 14.7 | | | 47.4 | | | 11.8 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 63.7 | 12.5 | 6.3 | 53.1 | 53.1 | 12.5 | 10.0 | | 12.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Gap | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 19.5 | 90.6 | 16.0 | 0.0 | 64.0 | 64.0 | 16.0 | 0.0 | | 16.0 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 17.6 | 91.5 | 15.1 | 0.0 | 66.8 | 66.8 | 15.1 | 0.0 | | 15.1 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 15.7 | 92.3 | 14.3 | 0.0 | 69.5 | 69.5 | 14.3 | 0.0 | | 14.3 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 12.9 | 93.8 | 0.0 | 0.0 | 73.8 | 73.8 | 0.0 | 0.0 | | 12.8 | 12.3 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Gap | Hold | |
| Stops (vph) | 301 | 580 | 0 | 3 | 696 | 9 | 27 | 9 | | 95 | 7 | 0 |
| Fuel Used(l) | 38 | 67 | 1 | 0 | 88 | 5 | 2 | 1 | | 10 | 1 | 9 |
| CO Emissions (g/hr) | 715 | 1237 | 10 | 7 | 1644 | 85 | 39 | 11 | | 181 | 10 | 161 |
| NOx Emissions (g/hr) | 138 | 239 | 2 | 1 | 317 | 16 | 8 | 2 | | 35 | 2 | 31 |
| VOC Emissions (g/hr) | 165 | 285 | 2 | 2 | 379 | 20 | 9 | 3 | | 42 | 2 | 37 |
| Dilemma Vehicles (#) | 0 | 50 | 0 | 0 | 7 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 37.6 | 51.4 | 0.0 | 0.4 | 84.8 | 1.4 | 3.1 | 1.3 | | 22.9 | 1.1 | 0.0 |
| Queue Length 95th (m) | 53.5 | 144.2 | 0.0 | m1.5 | 125.5 | 2.2 | 7.8 | 6.3 | | #42.6 | 5.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 456 | 2080 | 1356 | 233 | 1740 | 868 | 350 | 211 | | 195 | 218 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.58 | 0.02 | 0.01 | 0.51 | 0.11 | 0.08 | 0.04 | | 0.53 | 0.02 | 0.33 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 18.0 Intersection LOS: B
Intersection Capacity Utilization 69.4% ICU Level of Service C
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 63 | 56 | 198 | 10 | 56 | 40 | 243 | 706 | 7 | 134 | 948 | 25 |
| Future Volume (vph) | 63 | 56 | 198 | 10 | 56 | 40 | 243 | 706 | 7 | 134 | 948 | 25 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.883 | | | 0.937 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1521 | 0 | 1658 | 1553 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1521 | 0 | 1635 | 1553 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 142 | | | 29 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 63 | 56 | 198 | 10 | 56 | 40 | 243 | 706 | 7 | 134 | 948 | 25 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 63 | 254 | 0 | 10 | 96 | 0 | 243 | 713 | 0 | 134 | 948 | 25 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

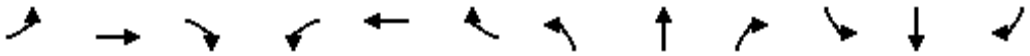
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 9.1 | 22.8 | | 6.3 | 11.9 | | 14.3 | 57.9 | | 15.3 | 58.9 | 67.0 |
| Actuated g/C Ratio | 0.08 | 0.19 | | 0.05 | 0.10 | | 0.12 | 0.48 | | 0.13 | 0.49 | 0.56 |
| v/c Ratio | 0.26 | 0.63 | | 0.11 | 0.53 | | 0.63 | 0.45 | | 0.64 | 0.58 | 0.03 |
| Control Delay | 53.4 | 25.7 | | 56.5 | 46.5 | | 57.8 | 24.0 | | 53.5 | 29.2 | 0.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.4 | 25.7 | | 56.5 | 46.5 | | 57.8 | 24.0 | | 53.5 | 29.2 | 0.3 |
| LOS | D | C | | E | D | | E | C | | D | C | A |
| Approach Delay | | 31.2 | | | 47.5 | | | 32.6 | | | 31.5 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| 90th %ile Green (s) | 16.4 | 24.7 | | 7.7 | 16.0 | | 16.8 | 42.3 | | 16.8 | 42.3 | 16.4 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Max | Coord | | Max | Coord | Hold |
| 70th %ile Green (s) | 8.6 | 29.0 | | 0.0 | 12.8 | | 16.3 | 51.9 | | 18.2 | 53.8 | 8.6 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.7 | 25.9 | | 0.0 | 10.6 | | 14.7 | 56.7 | | 16.5 | 58.5 | 7.7 |
| 50th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 6.9 | 24.5 | | 0.0 | 10.0 | | 13.1 | 60.4 | | 14.2 | 61.5 | 6.9 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 10.8 | 78.3 | | 10.8 | 78.3 | 0.0 |
| 10th %ile Term Code | Skip | Min | | Skip | Min | | Gap | Coord | | Gap | Coord | Skip |
| Stops (vph) | 57 | 104 | | 12 | 63 | | 227 | 472 | | 128 | 610 | 0 |
| Fuel Used(l) | 5 | 12 | | 1 | 6 | | 28 | 52 | | 19 | 97 | 1 |
| CO Emissions (g/hr) | 95 | 229 | | 14 | 109 | | 518 | 967 | | 345 | 1798 | 20 |
| NOx Emissions (g/hr) | 18 | 44 | | 3 | 21 | | 100 | 187 | | 67 | 347 | 4 |
| VOC Emissions (g/hr) | 22 | 53 | | 3 | 25 | | 119 | 223 | | 80 | 415 | 5 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 30 | | 0 | 34 | 0 |
| Queue Length 50th (m) | 7.4 | 22.9 | | 2.3 | 15.3 | | 28.4 | 57.7 | | 30.3 | 66.1 | 0.0 |
| Queue Length 95th (m) | 13.4 | 50.9 | | 7.8 | 31.3 | | 40.9 | 92.2 | | 52.1 | 147.1 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 254 | 491 | | 103 | 415 | | 387 | 1599 | | 213 | 1626 | 804 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.52 | | 0.10 | 0.23 | | 0.63 | 0.45 | | 0.63 | 0.58 | 0.03 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 32.6 Intersection LOS: C
Intersection Capacity Utilization 68.7% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista

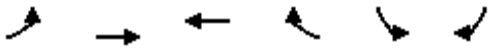




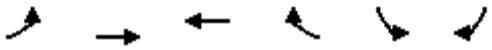
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 3 | 32 | 46 | 3 | 63 | 27 | 652 | 21 | 20 | 572 | 15 |
| Future Volume (Veh/h) | 14 | 3 | 32 | 46 | 3 | 63 | 27 | 652 | 21 | 20 | 572 | 15 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 14 | 3 | 32 | 46 | 3 | 63 | 27 | 652 | 21 | 20 | 572 | 15 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1382 | 1339 | 572 | 1352 | 1333 | 652 | 587 | | | 673 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1382 | 1339 | 572 | 1352 | 1333 | 652 | 587 | | | 673 | | |
| tC, single (s) | 7.2 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.2 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.3 | | | 2.2 | | |
| p0 queue free % | 85 | 98 | 94 | 59 | 98 | 87 | 97 | | | 98 | | |
| cM capacity (veh/h) | 94 | 145 | 516 | 113 | 146 | 468 | 964 | | | 904 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 14 | 35 | 112 | 27 | 652 | 21 | 20 | 572 | 15 |
| Volume Left | 14 | 0 | 46 | 27 | 0 | 0 | 20 | 0 | 0 |
| Volume Right | 0 | 32 | 63 | 0 | 0 | 21 | 0 | 0 | 15 |
| cSH | 94 | 423 | 199 | 964 | 1700 | 1700 | 904 | 1700 | 1700 |
| Volume to Capacity | 0.15 | 0.08 | 0.56 | 0.03 | 0.38 | 0.01 | 0.02 | 0.34 | 0.01 |
| Queue Length 95th (m) | 3.8 | 2.0 | 22.9 | 0.7 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Control Delay (s) | 50.2 | 14.3 | 44.0 | 8.8 | 0.0 | 0.0 | 9.1 | 0.0 | 0.0 |
| Lane LOS | F | B | E | A | | | A | | |
| Approach Delay (s) | 24.5 | | 44.0 | 0.3 | | | 0.3 | | |
| Approach LOS | C | | E | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 4.5 | | | | |
| Intersection Capacity Utilization | 56.5% | ICU Level of Service | | B | |
| Analysis Period (min) | 15 | | | | |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1564 | 1010 | 0 | 480 | 121 |
| Future Volume (vph) | 0 | 1564 | 1010 | 0 | 480 | 121 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 85 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1564 | 1010 | 0 | 480 | 121 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1564 | 1010 | 0 | 480 | 121 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 82.1 | 82.1 | | 24.8 | 24.8 |
| Actuated g/C Ratio | | 0.68 | 0.68 | | 0.21 | 0.21 |
| v/c Ratio | | 0.74 | 0.46 | | 0.77 | 0.36 |
| Control Delay | | 15.9 | 5.2 | | 53.0 | 16.5 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 15.9 | 5.2 | | 53.0 | 16.5 |
| LOS | | B | A | | D | B |
| Approach Delay | | 15.9 | 5.2 | | 45.7 | |
| Approach LOS | | B | A | | D | |
| 90th %ile Green (s) | | 75.3 | 75.3 | | 31.6 | 31.6 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 79.7 | 79.7 | | 27.2 | 27.2 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 82.3 | 82.3 | | 24.6 | 24.6 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 84.8 | 84.8 | | 22.1 | 22.1 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 88.5 | 88.5 | | 18.4 | 18.4 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 989 | 327 | | 439 | 36 |
| Fuel Used(l) | | 98 | 60 | | 37 | 4 |
| CO Emissions (g/hr) | | 1823 | 1110 | | 682 | 78 |
| NOx Emissions (g/hr) | | 352 | 214 | | 132 | 15 |
| VOC Emissions (g/hr) | | 420 | 256 | | 157 | 18 |
| Dilemma Vehicles (#) | | 65 | 7 | | 0 | 0 |
| Queue Length 50th (m) | | 112.1 | 51.2 | | 55.5 | 7.0 |
| Queue Length 95th (m) | | 169.8 | 15.6 | | 68.2 | 21.9 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2104 | 2204 | | 1106 | 533 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.74 | 0.46 | | 0.43 | 0.23 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 80 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.77 | | | |
| Intersection Signal Delay: 18.1 | | Intersection LOS: B | |
| Intersection Capacity Utilization 77.1% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp

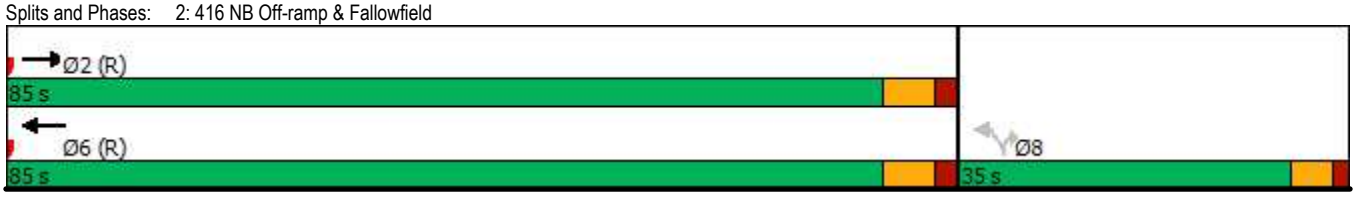


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1721 | 0 | 0 | 906 | 176 | 259 |
| Future Volume (vph) | 1721 | 0 | 0 | 906 | 176 | 259 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 31 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1721 | 0 | 0 | 906 | 176 | 259 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1721 | 0 | 0 | 906 | 176 | 259 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 84.2 | | | 84.2 | 23.8 | 23.8 |
| Actuated g/C Ratio | 0.70 | | | 0.70 | 0.20 | 0.20 |
| v/c Ratio | 0.77 | | | 0.39 | 0.60 | 0.84 |
| Control Delay | 20.4 | | | 2.3 | 51.5 | 63.4 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.4 | | | 2.3 | 51.5 | 63.4 |
| LOS | C | | | A | D | E |
| Approach Delay | 20.4 | | | 2.3 | 58.6 | |
| Approach LOS | C | | | A | E | |
| 90th %ile Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 79.5 | | | 79.5 | 28.5 | 28.5 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 83.2 | | | 83.2 | 24.8 | 24.8 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 87.1 | | | 87.1 | 20.9 | 20.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 92.8 | | | 92.8 | 15.2 | 15.2 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1189 | | | 112 | 156 | 219 |
| Fuel Used(l) | 158 | | | 42 | 14 | 23 |
| CO Emissions (g/hr) | 2940 | | | 788 | 268 | 432 |
| NOx Emissions (g/hr) | 567 | | | 152 | 52 | 83 |
| VOC Emissions (g/hr) | 678 | | | 182 | 62 | 100 |
| Dilemma Vehicles (#) | 108 | | | 7 | 0 | 0 |
| Queue Length 50th (m) | 145.4 | | | 5.8 | 37.6 | 52.0 |
| Queue Length 95th (m) | 238.6 | | | m5.4 | 57.7 | 79.0 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2238 | | | 2302 | 367 | 376 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | | | 0.39 | 0.48 | 0.69 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.84 | | | |
| Intersection Signal Delay: 20.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 77.1% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Future Volume (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3123 | 2891 | 1483 | 1658 | 3191 | 1459 | 3216 | 1595 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 347 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 7 | 0 | 73 | 5 | 347 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 28.0 | 46.0 | 13.0 | 13.0 | 31.0 | 31.0 | 13.0 | 48.0 | | 13.0 | 48.0 | |
| Total Split (%) | 23.3% | 38.3% | 10.8% | 10.8% | 25.8% | 25.8% | 10.8% | 40.0% | | 10.8% | 40.0% | |
| Maximum Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 34.1 | 83.9 | 100.6 | 5.8 | 45.3 | 45.3 | 8.5 | 16.2 | | 10.5 | 16.2 | 120.0 |
| Actuated g/C Ratio | 0.28 | 0.70 | 0.84 | 0.05 | 0.38 | 0.38 | 0.07 | 0.14 | | 0.09 | 0.14 | 1.00 |
| v/c Ratio | 0.73 | 0.47 | 0.02 | 0.05 | 1.38 | 0.08 | 0.08 | 0.03 | | 0.50 | 0.02 | 0.24 |
| Control Delay | 41.3 | 17.6 | 0.0 | 71.8 | 197.5 | 0.2 | 49.7 | 32.1 | | 65.4 | 37.0 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.3 | 17.6 | 0.0 | 71.8 | 197.5 | 0.2 | 49.7 | 32.1 | | 65.4 | 37.0 | 0.4 |
| LOS | D | B | A | E | F | A | D | C | | E | D | A |
| Approach Delay | | 26.7 | | | 190.7 | | | 45.0 | | | 12.0 | |
| Approach LOS | | C | | | F | | | D | | | B | |
| 90th %ile Green (s) | 20.9 | 39.1 | 6.5 | 5.9 | 24.1 | 24.1 | 6.5 | 41.0 | | 6.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Max | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 34.4 | 93.5 | 13.1 | 0.0 | 52.0 | 52.0 | 13.1 | 0.0 | | 13.1 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 34.3 | 94.7 | 11.9 | 0.0 | 53.3 | 53.3 | 11.9 | 0.0 | | 11.9 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 36.5 | 96.1 | 0.0 | 0.0 | 52.5 | 52.5 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 44.2 | 96.1 | 0.0 | 0.0 | 44.8 | 44.8 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 527 | 460 | 0 | 7 | 1223 | 0 | 20 | 13 | | 59 | 6 | 0 |
| Fuel Used(l) | 65 | 68 | 1 | 1 | 355 | 1 | 2 | 1 | | 8 | 0 | 14 |
| CO Emissions (g/hr) | 1203 | 1256 | 23 | 13 | 6607 | 21 | 44 | 17 | | 146 | 9 | 256 |
| NOx Emissions (g/hr) | 232 | 242 | 4 | 3 | 1275 | 4 | 9 | 3 | | 28 | 2 | 49 |
| VOC Emissions (g/hr) | 278 | 290 | 5 | 3 | 1524 | 5 | 10 | 4 | | 34 | 2 | 59 |
| Dilemma Vehicles (#) | 0 | 54 | 0 | 0 | 60 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 76.1 | 56.6 | 0.0 | 0.9 | ~247.1 | 0.0 | 2.3 | 0.7 | | 16.5 | 1.1 | 0.0 |
| Queue Length 95th (m) | #132.1 | #161.9 | m0.0 | m1.4 | #384.1 | m0.0 | 5.4 | 3.9 | | #44.1 | 3.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 886 | 2021 | 1264 | 82 | 1205 | 691 | 238 | 547 | | 145 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.47 | 0.02 | 0.05 | 1.38 | 0.08 | 0.08 | 0.01 | | 0.50 | 0.01 | 0.24 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 99.5 Intersection LOS: F
Intersection Capacity Utilization 97.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

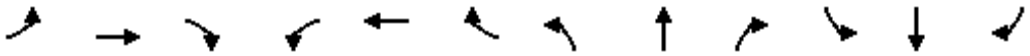
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 970 | 59 | 21 | 1611 | 16 | 108 | 11 | 11 | 42 | 22 | 176 |
| Future Volume (vph) | 36 | 970 | 59 | 21 | 1611 | 16 | 108 | 11 | 11 | 42 | 22 | 176 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.97 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.743 | | | 0.750 | | |
| Satd. Flow (perm) | 1657 | 2941 | 1483 | 3216 | 3221 | 1445 | 1297 | 1745 | 1483 | 1307 | 1745 | 1462 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 105 | | | 105 | | | 97 | | | 158 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 36 | 970 | 59 | 21 | 1611 | 16 | 108 | 11 | 11 | 42 | 22 | 176 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 36 | 970 | 59 | 21 | 1611 | 16 | 108 | 11 | 11 | 42 | 22 | 176 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |



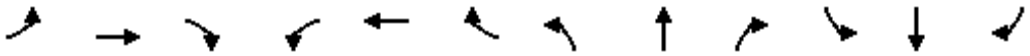
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Act Effct Green (s) | 7.6 | 80.5 | 80.5 | 6.3 | 76.8 | 76.8 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 |
| Actuated g/C Ratio | 0.06 | 0.67 | 0.67 | 0.05 | 0.64 | 0.64 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| v/c Ratio | 0.35 | 0.49 | 0.06 | 0.12 | 0.78 | 0.02 | 0.51 | 0.04 | 0.03 | 0.20 | 0.08 | 0.48 |
| Control Delay | 75.9 | 15.1 | 2.0 | 64.0 | 14.7 | 0.1 | 55.1 | 39.0 | 0.2 | 41.0 | 37.5 | 11.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.9 | 15.1 | 2.0 | 64.0 | 14.7 | 0.1 | 55.1 | 39.0 | 0.2 | 41.0 | 37.5 | 11.8 |
| LOS | E | B | A | E | B | A | E | D | A | D | D | B |
| Approach Delay | | 16.4 | | | 15.2 | | | 49.1 | | | 19.2 | |
| Approach LOS | | B | | | B | | | D | | | B | |
| 90th %ile Green (s) | 8.4 | 50.2 | 50.2 | 7.4 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Gap | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 9.2 | 73.7 | 73.7 | 6.7 | 71.2 | 71.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 8.0 | 90.1 | 90.1 | 0.0 | 75.2 | 75.2 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 | 15.4 |
| 50th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 0.0 | 92.9 | 92.9 | 0.0 | 92.9 | 92.9 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| 30th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 0.0 | 95.5 | 95.5 | 0.0 | 95.5 | 95.5 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Skip | Coord | Coord | Skip | Coord | Coord | Min | Min | Min | Min | Min | Min |
| Stops (vph) | 37 | 419 | 5 | 23 | 350 | 0 | 96 | 11 | 0 | 34 | 19 | 29 |
| Fuel Used(l) | 5 | 55 | 2 | 3 | 75 | 0 | 14 | 1 | 1 | 3 | 2 | 6 |
| CO Emissions (g/hr) | 92 | 1016 | 29 | 53 | 1389 | 7 | 253 | 24 | 13 | 57 | 29 | 118 |
| NOx Emissions (g/hr) | 18 | 196 | 6 | 10 | 268 | 1 | 49 | 5 | 3 | 11 | 6 | 23 |
| VOC Emissions (g/hr) | 21 | 234 | 7 | 12 | 320 | 2 | 58 | 5 | 3 | 13 | 7 | 27 |
| Dilemma Vehicles (#) | 0 | 74 | 0 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 8.9 | 32.8 | 0.0 | 2.6 | 27.3 | 0.0 | 25.8 | 2.5 | 0.1 | 9.0 | 4.6 | 3.8 |
| Queue Length 95th (m) | m19.2 | 68.7 | 4.4 | m4.1 | #272.2 | m0.0 | 34.7 | 6.3 | 0.1 | 14.9 | 9.3 | 18.0 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 115 | 1972 | 1029 | 217 | 2061 | 962 | 446 | 600 | 574 | 449 | 600 | 606 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.31 | 0.49 | 0.06 | 0.10 | 0.78 | 0.02 | 0.24 | 0.02 | 0.02 | 0.09 | 0.04 | 0.29 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 73 (61%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 17.3 Intersection LOS: B
Intersection Capacity Utilization 87.0% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Crosskeys/Helene Campbell & Strandherd





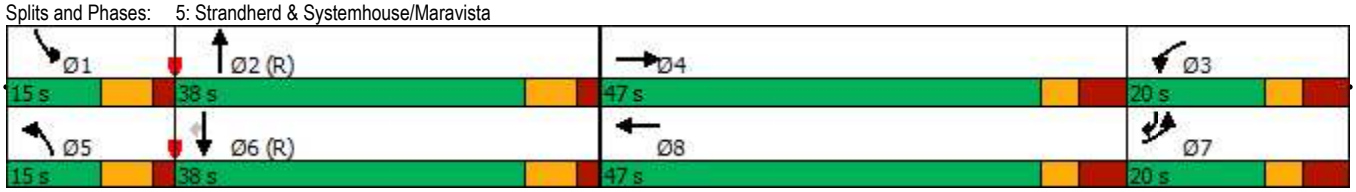
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Future Volume (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.883 | | | 0.884 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1354 | 0 | 1658 | 1543 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1354 | 0 | 1656 | 1543 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 32 | | | 110 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 66 | 41 | 0 | 7 | 142 | 0 | 162 | 1350 | 0 | 32 | 748 | 67 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 20.0 | 47.0 | | 20.0 | 47.0 | | 15.0 | 38.0 | | 15.0 | 38.0 | 20.0 |
| Total Split (%) | 16.7% | 39.2% | | 16.7% | 39.2% | | 12.5% | 31.7% | | 12.5% | 31.7% | 16.7% |
| Maximum Green (s) | 12.4 | 39.4 | | 12.4 | 39.4 | | 8.4 | 31.3 | | 8.4 | 31.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 1 | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.9 | 19.5 | | 12.4 | 16.0 | | 11.0 | 67.1 | | 8.3 | 59.3 | 66.3 |
| Actuated g/C Ratio | 0.07 | 0.16 | | 0.10 | 0.13 | | 0.09 | 0.56 | | 0.07 | 0.49 | 0.55 |
| v/c Ratio | 0.32 | 0.17 | | 0.04 | 0.47 | | 0.56 | 0.73 | | 0.35 | 0.46 | 0.08 |
| Control Delay | 57.0 | 21.3 | | 40.4 | 17.3 | | 60.1 | 21.3 | | 85.7 | 17.9 | 3.7 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.0 | 21.3 | | 40.4 | 17.3 | | 60.1 | 21.3 | | 85.7 | 17.9 | 3.7 |
| LOS | E | C | | D | B | | E | C | | F | B | A |
| Approach Delay | | 43.4 | | | 18.4 | | | 25.5 | | | 19.4 | |
| Approach LOS | | D | | | B | | | C | | | B | |
| 90th %ile Green (s) | 10.0 | 10.2 | | 38.8 | 39.0 | | 11.2 | 31.3 | | 11.2 | 31.3 | 10.0 |
| 90th %ile Term Code | Gap | Gap | | Hold | Ped | | Max | Coord | | Max | Coord | Gap |
| 70th %ile Green (s) | 8.8 | 27.3 | | 0.0 | 10.9 | | 13.1 | 62.1 | | 9.7 | 58.7 | 8.8 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.9 | 25.5 | | 0.0 | 10.0 | | 11.7 | 65.3 | | 8.3 | 61.9 | 7.9 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 10.4 | 81.1 | | 0.0 | 64.1 | 7.0 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 8.5 | 95.7 | | 0.0 | 80.6 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 62 | 15 | | 7 | 36 | | 138 | 875 | | 33 | 394 | 8 |
| Fuel Used(l) | 6 | 2 | | 0 | 5 | | 21 | 117 | | 5 | 50 | 2 |
| CO Emissions (g/hr) | 104 | 34 | | 8 | 86 | | 386 | 2174 | | 88 | 927 | 40 |
| NOx Emissions (g/hr) | 20 | 6 | | 2 | 17 | | 75 | 420 | | 17 | 179 | 8 |
| VOC Emissions (g/hr) | 24 | 8 | | 2 | 20 | | 89 | 501 | | 20 | 214 | 9 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 36 | | 0 | 27 | 0 |
| Queue Length 50th (m) | 7.7 | 1.7 | | 1.6 | 7.2 | | 16.3 | 140.6 | | 8.0 | 51.1 | 0.3 |
| Queue Length 95th (m) | 14.7 | 13.1 | | 4.5 | 19.5 | | m27.7 | #285.1 | | m16.8 | #110.8 | 7.6 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 466 | | 244 | 580 | | 288 | 1851 | | 101 | 1639 | 846 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.09 | | 0.03 | 0.24 | | 0.56 | 0.73 | | 0.32 | 0.46 | 0.08 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 80.6% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista

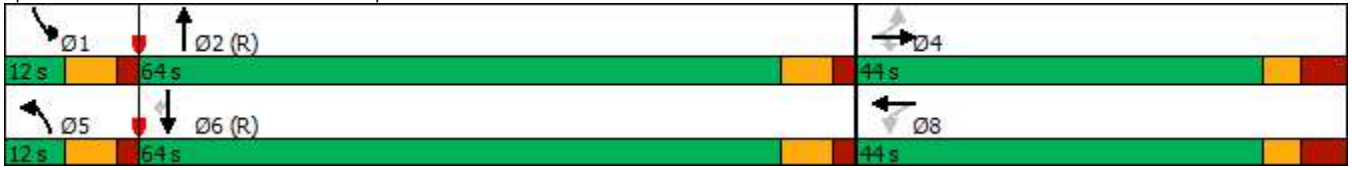


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 5 | 27 | 80 | 21 | 110 | 86 | 1348 | 57 | 52 | 610 | 70 |
| Future Volume (vph) | 45 | 5 | 27 | 80 | 21 | 110 | 86 | 1348 | 57 | 52 | 610 | 70 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | | 0.850 | | 0.874 | | | 0.994 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1353 | 1745 | 1483 | 1658 | 1525 | 0 | 2711 | 3293 | 0 | 1523 | 3283 | 1363 |
| Flt Permitted | 0.634 | | | 0.754 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 903 | 1745 | 1483 | 1316 | 1525 | 0 | 2711 | 3293 | 0 | 1523 | 3283 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 110 | | | 5 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 25% | 2% | 2% | 2% | 2% | 2% | 21% | 2% | 4% | 11% | 3% | 11% |
| Adj. Flow (vph) | 45 | 5 | 27 | 80 | 21 | 110 | 86 | 1348 | 57 | 52 | 610 | 70 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 45 | 5 | 27 | 80 | 131 | 0 | 86 | 1405 | 0 | 52 | 610 | 70 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 12.0 | 64.0 | | 12.0 | 64.0 | 64.0 |
| Total Split (%) | 36.7% | 36.7% | 36.7% | 36.7% | 36.7% | | 10.0% | 53.3% | | 10.0% | 53.3% | 53.3% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 5.4 | 57.3 | | 5.4 | 57.3 | 57.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |

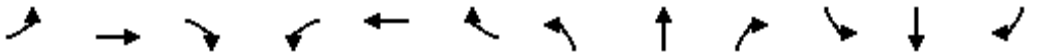
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Act Effct Green (s) | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | | 9.4 | 78.3 | | 10.2 | 76.4 | 76.4 |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | | 0.08 | 0.65 | | 0.08 | 0.64 | 0.64 |
| v/c Ratio | 0.45 | 0.03 | 0.11 | 0.55 | 0.49 | | 0.41 | 0.65 | | 0.40 | 0.29 | 0.08 |
| Control Delay | 63.4 | 45.2 | 0.9 | 64.2 | 19.0 | | 57.8 | 16.3 | | 32.5 | 19.9 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.4 | 45.2 | 0.9 | 64.2 | 19.0 | | 57.8 | 16.3 | | 32.5 | 19.9 | 10.4 |
| LOS | E | D | A | E | B | | E | B | | C | B | B |
| Approach Delay | | 40.3 | | | 36.2 | | | 18.7 | | | 19.9 | |
| Approach LOS | | D | | | D | | | B | | | B | |
| 90th %ile Green (s) | 18.4 | 18.4 | 18.4 | 18.4 | 18.4 | | 11.9 | 67.4 | | 13.3 | 68.8 | 68.8 |
| 90th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 70th %ile Green (s) | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | | 10.7 | 72.4 | | 11.7 | 73.4 | 73.4 |
| 70th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | | 9.5 | 75.9 | | 10.5 | 76.9 | 76.9 |
| 50th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 | | 8.3 | 79.9 | | 8.9 | 80.5 | 80.5 |
| 30th %ile Term Code | Hold | Hold | Hold | Gap | Gap | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 6.7 | 95.7 | | 0.0 | 82.4 | 82.4 |
| 10th %ile Term Code | Hold | Hold | Hold | Min | Min | | Gap | Coord | | Skip | Coord | Coord |
| Stops (vph) | 42 | 6 | 0 | 74 | 33 | | 80 | 850 | | 44 | 362 | 27 |
| Fuel Used(l) | 5 | 0 | 1 | 8 | 8 | | 10 | 92 | | 6 | 50 | 4 |
| CO Emissions (g/hr) | 87 | 9 | 17 | 153 | 143 | | 185 | 1706 | | 103 | 935 | 82 |
| NOx Emissions (g/hr) | 17 | 2 | 3 | 30 | 28 | | 36 | 329 | | 20 | 180 | 16 |
| VOC Emissions (g/hr) | 20 | 2 | 4 | 35 | 33 | | 43 | 393 | | 24 | 216 | 19 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 59 | | 0 | 53 | 0 |
| Queue Length 50th (m) | 10.1 | 1.1 | 0.0 | 18.2 | 4.6 | | 10.1 | 103.4 | | 12.6 | 35.7 | 0.2 |
| Queue Length 95th (m) | 21.4 | 4.7 | 0.0 | 32.9 | 22.1 | | 17.9 | 154.7 | | 14.8 | 99.3 | 25.0 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 273 | 529 | 515 | 399 | 539 | | 212 | 2149 | | 129 | 2090 | 904 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.01 | 0.05 | 0.20 | 0.24 | | 0.41 | 0.65 | | 0.40 | 0.29 | 0.08 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 29 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 105 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.65 | | | |
| Intersection Signal Delay: 21.2 | | Intersection LOS: C | |
| Intersection Capacity Utilization 80.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale



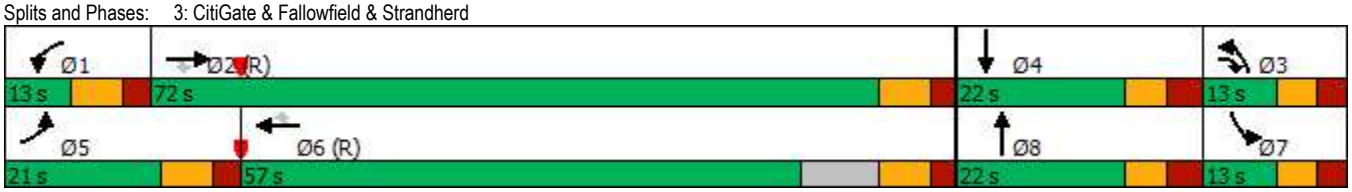
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Future Volume (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1595 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 338 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 643 | 948 | 30 | 4 | 1658 | 57 | 19 | 7 | 0 | 73 | 5 | 347 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 21.0 | 72.0 | 13.0 | 13.0 | 57.0 | 57.0 | 13.0 | 22.0 | | 13.0 | 22.0 | |
| Total Split (%) | 17.5% | 60.0% | 10.8% | 10.8% | 47.5% | 47.5% | 10.8% | 18.3% | | 10.8% | 18.3% | |
| Maximum Green (s) | 13.9 | 65.1 | 6.5 | 5.9 | 50.1 | 50.1 | 6.5 | 15.0 | | 6.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

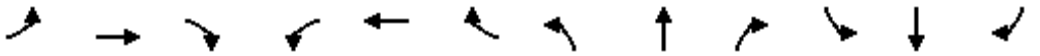


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 27.5 | 89.1 | 106.8 | 5.8 | 57.1 | 57.1 | 9.5 | 10.0 | | 11.5 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.23 | 0.74 | 0.89 | 0.05 | 0.48 | 0.48 | 0.08 | 0.08 | | 0.10 | 0.08 | 1.00 |
| v/c Ratio | 0.90 | 0.44 | 0.02 | 0.05 | 1.09 | 0.07 | 0.07 | 0.05 | | 0.46 | 0.03 | 0.24 |
| Control Delay | 61.8 | 8.7 | 0.0 | 66.0 | 72.1 | 0.1 | 49.9 | 38.9 | | 61.1 | 51.4 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.8 | 8.7 | 0.0 | 66.0 | 72.1 | 0.1 | 49.9 | 38.9 | | 61.1 | 51.4 | 0.4 |
| LOS | E | A | A | E | E | A | D | D | | E | D | A |
| Approach Delay | | 29.6 | | | 69.7 | | | 47.0 | | | 11.4 | |
| Approach LOS | | C | | | E | | | D | | | B | |
| 90th %ile Green (s) | 13.9 | 65.1 | 11.5 | 5.9 | 57.1 | 57.1 | 11.5 | 10.0 | | 11.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Max | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 29.3 | 93.5 | 13.1 | 0.0 | 57.1 | 57.1 | 13.1 | 0.0 | | 13.1 | 0.0 | |
| 70th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 30.5 | 94.7 | 11.9 | 0.0 | 57.1 | 57.1 | 11.9 | 0.0 | | 11.9 | 0.0 | |
| 50th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 31.9 | 96.1 | 0.0 | 0.0 | 57.1 | 57.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Max | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 31.9 | 96.1 | 0.0 | 0.0 | 57.1 | 57.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Max | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 505 | 363 | 0 | 7 | 1362 | 0 | 19 | 7 | | 67 | 7 | 0 |
| Fuel Used(l) | 72 | 45 | 1 | 1 | 241 | 2 | 1 | 0 | | 7 | 1 | 6 |
| CO Emissions (g/hr) | 1330 | 834 | 10 | 14 | 4476 | 45 | 27 | 9 | | 128 | 10 | 118 |
| NOx Emissions (g/hr) | 257 | 161 | 2 | 3 | 864 | 9 | 5 | 2 | | 25 | 2 | 23 |
| VOC Emissions (g/hr) | 307 | 192 | 2 | 3 | 1032 | 10 | 6 | 2 | | 30 | 2 | 27 |
| Dilemma Vehicles (#) | 0 | 39 | 0 | 0 | 28 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 73.5 | 30.3 | 0.0 | 0.8 | ~234.0 | 0.0 | 2.1 | 0.7 | | 16.5 | 1.1 | 0.0 |
| Queue Length 95th (m) | #152.3 | 96.8 | 0.0 | m2.1 | #271.0 | m0.0 | 5.8 | 5.3 | | 31.8 | 5.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 715 | 2146 | 1335 | 82 | 1518 | 815 | 265 | 202 | | 158 | 218 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.90 | 0.44 | 0.02 | 0.05 | 1.09 | 0.07 | 0.07 | 0.03 | | 0.46 | 0.02 | 0.24 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 130 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.09 | | | |
| Intersection Signal Delay: 45.9 | | Intersection LOS: D | |
| Intersection Capacity Utilization 96.2% | | ICU Level of Service F | |
| Analysis Period (min) 15 | | | |
| ~ Volume exceeds capacity, queue is theoretically infinite. | | | |
| Queue shown is maximum after two cycles. | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Future Volume (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.883 | | | 0.884 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1368 | 0 | 1658 | 1543 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1368 | 0 | 1658 | 1543 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 32 | | | 110 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 66 | 41 | 0 | 7 | 142 | 0 | 162 | 1350 | 0 | 32 | 748 | 67 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

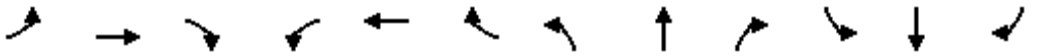
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.9 | 19.5 | | 7.6 | 11.2 | | 11.7 | 71.8 | | 8.4 | 63.4 | 70.4 |
| Actuated g/C Ratio | 0.07 | 0.16 | | 0.06 | 0.09 | | 0.10 | 0.60 | | 0.07 | 0.53 | 0.59 |
| v/c Ratio | 0.32 | 0.16 | | 0.07 | 0.58 | | 0.53 | 0.68 | | 0.35 | 0.43 | 0.08 |
| Control Delay | 57.0 | 21.3 | | 51.4 | 25.2 | | 57.5 | 22.1 | | 59.1 | 20.7 | 2.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.0 | 21.3 | | 51.4 | 25.2 | | 57.5 | 22.1 | | 59.1 | 20.7 | 2.3 |
| LOS | E | C | | D | C | | E | C | | E | C | A |
| Approach Delay | | 43.3 | | | 26.4 | | | 25.9 | | | 20.7 | |
| Approach LOS | | D | | | C | | | C | | | C | |
| 90th %ile Green (s) | 10.0 | 10.2 | | 14.8 | 15.0 | | 14.7 | 54.7 | | 11.8 | 51.8 | 10.0 |
| 90th %ile Term Code | Gap | Gap | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 8.8 | 27.3 | | 0.0 | 10.9 | | 13.1 | 62.1 | | 9.7 | 58.7 | 8.8 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.9 | 25.5 | | 0.0 | 10.0 | | 11.7 | 65.3 | | 8.3 | 61.9 | 7.9 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 10.4 | 81.1 | | 0.0 | 64.1 | 7.0 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 8.5 | 95.7 | | 0.0 | 80.6 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 62 | 15 | | 8 | 43 | | 151 | 901 | | 32 | 370 | 7 |
| Fuel Used(l) | 6 | 2 | | 1 | 6 | | 19 | 97 | | 5 | 65 | 3 |
| CO Emissions (g/hr) | 104 | 34 | | 9 | 104 | | 344 | 1803 | | 87 | 1209 | 63 |
| NOx Emissions (g/hr) | 20 | 6 | | 2 | 20 | | 66 | 348 | | 17 | 233 | 12 |
| VOC Emissions (g/hr) | 24 | 8 | | 2 | 24 | | 79 | 416 | | 20 | 279 | 14 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 56 | | 0 | 40 | 0 |
| Queue Length 50th (m) | 7.7 | 1.7 | | 1.6 | 7.2 | | 19.0 | 123.3 | | 7.4 | 45.0 | 0.0 |
| Queue Length 95th (m) | 14.7 | 13.0 | | 6.0 | 26.3 | | 29.2 | #184.5 | | m18.0 | 82.6 | 8.9 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 295 | | 178 | 353 | | 307 | 1980 | | 102 | 1752 | 889 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.14 | | 0.04 | 0.40 | | 0.53 | 0.68 | | 0.31 | 0.43 | 0.08 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 25.0 Intersection LOS: C
Intersection Capacity Utilization 80.4% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





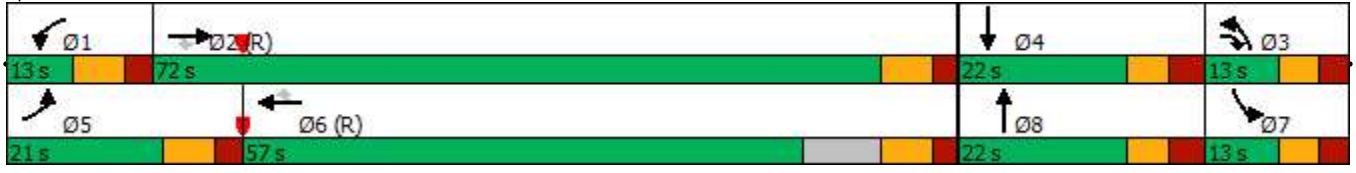
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 643 | 948 | 30 | 4 | 1358 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Future Volume (vph) | 643 | 948 | 30 | 4 | 1358 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | 0.99 | | | | | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.914 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1595 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3124 | 2891 | 1483 | 1658 | 3191 | 1465 | 3216 | 1595 | 0 | 1658 | 1745 | 1423 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 225 | | 4 | | | | 347 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 156.6 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.3 | | | 12.4 | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 643 | 948 | 30 | 4 | 1358 | 57 | 19 | 3 | 4 | 73 | 5 | 347 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 643 | 948 | 30 | 4 | 1358 | 57 | 19 | 7 | 0 | 73 | 5 | 347 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 21.0 | 72.0 | 13.0 | 13.0 | 57.0 | 57.0 | 13.0 | 22.0 | | 13.0 | 22.0 | |
| Total Split (%) | 17.5% | 60.0% | 10.8% | 10.8% | 47.5% | 47.5% | 10.8% | 18.3% | | 10.8% | 18.3% | |
| Maximum Green (s) | 13.9 | 65.1 | 6.5 | 5.9 | 50.1 | 50.1 | 6.5 | 15.0 | | 6.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |

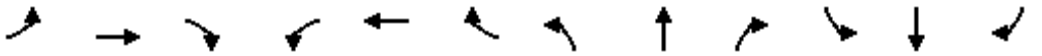
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 27.5 | 89.1 | 106.8 | 5.8 | 57.1 | 57.1 | 9.5 | 10.0 | | 11.5 | 10.0 | 120.0 |
| Actuated g/C Ratio | 0.23 | 0.74 | 0.89 | 0.05 | 0.48 | 0.48 | 0.08 | 0.08 | | 0.10 | 0.08 | 1.00 |
| v/c Ratio | 0.90 | 0.44 | 0.02 | 0.05 | 0.89 | 0.07 | 0.07 | 0.05 | | 0.46 | 0.03 | 0.24 |
| Control Delay | 61.8 | 8.7 | 0.0 | 67.8 | 21.7 | 0.1 | 49.9 | 38.9 | | 61.1 | 51.4 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.8 | 8.7 | 0.0 | 67.8 | 21.7 | 0.1 | 49.9 | 38.9 | | 61.1 | 51.4 | 0.4 |
| LOS | E | A | A | E | C | A | D | D | | E | D | A |
| Approach Delay | | 29.6 | | | 20.9 | | | 47.0 | | | 11.4 | |
| Approach LOS | | C | | | C | | | D | | | B | |
| 90th %ile Green (s) | 13.9 | 65.1 | 11.5 | 5.9 | 57.1 | 57.1 | 11.5 | 10.0 | | 11.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Max | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 29.3 | 93.5 | 13.1 | 0.0 | 57.1 | 57.1 | 13.1 | 0.0 | | 13.1 | 0.0 | |
| 70th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 30.5 | 94.7 | 11.9 | 0.0 | 57.1 | 57.1 | 11.9 | 0.0 | | 11.9 | 0.0 | |
| 50th %ile Term Code | Max | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 31.9 | 96.1 | 0.0 | 0.0 | 57.1 | 57.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 30th %ile Term Code | Max | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| 10th %ile Green (s) | 31.9 | 96.1 | 0.0 | 0.0 | 57.1 | 57.1 | 0.0 | 0.0 | | 10.5 | 10.0 | |
| 10th %ile Term Code | Max | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Hold | Hold | |
| Stops (vph) | 505 | 363 | 0 | 7 | 1044 | 0 | 19 | 7 | | 67 | 7 | 0 |
| Fuel Used(l) | 72 | 45 | 1 | 1 | 140 | 2 | 1 | 0 | | 7 | 1 | 6 |
| CO Emissions (g/hr) | 1330 | 834 | 10 | 15 | 2610 | 45 | 27 | 9 | | 128 | 10 | 118 |
| NOx Emissions (g/hr) | 257 | 161 | 2 | 3 | 504 | 9 | 5 | 2 | | 25 | 2 | 23 |
| VOC Emissions (g/hr) | 307 | 192 | 2 | 3 | 602 | 10 | 6 | 2 | | 30 | 2 | 27 |
| Dilemma Vehicles (#) | 0 | 39 | 0 | 0 | 22 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 73.5 | 30.3 | 0.0 | 1.0 | 154.2 | 0.0 | 2.1 | 0.7 | | 16.5 | 1.1 | 0.0 |
| Queue Length 95th (m) | #152.3 | 96.8 | 0.0 | m1.8 | #20.7 | m0.0 | 5.8 | 5.3 | | 31.8 | 5.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 132.6 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 715 | 2146 | 1335 | 82 | 1518 | 815 | 265 | 202 | | 158 | 218 | 1423 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.90 | 0.44 | 0.02 | 0.05 | 0.89 | 0.07 | 0.07 | 0.03 | | 0.46 | 0.02 | 0.24 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 24.0 Intersection LOS: C
Intersection Capacity Utilization 87.4% ICU Level of Service E
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Future Volume (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.883 | | | 0.884 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3154 | 1368 | 0 | 1658 | 1543 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3154 | 1368 | 0 | 1658 | 1543 | 0 | 3154 | 3310 | 0 | 1321 | 3316 | 1363 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 32 | | | 110 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 4% | 43% | 7% | 2% | 2% | 2% | 4% | 2% | 11% | 28% | 2% | 11% |
| Adj. Flow (vph) | 66 | 9 | 32 | 7 | 32 | 110 | 162 | 1341 | 9 | 32 | 748 | 67 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 66 | 41 | 0 | 7 | 142 | 0 | 162 | 1350 | 0 | 32 | 748 | 67 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 12.6 | 17.6 | | 12.6 | 17.6 | | 11.6 | 30.7 | | 11.6 | 30.7 | 12.6 |
| Total Split (s) | 20.0 | 28.0 | | 20.0 | 28.0 | | 15.0 | 57.0 | | 15.0 | 57.0 | 20.0 |
| Total Split (%) | 16.7% | 23.3% | | 16.7% | 23.3% | | 12.5% | 47.5% | | 12.5% | 47.5% | 16.7% |
| Maximum Green (s) | 12.4 | 20.4 | | 12.4 | 20.4 | | 8.4 | 50.3 | | 8.4 | 50.3 | 12.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |

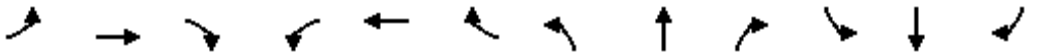
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 7.9 | 19.5 | | 7.6 | 11.2 | | 11.7 | 71.8 | | 8.4 | 63.4 | 70.4 |
| Actuated g/C Ratio | 0.07 | 0.16 | | 0.06 | 0.09 | | 0.10 | 0.60 | | 0.07 | 0.53 | 0.59 |
| v/c Ratio | 0.32 | 0.16 | | 0.07 | 0.58 | | 0.53 | 0.68 | | 0.35 | 0.43 | 0.08 |
| Control Delay | 57.0 | 21.3 | | 51.4 | 25.2 | | 57.5 | 22.1 | | 59.1 | 20.7 | 2.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.0 | 21.3 | | 51.4 | 25.2 | | 57.5 | 22.1 | | 59.1 | 20.7 | 2.3 |
| LOS | E | C | | D | C | | E | C | | E | C | A |
| Approach Delay | | 43.3 | | | 26.4 | | | 25.9 | | | 20.7 | |
| Approach LOS | | D | | | C | | | C | | | C | |
| 90th %ile Green (s) | 10.0 | 10.2 | | 14.8 | 15.0 | | 14.7 | 54.7 | | 11.8 | 51.8 | 10.0 |
| 90th %ile Term Code | Gap | Gap | | Hold | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 70th %ile Green (s) | 8.8 | 27.3 | | 0.0 | 10.9 | | 13.1 | 62.1 | | 9.7 | 58.7 | 8.8 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 7.9 | 25.5 | | 0.0 | 10.0 | | 11.7 | 65.3 | | 8.3 | 61.9 | 7.9 |
| 50th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 7.0 | 24.6 | | 0.0 | 10.0 | | 10.4 | 81.1 | | 0.0 | 64.1 | 7.0 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Gap |
| 10th %ile Green (s) | 0.0 | 10.0 | | 0.0 | 10.0 | | 8.5 | 95.7 | | 0.0 | 80.6 | 0.0 |
| 10th %ile Term Code | Skip | Hold | | Skip | Min | | Gap | Coord | | Skip | Coord | Skip |
| Stops (vph) | 62 | 15 | | 8 | 43 | | 151 | 901 | | 32 | 370 | 7 |
| Fuel Used(l) | 6 | 2 | | 1 | 6 | | 19 | 97 | | 5 | 65 | 3 |
| CO Emissions (g/hr) | 104 | 34 | | 9 | 104 | | 344 | 1803 | | 87 | 1209 | 63 |
| NOx Emissions (g/hr) | 20 | 6 | | 2 | 20 | | 66 | 348 | | 17 | 233 | 12 |
| VOC Emissions (g/hr) | 24 | 8 | | 2 | 24 | | 79 | 416 | | 20 | 279 | 14 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 56 | | 0 | 40 | 0 |
| Queue Length 50th (m) | 7.7 | 1.7 | | 1.6 | 7.2 | | 19.0 | 123.3 | | 7.4 | 45.0 | 0.0 |
| Queue Length 95th (m) | 14.7 | 13.0 | | 6.0 | 26.3 | | 29.2 | #184.5 | | m18.0 | 82.6 | 8.9 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 325 | 295 | | 178 | 353 | | 307 | 1980 | | 102 | 1752 | 889 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.14 | | 0.04 | 0.40 | | 0.53 | 0.68 | | 0.31 | 0.43 | 0.08 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 25.0 Intersection LOS: C
Intersection Capacity Utilization 80.4% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista

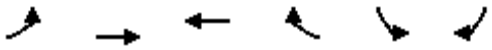




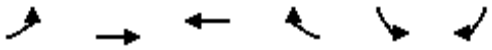
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 34 | 6 | 46 | 17 | 3 | 37 | 29 | 406 | 31 | 36 | 449 | 27 |
| Future Volume (Veh/h) | 34 | 6 | 46 | 17 | 3 | 37 | 29 | 406 | 31 | 36 | 449 | 27 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 34 | 6 | 46 | 17 | 3 | 37 | 29 | 406 | 31 | 36 | 449 | 27 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (m) | | | | | | | | | | | | |
| Walking Speed (m/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (m) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1024 | 1016 | 449 | 1034 | 1012 | 406 | 476 | | | 437 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1024 | 1016 | 449 | 1034 | 1012 | 406 | 476 | | | 437 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 82 | 97 | 92 | 91 | 99 | 94 | 97 | | | 97 | | |
| cM capacity (veh/h) | 191 | 224 | 610 | 182 | 225 | 645 | 1086 | | | 1123 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 34 | 52 | 57 | 29 | 406 | 31 | 36 | 449 | 27 |
| Volume Left | 34 | 0 | 17 | 29 | 0 | 0 | 36 | 0 | 0 |
| Volume Right | 0 | 46 | 37 | 0 | 0 | 31 | 0 | 0 | 27 |
| cSH | 191 | 509 | 348 | 1086 | 1700 | 1700 | 1123 | 1700 | 1700 |
| Volume to Capacity | 0.18 | 0.10 | 0.16 | 0.03 | 0.24 | 0.02 | 0.03 | 0.26 | 0.02 |
| Queue Length 95th (m) | 4.8 | 2.6 | 4.4 | 0.6 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Control Delay (s) | 27.9 | 12.9 | 17.4 | 8.4 | 0.0 | 0.0 | 8.3 | 0.0 | 0.0 |
| Lane LOS | D | B | C | A | | | A | | |
| Approach Delay (s) | 18.8 | | 17.4 | 0.5 | | | 0.6 | | |
| Approach LOS | C | | C | | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | 2.8 | | | | |
| Intersection Capacity Utilization | 48.5% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Future Volume (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 80 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 66.6 | 66.6 | | 40.3 | 40.3 |
| Actuated g/C Ratio | | 0.56 | 0.56 | | 0.34 | 0.34 |
| v/c Ratio | | 0.58 | 0.58 | | 0.88 | 0.56 |
| Control Delay | | 19.8 | 10.6 | | 48.4 | 26.7 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 19.8 | 10.6 | | 48.4 | 26.7 |
| LOS | | B | B | | D | C |
| Approach Delay | | 19.8 | 10.6 | | 43.3 | |
| Approach LOS | | B | B | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 65.0 | 65.0 | | 41.9 | 41.9 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 68.6 | 68.6 | | 38.3 | 38.3 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 73.2 | 73.2 | | 33.7 | 33.7 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 636 | 408 | | 825 | 158 |
| Fuel Used(l) | | 62 | 68 | | 63 | 13 |
| CO Emissions (g/hr) | | 1154 | 1272 | | 1175 | 235 |
| NOx Emissions (g/hr) | | 223 | 246 | | 227 | 45 |
| VOC Emissions (g/hr) | | 266 | 293 | | 271 | 54 |
| Dilemma Vehicles (#) | | 41 | 32 | | 0 | 0 |
| Queue Length 50th (m) | | 79.6 | 49.6 | | 100.0 | 36.3 |
| Queue Length 95th (m) | | 103.5 | 65.4 | | 122.8 | 61.8 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1707 | 1788 | | 1106 | 530 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.58 | 0.58 | | 0.81 | 0.52 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.88 | | | |
| Intersection Signal Delay: 25.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 71.7% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp



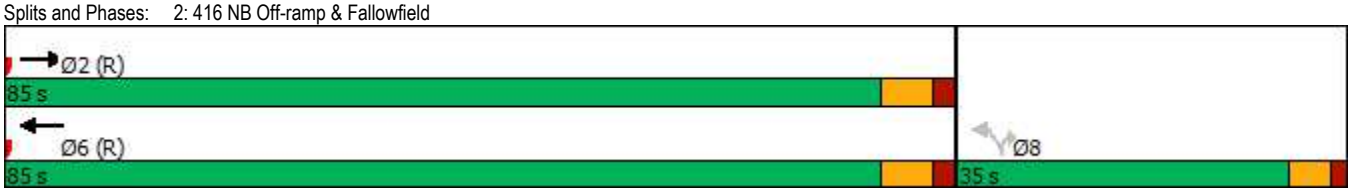


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1830 | 0 | 0 | 1150 | 123 | 122 |
| Future Volume (vph) | 1830 | 0 | 0 | 1150 | 123 | 122 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 24 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1830 | 0 | 0 | 1150 | 123 | 122 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1830 | 0 | 0 | 1150 | 123 | 122 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.5 | | | 92.5 | 15.5 | 15.5 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.74 | | | 0.45 | 0.65 | 0.60 |
| Control Delay | 5.8 | | | 2.7 | 64.5 | 50.8 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.8 | | | 2.7 | 64.5 | 50.8 |
| LOS | A | | | A | E | D |
| Approach Delay | 5.8 | | | 2.7 | 57.7 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 86.5 | | | 86.5 | 21.5 | 21.5 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 90.2 | | | 90.2 | 17.8 | 17.8 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 92.7 | | | 92.7 | 15.3 | 15.3 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 95.3 | | | 95.3 | 12.7 | 12.7 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 847 | | | 154 | 115 | 91 |
| Fuel Used(l) | 122 | | | 55 | 11 | 9 |
| CO Emissions (g/hr) | 2261 | | | 1019 | 214 | 174 |
| NOx Emissions (g/hr) | 436 | | | 197 | 41 | 34 |
| VOC Emissions (g/hr) | 521 | | | 235 | 49 | 40 |
| Dilemma Vehicles (#) | 40 | | | 15 | 0 | 0 |
| Queue Length 50th (m) | 22.5 | | | 9.1 | 28.0 | 22.0 |
| Queue Length 95th (m) | 129.3 | | | 33.7 | 45.4 | 39.6 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2460 | | | 2531 | 367 | 371 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.74 | | | 0.45 | 0.34 | 0.33 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 80 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.74 | | | |
| Intersection Signal Delay: 8.6 | | Intersection LOS: A | |
| Intersection Capacity Utilization 71.7% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



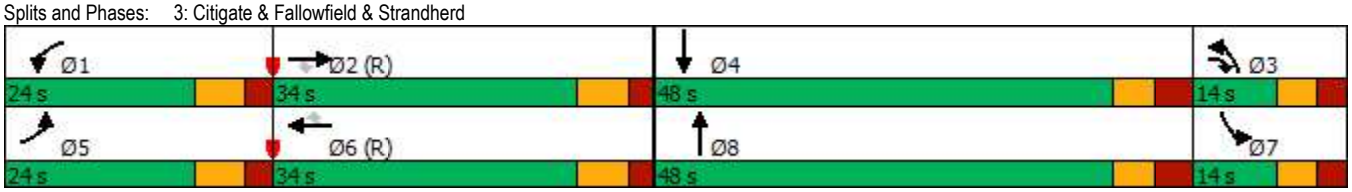
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 6 | 2 | 118 | 5 | 512 |
| Future Volume (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 6 | 2 | 118 | 5 | 512 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 1.00 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.962 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1679 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1679 | 0 | 1655 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 512 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 311.4 | | | 414.8 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 22.4 | | | 29.9 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 6 | 2 | 118 | 5 | 512 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 8 | 0 | 118 | 5 | 512 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 48.0 | | 11.5 | 48.0 | |
| Total Split (s) | 24.0 | 34.0 | 14.0 | 24.0 | 34.0 | 34.0 | 14.0 | 48.0 | | 14.0 | 48.0 | |
| Total Split (%) | 20.0% | 28.3% | 11.7% | 20.0% | 28.3% | 28.3% | 11.7% | 40.0% | | 11.7% | 40.0% | |
| Maximum Green (s) | 16.9 | 27.1 | 7.5 | 16.9 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | 34.0 | | | 34.0 | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | 1 | | | 1 | |
| Act Effct Green (s) | 17.7 | 78.8 | 101.3 | 5.8 | 56.8 | 56.8 | 12.9 | 16.2 | | 15.5 | 17.8 | 120.0 |
| Actuated g/C Ratio | 0.15 | 0.66 | 0.84 | 0.05 | 0.47 | 0.47 | 0.11 | 0.14 | | 0.13 | 0.15 | 1.00 |
| v/c Ratio | 0.77 | 0.81 | 0.02 | 0.03 | 0.77 | 0.15 | 0.08 | 0.04 | | 0.55 | 0.02 | 0.36 |
| Control Delay | 50.0 | 25.5 | 0.0 | 74.0 | 18.5 | 1.1 | 42.6 | 29.5 | | 60.7 | 37.0 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.0 | 25.5 | 0.0 | 74.0 | 18.5 | 1.1 | 42.6 | 29.5 | | 60.7 | 37.0 | 0.7 |
| LOS | D | C | A | E | B | A | D | C | | E | D | A |
| Approach Delay | | 29.7 | | | 17.0 | | | 39.7 | | | 12.1 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 37.7 | 7.5 | 6.3 | 27.1 | 27.1 | 7.5 | 41.0 | | 7.5 | 41.0 | |
| 90th %ile Term Code | Max | Coord | Max | Gap | Coord | Coord | Max | Ped | | Max | Ped | |
| 70th %ile Green (s) | 21.0 | 89.1 | 17.5 | 0.0 | 61.0 | 61.0 | 17.5 | 0.0 | | 17.5 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 19.1 | 89.6 | 17.0 | 0.0 | 63.4 | 63.4 | 17.0 | 0.0 | | 17.0 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 17.1 | 89.5 | 17.1 | 0.0 | 65.3 | 65.3 | 17.1 | 0.0 | | 17.1 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 14.2 | 88.3 | 0.0 | 0.0 | 67.0 | 67.0 | 0.0 | 0.0 | | 18.3 | 17.8 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Gap | Hold | |
| Stops (vph) | 315 | 889 | 0 | 3 | 285 | 8 | 29 | 7 | | 90 | 6 | 0 |
| Fuel Used(l) | 39 | 124 | 1 | 0 | 56 | 3 | 3 | 1 | | 12 | 0 | 20 |
| CO Emissions (g/hr) | 721 | 2297 | 22 | 6 | 1045 | 55 | 64 | 16 | | 227 | 9 | 381 |
| NOx Emissions (g/hr) | 139 | 443 | 4 | 1 | 202 | 11 | 12 | 3 | | 44 | 2 | 73 |
| VOC Emissions (g/hr) | 166 | 530 | 5 | 1 | 241 | 13 | 15 | 4 | | 52 | 2 | 88 |
| Dilemma Vehicles (#) | 0 | 95 | 0 | 0 | 17 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 37.8 | 130.5 | 0.0 | 0.5 | 26.4 | 0.0 | 3.3 | 1.4 | | 26.0 | 1.1 | 0.0 |
| Queue Length 95th (m) | #64.5 | #321.6 | m0.0 | m0.9 | #245.8 | m5.3 | 8.0 | m3.5 | | #69.7 | 3.6 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 287.4 | | | 390.8 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 473 | 1899 | 1272 | 233 | 1509 | 774 | 357 | 574 | | 213 | 596 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.81 | 0.02 | 0.01 | 0.77 | 0.15 | 0.08 | 0.01 | | 0.55 | 0.01 | 0.36 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 22.7 Intersection LOS: C
Intersection Capacity Utilization 81.4% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Citigate & Fallowfield & Strandherd



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 128 | 1376 | 289 | 43 | 1129 | 31 | 192 | 96 | 29 | 19 | 102 | 92 |
| Future Volume (vph) | 128 | 1376 | 289 | 43 | 1129 | 31 | 192 | 96 | 29 | 19 | 102 | 92 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 2 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 90.0 | | | 100.0 | | | 60.0 | | | 60.0 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.99 | | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.98 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 2941 | 1483 | 3216 | 3221 | 1483 | 1658 | 1745 | 1483 | 1658 | 1745 | 1483 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.691 | | | 0.695 | | |
| Satd. Flow (perm) | 1658 | 2941 | 1465 | 3216 | 3221 | 1448 | 1198 | 1745 | 1458 | 1211 | 1745 | 1449 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 114 | | | 105 | | | 97 | | | 97 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 50 | |
| Link Distance (m) | | 253.6 | | | 287.1 | | | 117.0 | | | 245.3 | |
| Travel Time (s) | | 11.4 | | | 12.9 | | | 8.4 | | | 17.7 | |
| Confl. Peds. (#/hr) | | | | | | | 9 | | 2 | 2 | | 9 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 5 | | | 5 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 15% | 2% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Adj. Flow (vph) | 128 | 1376 | 289 | 43 | 1129 | 31 | 192 | 96 | 29 | 19 | 102 | 92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 128 | 1376 | 289 | 43 | 1129 | 31 | 192 | 96 | 29 | 19 | 102 | 92 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 3.5 | | | 3.5 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 20.0 | 20.0 | 5.0 | 20.0 | 20.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 11.9 | 31.8 | 31.8 | 11.9 | 31.8 | 31.8 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 | 48.7 |
| Total Split (s) | 15.0 | 56.0 | 56.0 | 15.0 | 56.0 | 56.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 | 49.0 |
| Total Split (%) | 12.5% | 46.7% | 46.7% | 12.5% | 46.7% | 46.7% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% | 40.8% |
| Maximum Green (s) | 8.1 | 49.2 | 49.2 | 8.1 | 49.2 | 49.2 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| Yellow Time (s) | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

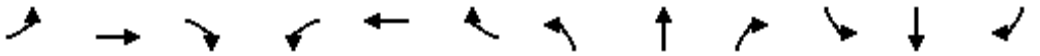
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.2 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.9 | 6.8 | 6.8 | 6.9 | 6.8 | 6.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | None | None | None | None | None | None |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 18.0 | 18.0 | | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 | 34.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | 2 | 2 | 2 | 7 | 7 | 7 |
| Act Effct Green (s) | 16.4 | 68.0 | 68.0 | 7.0 | 56.1 | 56.1 | 26.1 | 26.1 | 26.1 | 26.1 | 26.1 | 26.1 |
| Actuated g/C Ratio | 0.14 | 0.57 | 0.57 | 0.06 | 0.47 | 0.47 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 |
| v/c Ratio | 0.56 | 0.83 | 0.33 | 0.23 | 0.75 | 0.04 | 0.74 | 0.25 | 0.07 | 0.07 | 0.27 | 0.24 |
| Control Delay | 65.0 | 31.1 | 13.1 | 68.5 | 14.2 | 0.2 | 60.8 | 39.3 | 0.4 | 32.9 | 38.1 | 6.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.0 | 31.1 | 13.1 | 68.5 | 14.2 | 0.2 | 60.8 | 39.3 | 0.4 | 32.9 | 38.1 | 6.8 |
| LOS | E | C | B | E | B | A | E | D | A | C | D | A |
| Approach Delay | | 30.6 | | | 15.8 | | | 48.7 | | | 24.1 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| 90th %ile Green (s) | 8.4 | 49.2 | 49.2 | 8.4 | 49.2 | 49.2 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 90th %ile Term Code | Max | Coord | Coord | Max | Coord | Coord | Ped | Ped | Ped | Ped | Ped | Ped |
| 70th %ile Green (s) | 18.4 | 62.0 | 62.0 | 7.7 | 51.3 | 51.3 | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 |
| 70th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 50th %ile Green (s) | 17.9 | 66.8 | 66.8 | 7.0 | 55.9 | 55.9 | 24.8 | 24.8 | 24.8 | 24.8 | 24.8 | 24.8 |
| 50th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 30th %ile Green (s) | 18.0 | 71.5 | 71.5 | 6.3 | 59.8 | 59.8 | 20.8 | 20.8 | 20.8 | 20.8 | 20.8 | 20.8 |
| 30th %ile Term Code | Gap | Coord | Coord | Gap | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| 10th %ile Green (s) | 19.5 | 90.6 | 90.6 | 0.0 | 64.2 | 64.2 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| 10th %ile Term Code | Gap | Coord | Coord | Skip | Coord | Coord | Gap | Gap | Gap | Hold | Hold | Hold |
| Stops (vph) | 102 | 1023 | 131 | 43 | 680 | 0 | 175 | 76 | 0 | 16 | 79 | 11 |
| Fuel Used(l) | 15 | 119 | 16 | 6 | 77 | 1 | 25 | 11 | 2 | 1 | 7 | 3 |
| CO Emissions (g/hr) | 275 | 2215 | 301 | 106 | 1430 | 13 | 467 | 199 | 34 | 24 | 133 | 53 |
| NOx Emissions (g/hr) | 53 | 427 | 58 | 20 | 276 | 3 | 90 | 38 | 7 | 5 | 26 | 10 |
| VOC Emissions (g/hr) | 64 | 511 | 69 | 24 | 330 | 3 | 108 | 46 | 8 | 6 | 31 | 12 |
| Dilemma Vehicles (#) | 0 | 79 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (m) | 28.8 | 172.2 | 11.4 | 5.5 | 31.1 | 0.0 | 43.9 | 19.7 | 0.1 | 3.6 | 20.4 | 0.0 |
| Queue Length 95th (m) | m#54.6 | #231.1 | m37.2 | m7.6 | 36.8 | m0.0 | 58.8 | 29.7 | 0.1 | 8.4 | 29.8 | 10.2 |
| Internal Link Dist (m) | | 229.6 | | | 263.1 | | | 93.0 | | | 221.3 | |
| Turn Bay Length (m) | 70.0 | | 35.0 | 65.0 | | 15.0 | 55.0 | | 65.0 | 15.0 | | 60.0 |
| Base Capacity (vph) | 227 | 1667 | 879 | 219 | 1505 | 732 | 412 | 600 | 565 | 416 | 600 | 562 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.83 | 0.33 | 0.20 | 0.75 | 0.04 | 0.47 | 0.16 | 0.05 | 0.05 | 0.17 | 0.16 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 81.1% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: CrossKeys/Helene Campbell & Strandherd





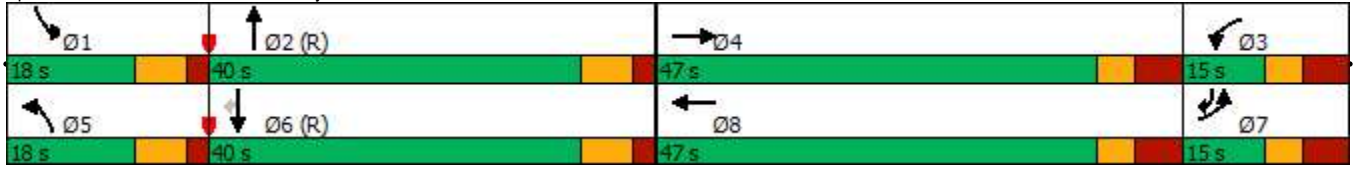
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 157 | 64 | 221 | 10 | 58 | 40 | 252 | 906 | 7 | 186 | 1205 | 33 |
| Future Volume (vph) | 157 | 64 | 221 | 10 | 58 | 40 | 252 | 906 | 7 | 186 | 1205 | 33 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 1.00 | | | | | | | | |
| Frt | | 0.884 | | | 0.939 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1524 | 0 | 1658 | 1558 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1524 | 0 | 1654 | 1558 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 154 | | | 31 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 419.5 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 18.9 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 157 | 64 | 221 | 10 | 58 | 40 | 252 | 906 | 7 | 186 | 1205 | 33 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 157 | 285 | 0 | 10 | 98 | 0 | 252 | 913 | 0 | 186 | 1205 | 33 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 46.6 | | 12.6 | 46.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 47.0 | | 15.0 | 47.0 | | 18.0 | 40.0 | | 18.0 | 40.0 | 15.0 |
| Total Split (%) | 12.5% | 39.2% | | 12.5% | 39.2% | | 15.0% | 33.3% | | 15.0% | 33.3% | 12.5% |
| Maximum Green (s) | 7.4 | 39.4 | | 7.4 | 39.4 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | 32.0 | | | 32.0 | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 3 | | | 0 | | | 0 | |
| Act Effct Green (s) | 10.3 | 28.9 | | 8.7 | 16.5 | | 13.6 | 43.0 | | 21.7 | 51.1 | 60.5 |
| Actuated g/C Ratio | 0.09 | 0.24 | | 0.07 | 0.14 | | 0.11 | 0.36 | | 0.18 | 0.43 | 0.50 |
| v/c Ratio | 0.57 | 0.59 | | 0.08 | 0.41 | | 0.69 | 0.77 | | 0.62 | 0.85 | 0.05 |
| Control Delay | 61.5 | 23.3 | | 49.7 | 34.6 | | 45.8 | 44.8 | | 64.1 | 33.4 | 3.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.5 | 23.3 | | 49.7 | 34.6 | | 45.8 | 44.8 | | 64.1 | 33.4 | 3.3 |
| LOS | E | C | | D | C | | D | D | | E | C | A |
| Approach Delay | | 36.9 | | | 36.0 | | | 45.0 | | | 36.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| 90th %ile Green (s) | 7.8 | 27.4 | | 19.4 | 39.0 | | 11.4 | 33.3 | | 11.4 | 33.3 | 7.8 |
| 90th %ile Term Code | Max | Gap | | Hold | Ped | | Max | Coord | | Max | Coord | Max |
| 70th %ile Green (s) | 12.9 | 33.3 | | 0.0 | 12.8 | | 16.8 | 42.5 | | 23.3 | 49.0 | 12.9 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 50th %ile Green (s) | 11.7 | 29.9 | | 0.0 | 10.6 | | 15.2 | 46.1 | | 23.1 | 54.0 | 11.7 |
| 50th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 10.4 | 28.0 | | 0.0 | 10.0 | | 13.6 | 47.4 | | 23.7 | 57.5 | 10.4 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 8.5 | 26.1 | | 0.0 | 10.0 | | 11.2 | 45.9 | | 27.1 | 61.8 | 8.5 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| Stops (vph) | 141 | 121 | | 11 | 58 | | 222 | 854 | | 121 | 533 | 4 |
| Fuel Used(l) | 14 | 13 | | 1 | 5 | | 30 | 111 | | 20 | 89 | 1 |
| CO Emissions (g/hr) | 254 | 249 | | 13 | 93 | | 557 | 2057 | | 378 | 1651 | 20 |
| NOx Emissions (g/hr) | 49 | 48 | | 3 | 18 | | 107 | 397 | | 73 | 319 | 4 |
| VOC Emissions (g/hr) | 59 | 57 | | 3 | 21 | | 128 | 474 | | 87 | 381 | 5 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 2 | | 0 | 85 | 0 |
| Queue Length 50th (m) | 18.3 | 26.2 | | 2.3 | 15.3 | | 28.2 | 115.4 | | 0.0 | 62.7 | 0.0 |
| Queue Length 95th (m) | #35.0 | 56.2 | | 6.9 | 23.9 | | #51.9 | #161.7 | | m#75.8 | #227.7 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 395.5 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 274 | 603 | | 135 | 532 | | 366 | 1188 | | 300 | 1412 | 731 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.57 | 0.47 | | 0.07 | 0.18 | | 0.69 | 0.77 | | 0.62 | 0.85 | 0.05 |

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 39.8 Intersection LOS: D
Intersection Capacity Utilization 80.2% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Strandherd & Systemhouse/Maravista

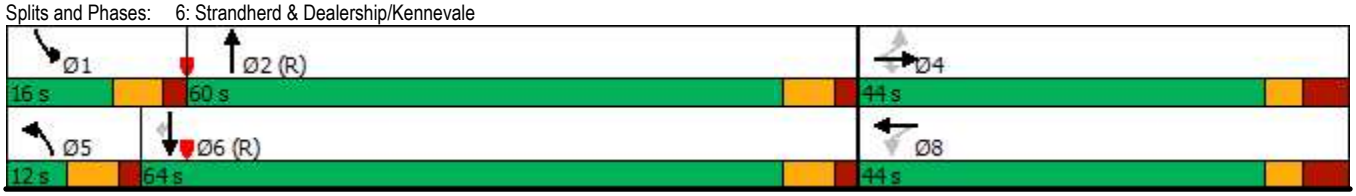


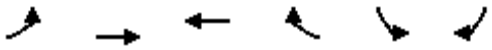
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 126 | 15 | 74 | 106 | 14 | 73 | 54 | 973 | 98 | 136 | 1365 | 53 |
| Future Volume (vph) | 126 | 15 | 74 | 106 | 14 | 73 | 54 | 973 | 98 | 136 | 1365 | 53 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 75.0 | | 0.0 | 40.0 | | 0.0 | 60.0 | | 30.0 | 50.0 | | 0.0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 7.5 | | | 50.0 | | | 100.0 | | | 100.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Frt | | | 0.850 | | 0.874 | | | 0.986 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1658 | 1745 | 1483 | 1658 | 1501 | 0 | 3216 | 3269 | 0 | 1642 | 3316 | 1483 |
| Flt Permitted | 0.701 | | | 0.748 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 1223 | 1745 | 1483 | 1305 | 1501 | 0 | 3216 | 3269 | 0 | 1642 | 3316 | 1483 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 73 | | | 11 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 358.5 | | | 381.8 | | | 229.3 | | | 419.5 | |
| Travel Time (s) | | 25.8 | | | 34.4 | | | 10.3 | | | 18.9 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 2% | 3% | 2% | 2% |
| Adj. Flow (vph) | 126 | 15 | 74 | 106 | 14 | 73 | 54 | 973 | 98 | 136 | 1365 | 53 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 126 | 15 | 74 | 106 | 87 | 0 | 54 | 1071 | 0 | 136 | 1365 | 53 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 3.5 | | | 3.5 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | 2.0 | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | 2.0 | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 20.0 |
| Minimum Split (s) | 39.6 | 39.6 | 39.6 | 43.6 | 43.6 | | 11.6 | 30.7 | | 11.6 | 36.7 | 36.7 |
| Total Split (s) | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | 12.0 | 60.0 | | 16.0 | 64.0 | 64.0 |
| Total Split (%) | 36.7% | 36.7% | 36.7% | 36.7% | 36.7% | | 10.0% | 50.0% | | 13.3% | 53.3% | 53.3% |
| Maximum Green (s) | 36.4 | 36.4 | 36.4 | 36.4 | 36.4 | | 5.4 | 53.3 | | 9.4 | 57.3 | 57.3 |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 4.6 |
| All-Red Time (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 6.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | | None | C-Max | | None | C-Max | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | | 7.0 | | | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | 29.0 | 29.0 | | | 17.0 | | | 23.0 | 23.0 |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Act Effct Green (s) | 17.8 | 17.8 | 17.8 | 17.8 | 17.8 | | 7.4 | 62.7 | | 18.6 | 76.3 | 76.3 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | | 0.06 | 0.52 | | 0.16 | 0.64 | 0.64 |
| v/c Ratio | 0.70 | 0.06 | 0.25 | 0.55 | 0.31 | | 0.27 | 0.63 | | 0.54 | 0.65 | 0.05 |
| Control Delay | 67.5 | 40.9 | 6.7 | 56.9 | 15.3 | | 56.6 | 23.3 | | 48.7 | 20.8 | 1.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.5 | 40.9 | 6.7 | 56.9 | 15.3 | | 56.6 | 23.3 | | 48.7 | 20.8 | 1.8 |
| LOS | E | D | A | E | B | | E | C | | D | C | A |
| Approach Delay | | 44.7 | | | 38.1 | | | 24.9 | | | 22.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| 90th %ile Green (s) | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | | 9.3 | 53.3 | | 20.3 | 64.3 | 64.3 |
| 90th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Max | Coord | Coord |
| 70th %ile Green (s) | 20.9 | 20.9 | 20.9 | 20.9 | 20.9 | | 8.2 | 59.1 | | 19.1 | 70.0 | 70.0 |
| 70th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 50th %ile Green (s) | 17.8 | 17.8 | 17.8 | 17.8 | 17.8 | | 7.4 | 63.0 | | 18.3 | 73.9 | 73.9 |
| 50th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 30th %ile Green (s) | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | | 6.7 | 66.7 | | 17.8 | 77.8 | 77.8 |
| 30th %ile Term Code | Gap | Gap | Gap | Hold | Hold | | Gap | Coord | | Gap | Coord | Coord |
| 10th %ile Green (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | 0.0 | 71.5 | | 17.6 | 95.7 | 95.7 |
| 10th %ile Term Code | Min | Min | Min | Min | Min | | Skip | Coord | | Gap | Coord | Coord |
| Stops (vph) | 117 | 15 | 7 | 94 | 22 | | 50 | 745 | | 104 | 1226 | 7 |
| Fuel Used(l) | 13 | 1 | 3 | 10 | 5 | | 6 | 81 | | 16 | 137 | 2 |
| CO Emissions (g/hr) | 250 | 25 | 57 | 191 | 90 | | 115 | 1512 | | 289 | 2553 | 41 |
| NOx Emissions (g/hr) | 48 | 5 | 11 | 37 | 17 | | 22 | 292 | | 56 | 493 | 8 |
| VOC Emissions (g/hr) | 58 | 6 | 13 | 44 | 21 | | 27 | 349 | | 67 | 589 | 10 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | | 0 | 45 | | 0 | 9 | 0 |
| Queue Length 50th (m) | 28.5 | 3.1 | 0.0 | 23.4 | 2.9 | | 6.3 | 89.2 | | 26.4 | 168.3 | 0.5 |
| Queue Length 95th (m) | 45.8 | 8.6 | 8.3 | 38.8 | 16.0 | | 12.7 | 131.5 | | m22.6 | 199.6 | m2.5 |
| Internal Link Dist (m) | | 334.5 | | | 357.8 | | | 205.3 | | | 395.5 | |
| Turn Bay Length (m) | 75.0 | | | 40.0 | | | 60.0 | | | 50.0 | | |
| Base Capacity (vph) | 370 | 529 | 515 | 395 | 506 | | 198 | 1713 | | 254 | 2109 | 980 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.03 | 0.14 | 0.27 | 0.17 | | 0.27 | 0.63 | | 0.54 | 0.65 | 0.05 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 105 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.70 | | | |
| Intersection Signal Delay: 26.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 75.4% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

Splits and Phases: 6: Strandherd & Dealership/Kennevale



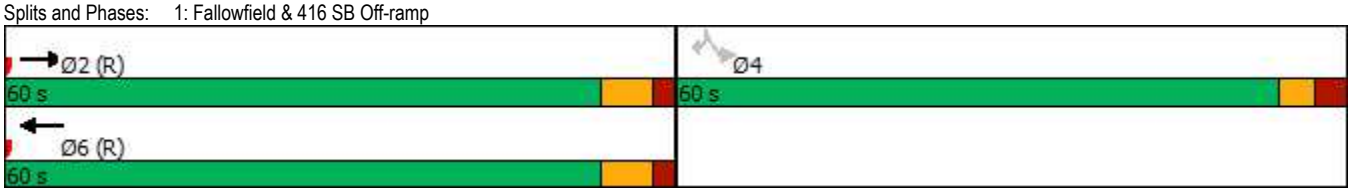


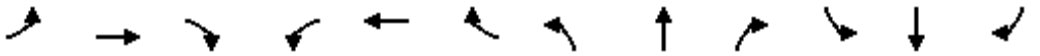
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Future Volume (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 48 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 991 | 1033 | 0 | 898 | 275 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 60.0 | 60.0 | | 60.0 | 60.0 |
| Total Split (%) | | 50.0% | 50.0% | | 50.0% | 50.0% |
| Maximum Green (s) | | 53.2 | 53.2 | | 53.7 | 53.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 63.7 | 63.7 | | 43.2 | 43.2 |
| Actuated g/C Ratio | | 0.53 | 0.53 | | 0.36 | 0.36 |
| v/c Ratio | | 0.61 | 0.60 | | 0.82 | 0.55 |
| Control Delay | | 22.6 | 14.5 | | 41.5 | 28.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 22.6 | 14.5 | | 41.5 | 28.3 |
| LOS | | C | B | | D | C |
| Approach Delay | | 22.6 | 14.5 | | 38.4 | |
| Approach LOS | | C | B | | D | |
| 90th %ile Green (s) | | 55.6 | 55.6 | | 51.3 | 51.3 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 60.1 | 60.1 | | 46.8 | 46.8 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 63.3 | 63.3 | | 43.6 | 43.6 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 67.3 | 67.3 | | 39.6 | 39.6 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 72.4 | 72.4 | | 34.5 | 34.5 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 679 | 408 | | 784 | 175 |
| Fuel Used(l) | | 67 | 71 | | 57 | 13 |
| CO Emissions (g/hr) | | 1239 | 1330 | | 1069 | 248 |
| NOx Emissions (g/hr) | | 239 | 257 | | 206 | 48 |
| VOC Emissions (g/hr) | | 286 | 307 | | 247 | 57 |
| Dilemma Vehicles (#) | | 41 | 55 | | 0 | 0 |
| Queue Length 50th (m) | | 82.4 | 36.8 | | 97.6 | 41.9 |
| Queue Length 95th (m) | | 118.9 | 95.9 | | 109.6 | 61.5 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1633 | 1711 | | 1359 | 615 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.61 | 0.60 | | 0.66 | 0.45 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 25.7 | | Intersection LOS: C | |
| Intersection Capacity Utilization 71.7% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp





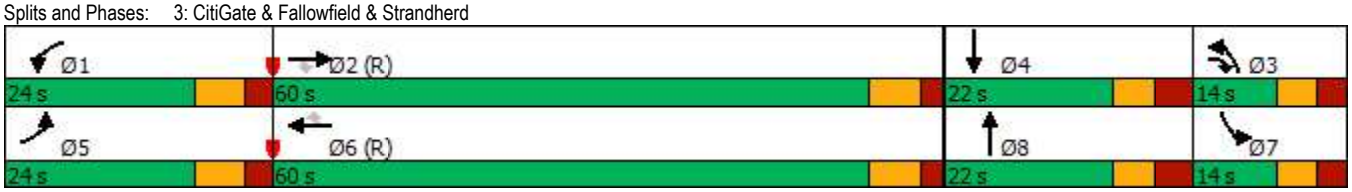
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 6 | 2 | 118 | 5 | 512 |
| Future Volume (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 6 | 2 | 118 | 5 | 512 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | 0.0 | 45.0 | | 170.0 |
| Storage Lanes | 2 | | 1 | 1 | | 1 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 95.0 | | | 100.0 | | | 60.0 | | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 1.00 | | | | | 0.98 | | | | 0.99 | | 0.99 |
| Frt | | | 0.850 | | | 0.850 | | 0.962 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3124 | 2891 | 1483 | 1658 | 3191 | 1483 | 3216 | 1679 | 0 | 1658 | 1745 | 1441 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3121 | 2891 | 1483 | 1658 | 3191 | 1460 | 3216 | 1679 | 0 | 1642 | 1745 | 1422 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 101 | | | 160 | | 2 | | | | 443 |
| Link Speed (k/h) | | 80 | | | 80 | | | 50 | | | 60 | |
| Link Distance (m) | | 236.6 | | | 253.6 | | | 155.7 | | | 207.3 | |
| Travel Time (s) | | 10.6 | | | 11.4 | | | 11.2 | | | 12.4 | |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | | | | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | 1 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 5% | 17% | 2% | 2% | 6% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Adj. Flow (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 6 | 2 | 118 | 5 | 512 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 353 | 1535 | 28 | 2 | 1165 | 119 | 29 | 8 | 0 | 118 | 5 | 512 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | | 2 | 2 | 2 |
| Detector Template | | | Right | Left | | | Left | Thru | | | Thru | |
| Leading Detector (m) | 15.2 | 15.2 | 2.0 | 2.0 | 15.2 | 15.2 | 2.0 | 10.0 | | 15.2 | 10.0 | 15.2 |
| Trailing Detector (m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 1.8 | 1.8 | 2.0 | 2.0 | 1.8 | 1.8 | 2.0 | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 13.4 | 13.4 | | | 13.4 | 13.4 | | 9.4 | | 13.4 | 9.4 | 13.4 |
| Detector 2 Size(m) | 1.8 | 1.8 | | | 1.8 | 1.8 | | 0.6 | | 1.8 | 0.6 | 1.8 |
| Detector 2 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | | Prot | NA | Free |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | Free |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 20.0 | 5.0 | 5.0 | 20.0 | 20.0 | 5.0 | 10.0 | | 5.0 | 10.0 | |
| Minimum Split (s) | 17.1 | 29.9 | 11.5 | 13.0 | 29.9 | 29.9 | 11.5 | 17.0 | | 11.5 | 17.0 | |
| Total Split (s) | 24.0 | 60.0 | 14.0 | 24.0 | 60.0 | 60.0 | 14.0 | 22.0 | | 14.0 | 22.0 | |
| Total Split (%) | 20.0% | 50.0% | 11.7% | 20.0% | 50.0% | 50.0% | 11.7% | 18.3% | | 11.7% | 18.3% | |
| Maximum Green (s) | 16.9 | 53.1 | 7.5 | 16.9 | 53.1 | 53.1 | 7.5 | 15.0 | | 7.5 | 15.0 | |
| Yellow Time (s) | 4.6 | 4.6 | 3.7 | 4.6 | 4.6 | 4.6 | 3.7 | 3.7 | | 3.7 | 3.7 | |

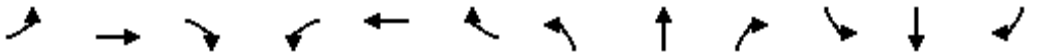
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 2.5 | 2.3 | 2.8 | 2.5 | 2.3 | 2.3 | 2.8 | 3.3 | | 2.8 | 3.3 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 7.1 | 6.9 | 6.5 | 7.1 | 6.9 | 6.9 | 6.5 | 7.0 | | 6.5 | 7.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lead | | Lag | Lead | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | C-Max | None | None | C-Max | C-Max | None | None | | None | None | |
| Walk Time (s) | | 7.0 | | | 7.0 | 7.0 | | | | | | |
| Flash Dont Walk (s) | | 16.0 | | | 16.0 | 16.0 | | | | | | |
| Pedestrian Calls (#/hr) | | 1 | | | 1 | 1 | | | | | | |
| Act Effct Green (s) | 17.7 | 84.0 | 107.5 | 5.8 | 62.0 | 62.0 | 13.9 | 10.0 | | 16.5 | 11.6 | 120.0 |
| Actuated g/C Ratio | 0.15 | 0.70 | 0.90 | 0.05 | 0.52 | 0.52 | 0.12 | 0.08 | | 0.14 | 0.10 | 1.00 |
| v/c Ratio | 0.77 | 0.76 | 0.02 | 0.03 | 0.71 | 0.14 | 0.08 | 0.06 | | 0.52 | 0.03 | 0.36 |
| Control Delay | 61.0 | 16.8 | 0.0 | 73.0 | 19.2 | 1.0 | 46.9 | 45.9 | | 57.8 | 51.2 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.0 | 16.8 | 0.0 | 73.0 | 19.2 | 1.0 | 46.9 | 45.9 | | 57.8 | 51.2 | 0.7 |
| LOS | E | B | A | E | B | A | D | D | | E | D | A |
| Approach Delay | | 24.7 | | | 17.6 | | | 46.7 | | | 11.7 | |
| Approach LOS | | C | | | B | | | D | | | B | |
| 90th %ile Green (s) | 16.9 | 63.7 | 12.5 | 6.3 | 53.1 | 53.1 | 12.5 | 10.0 | | 12.5 | 10.0 | |
| 90th %ile Term Code | Max | Coord | Hold | Gap | Coord | Coord | Hold | Min | | Max | Min | |
| 70th %ile Green (s) | 21.0 | 89.1 | 17.5 | 0.0 | 61.0 | 61.0 | 17.5 | 0.0 | | 17.5 | 0.0 | |
| 70th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 50th %ile Green (s) | 19.1 | 89.6 | 17.0 | 0.0 | 63.4 | 63.4 | 17.0 | 0.0 | | 17.0 | 0.0 | |
| 50th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 30th %ile Green (s) | 17.1 | 89.5 | 17.1 | 0.0 | 65.3 | 65.3 | 17.1 | 0.0 | | 17.1 | 0.0 | |
| 30th %ile Term Code | Gap | Coord | Hold | Skip | Coord | Coord | Hold | Skip | | Gap | Skip | |
| 10th %ile Green (s) | 14.2 | 88.3 | 0.0 | 0.0 | 67.0 | 67.0 | 0.0 | 0.0 | | 18.3 | 17.8 | |
| 10th %ile Term Code | Gap | Coord | Skip | Skip | Coord | Coord | Skip | Skip | | Gap | Hold | |
| Stops (vph) | 323 | 858 | 0 | 3 | 920 | 8 | 26 | 9 | | 103 | 7 | 0 |
| Fuel Used(l) | 42 | 98 | 1 | 0 | 120 | 6 | 2 | 1 | | 11 | 1 | 9 |
| CO Emissions (g/hr) | 775 | 1815 | 10 | 7 | 2224 | 104 | 38 | 11 | | 199 | 10 | 177 |
| NOx Emissions (g/hr) | 150 | 350 | 2 | 1 | 429 | 20 | 7 | 2 | | 38 | 2 | 34 |
| VOC Emissions (g/hr) | 179 | 419 | 2 | 2 | 513 | 24 | 9 | 3 | | 46 | 2 | 41 |
| Dilemma Vehicles (#) | 0 | 62 | 0 | 0 | 8 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Queue Length 50th (m) | 41.1 | 88.9 | 0.0 | 0.4 | 135.1 | 0.0 | 3.0 | 1.3 | | 26.0 | 1.1 | 0.0 |
| Queue Length 95th (m) | #63.1 | #240.2 | 0.0 | m1.3 | 171.0 | m1.5 | 7.8 | 6.3 | | #52.7 | 5.1 | 0.0 |
| Internal Link Dist (m) | | 212.6 | | | 229.6 | | | 131.7 | | | 183.3 | |
| Turn Bay Length (m) | 150.0 | | 30.0 | 30.0 | | 30.0 | 65.0 | | | 45.0 | | 170.0 |
| Base Capacity (vph) | 473 | 2024 | 1343 | 233 | 1647 | 831 | 384 | 211 | | 227 | 226 | 1422 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.76 | 0.02 | 0.01 | 0.71 | 0.14 | 0.08 | 0.04 | | 0.52 | 0.02 | 0.36 |

**Intersection Summary**

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 20.4 Intersection LOS: C
Intersection Capacity Utilization 80.0% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CitiGate & Fallowfield & Strandherd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 157 | 64 | 221 | 10 | 58 | 40 | 252 | 906 | 7 | 186 | 1205 | 33 |
| Future Volume (vph) | 157 | 64 | 221 | 10 | 58 | 40 | 252 | 906 | 7 | 186 | 1205 | 33 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 85.0 | | 0.0 | 25.0 | | 0.0 | 130.0 | | 0.0 | 140.0 | | 50.0 |
| Storage Lanes | 2 | | 0 | 1 | | 0 | 2 | | 0 | 1 | | 1 |
| Taper Length (m) | 50.0 | | | 50.0 | | | 65.0 | | | 45.0 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 |
| Ped Bike Factor | | 0.99 | | 0.99 | | | | | | | | |
| Frt | | 0.884 | | | 0.939 | | | 0.999 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 3216 | 1523 | 0 | 1658 | 1558 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 3216 | 1523 | 0 | 1636 | 1558 | 0 | 3216 | 3312 | 0 | 1658 | 3316 | 1351 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 139 | | | 28 | | | 1 | | | | 102 |
| Link Speed (k/h) | | 50 | | | 40 | | | 80 | | | 80 | |
| Link Distance (m) | | 205.3 | | | 148.8 | | | 209.4 | | | 287.1 | |
| Travel Time (s) | | 14.8 | | | 13.4 | | | 9.4 | | | 12.9 | |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 15% | 2% | 2% | 2% | 2% | 2% | 12% |
| Adj. Flow (vph) | 157 | 64 | 221 | 10 | 58 | 40 | 252 | 906 | 7 | 186 | 1205 | 33 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 157 | 285 | 0 | 10 | 98 | 0 | 252 | 913 | 0 | 186 | 1205 | 33 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 7.0 | | | 7.0 | | | 7.0 | | | 7.0 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | 14 | 24 | | 14 | 24 | | 14 | 24 | | 14 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | Right |
| Leading Detector (m) | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | | 2.0 | 10.0 | 2.0 |
| Trailing Detector (m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | | 2.0 | 0.6 | 2.0 |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | | | 9.4 | | | 9.4 | | | 9.4 | |
| Detector 2 Size(m) | | 0.6 | | | 0.6 | | | 0.6 | | | 0.6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | | 5.0 | 10.0 | | 5.0 | 20.0 | | 5.0 | 20.0 | 5.0 |
| Minimum Split (s) | 15.0 | 17.6 | | 12.6 | 17.6 | | 15.0 | 33.0 | | 15.0 | 33.0 | 15.0 |
| Total Split (s) | 15.0 | 38.0 | | 15.0 | 38.0 | | 18.0 | 49.0 | | 18.0 | 49.0 | 15.0 |
| Total Split (%) | 12.5% | 31.7% | | 12.5% | 31.7% | | 15.0% | 40.8% | | 15.0% | 40.8% | 12.5% |
| Maximum Green (s) | 7.4 | 30.4 | | 7.4 | 30.4 | | 11.4 | 42.3 | | 11.4 | 42.3 | 7.4 |
| Yellow Time (s) | 3.3 | 3.3 | | 3.3 | 3.3 | | 4.6 | 4.6 | | 4.6 | 4.6 | 3.3 |
| All-Red Time (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 2.0 | 2.1 | | 2.0 | 2.1 | 4.3 |

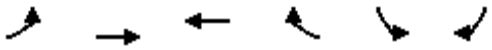
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.6 | 7.6 | | 7.6 | 7.6 | | 6.6 | 6.7 | | 6.6 | 6.7 | 7.6 |
| Lead/Lag | Lag | Lead | | Lag | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | | None | None | | None | C-Max | | None | C-Max | None |
| Walk Time (s) | | | | | | | | 7.0 | | | 7.0 | |
| Flash Dont Walk (s) | | | | | | | | 17.0 | | | 17.0 | |
| Pedestrian Calls (#/hr) | | | | | | | | 0 | | | 0 | |
| Act Effct Green (s) | 12.6 | 29.1 | | 6.3 | 12.0 | | 14.1 | 44.8 | | 22.1 | 52.8 | 64.5 |
| Actuated g/C Ratio | 0.10 | 0.24 | | 0.05 | 0.10 | | 0.12 | 0.37 | | 0.18 | 0.44 | 0.54 |
| v/c Ratio | 0.47 | 0.60 | | 0.11 | 0.54 | | 0.67 | 0.74 | | 0.61 | 0.83 | 0.04 |
| Control Delay | 54.3 | 25.7 | | 56.5 | 47.4 | | 60.0 | 37.3 | | 46.3 | 40.6 | 0.8 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 25.7 | | 56.5 | 47.4 | | 60.0 | 37.3 | | 46.3 | 40.6 | 0.8 |
| LOS | D | C | | E | D | | E | D | | D | D | A |
| Approach Delay | | 35.9 | | | 48.2 | | | 42.2 | | | 40.4 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| 90th %ile Green (s) | 19.4 | 28.0 | | 7.7 | 16.3 | | 13.5 | 42.3 | | 13.5 | 42.3 | 19.4 |
| 90th %ile Term Code | Hold | Gap | | Gap | Gap | | Max | Coord | | Max | Coord | Hold |
| 70th %ile Green (s) | 12.9 | 33.5 | | 0.0 | 13.0 | | 16.8 | 42.3 | | 23.3 | 48.8 | 12.9 |
| 70th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Max | Coord | Gap |
| 50th %ile Green (s) | 11.7 | 30.1 | | 0.0 | 10.8 | | 15.2 | 45.9 | | 23.1 | 53.8 | 11.7 |
| 50th %ile Term Code | Gap | Hold | | Skip | Gap | | Gap | Coord | | Gap | Coord | Gap |
| 30th %ile Green (s) | 10.4 | 28.0 | | 0.0 | 10.0 | | 13.6 | 47.4 | | 23.7 | 57.5 | 10.4 |
| 30th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| 10th %ile Green (s) | 8.5 | 26.1 | | 0.0 | 10.0 | | 11.2 | 45.9 | | 27.1 | 61.8 | 8.5 |
| 10th %ile Term Code | Gap | Hold | | Skip | Min | | Gap | Coord | | Gap | Coord | Gap |
| Stops (vph) | 143 | 133 | | 12 | 65 | | 236 | 773 | | 152 | 883 | 2 |
| Fuel Used(l) | 13 | 14 | | 1 | 6 | | 29 | 86 | | 23 | 140 | 2 |
| CO Emissions (g/hr) | 238 | 264 | | 14 | 113 | | 545 | 1592 | | 433 | 2596 | 29 |
| NOx Emissions (g/hr) | 46 | 51 | | 3 | 22 | | 105 | 307 | | 83 | 501 | 6 |
| VOC Emissions (g/hr) | 55 | 61 | | 3 | 26 | | 126 | 367 | | 100 | 599 | 7 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 38 | | 0 | 70 | 0 |
| Queue Length 50th (m) | 18.3 | 29.7 | | 2.3 | 16.0 | | 29.4 | 95.3 | | 40.8 | 110.2 | 0.0 |
| Queue Length 95th (m) | 27.0 | 59.8 | | 7.8 | 32.0 | | 43.8 | 125.3 | | m#77.3 | #208.7 | m0.0 |
| Internal Link Dist (m) | | 181.3 | | | 124.8 | | | 185.4 | | | 263.1 | |
| Turn Bay Length (m) | 85.0 | | | 25.0 | | | 130.0 | | | 140.0 | | 50.0 |
| Base Capacity (vph) | 336 | 496 | | 103 | 415 | | 377 | 1236 | | 305 | 1459 | 773 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.57 | | 0.10 | 0.24 | | 0.67 | 0.74 | | 0.61 | 0.83 | 0.04 |

Intersection Summary

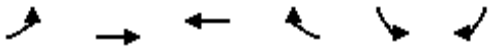
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 40.7 Intersection LOS: D
Intersection Capacity Utilization 78.4% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Strandherd & Systemhouse/Maravista





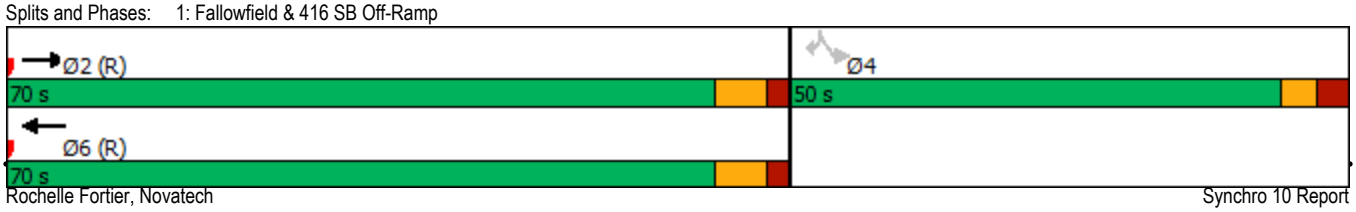
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Future Volume (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 63 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 76.1 | 76.1 | | 30.8 | 30.8 |
| Actuated g/C Ratio | | 0.63 | 0.63 | | 0.26 | 0.26 |
| v/c Ratio | | 1.00 | 0.55 | | 0.81 | 0.33 |
| Control Delay | | 43.4 | 21.3 | | 50.0 | 19.8 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 43.4 | 21.3 | | 50.0 | 19.8 |
| LOS | | D | C | | D | B |
| Approach Delay | | 43.4 | 21.3 | | 45.0 | |
| Approach LOS | | D | C | | D | |
| 90th %ile Green (s) | | 68.9 | 68.9 | | 38.0 | 38.0 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 72.8 | 72.8 | | 34.1 | 34.1 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 76.3 | 76.3 | | 30.6 | 30.6 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 79.2 | 79.2 | | 27.7 | 27.7 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 83.4 | 83.4 | | 23.5 | 23.5 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 1541 | 828 | | 570 | 52 |
| Fuel Used(l) | | 181 | 107 | | 46 | 5 |
| CO Emissions (g/hr) | | 3369 | 1990 | | 864 | 93 |
| NOx Emissions (g/hr) | | 650 | 384 | | 167 | 18 |
| VOC Emissions (g/hr) | | 777 | 459 | | 199 | 22 |
| Dilemma Vehicles (#) | | 75 | 7 | | 0 | 0 |
| Queue Length 50th (m) | | 223.4 | 103.6 | | 71.8 | 11.9 |
| Queue Length 95th (m) | | #317.2 | 139.2 | | 85.1 | 26.3 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1950 | 2043 | | 1106 | 519 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 1.00 | 0.55 | | 0.57 | 0.24 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 100 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.00 | | | |
| Intersection Signal Delay: 37.2 | | Intersection LOS: D | |
| Intersection Capacity Utilization 97.3% | | ICU Level of Service F | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Future Volume (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 10 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

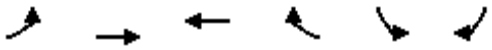
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 79.0 | | | 79.0 | 29.0 | 29.0 |
| Actuated g/C Ratio | 0.66 | | | 0.66 | 0.24 | 0.24 |
| v/c Ratio | 1.07 | | | 0.47 | 0.51 | 0.95 |
| Control Delay | 63.7 | | | 11.1 | 45.0 | 81.1 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.7 | | | 11.1 | 45.0 | 81.1 |
| LOS | E | | | B | D | F |
| Approach Delay | 63.7 | | | 11.1 | 68.3 | |
| Approach LOS | E | | | B | E | |
| 90th %ile Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| 70th %ile Term Code | Coord | | | Coord | Max | Max |
| 50th %ile Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| 50th %ile Term Code | Coord | | | Coord | Max | Max |
| 30th %ile Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| 30th %ile Term Code | Coord | | | Coord | Max | Max |
| 10th %ile Green (s) | 81.7 | | | 81.7 | 26.3 | 26.3 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1996 | | | 477 | 156 | 287 |
| Fuel Used(l) | 306 | | | 56 | 14 | 35 |
| CO Emissions (g/hr) | 5697 | | | 1036 | 258 | 646 |
| NOx Emissions (g/hr) | 1100 | | | 200 | 50 | 125 |
| VOC Emissions (g/hr) | 1314 | | | 239 | 60 | 149 |
| Dilemma Vehicles (#) | 83 | | | 42 | 0 | 0 |
| Queue Length 50th (m) | ~308.9 | | | 58.5 | 37.4 | 75.4 |
| Queue Length 95th (m) | m#331.2 | | | 72.5 | 60.1 | #131.0 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2100 | | | 2161 | 367 | 360 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.07 | | | 0.47 | 0.50 | 0.93 |

Intersection Summary

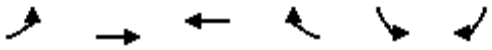
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 50.2 Intersection LOS: D
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





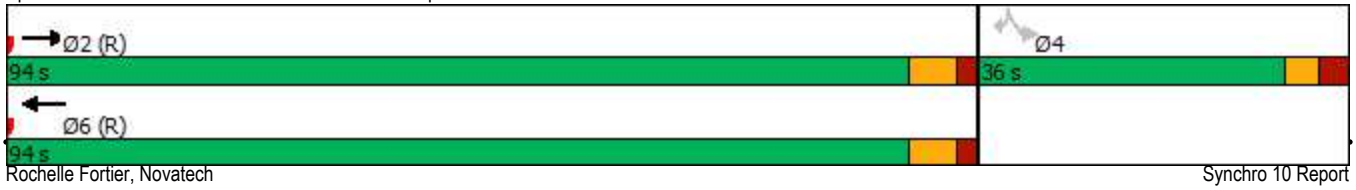
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Future Volume (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 119 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1950 | 1125 | 0 | 628 | 127 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 94.0 | 94.0 | | 36.0 | 36.0 |
| Total Split (%) | | 72.3% | 72.3% | | 27.7% | 27.7% |
| Maximum Green (s) | | 87.2 | 87.2 | | 29.7 | 29.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 87.9 | 87.9 | | 29.0 | 29.0 |
| Actuated g/C Ratio | | 0.68 | 0.68 | | 0.22 | 0.22 |
| v/c Ratio | | 0.94 | 0.52 | | 0.93 | 0.33 |
| Control Delay | | 29.3 | 8.1 | | 70.1 | 10.7 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 29.3 | 8.1 | | 70.1 | 10.7 |
| LOS | | C | A | | E | B |
| Approach Delay | | 29.3 | 8.1 | | 60.1 | |
| Approach LOS | | C | A | | E | |
| 90th %ile Green (s) | | 87.2 | 87.2 | | 29.7 | 29.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 87.2 | 87.2 | | 29.7 | 29.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 87.2 | 87.2 | | 29.7 | 29.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 87.2 | 87.2 | | 29.7 | 29.7 |
| 30th %ile Term Code | | Coord | Coord | | Max | Max |
| 10th %ile Green (s) | | 90.6 | 90.6 | | 26.3 | 26.3 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 1580 | 339 | | 580 | 21 |
| Fuel Used(l) | | 162 | 68 | | 56 | 3 |
| CO Emissions (g/hr) | | 3017 | 1256 | | 1048 | 64 |
| NOx Emissions (g/hr) | | 582 | 242 | | 202 | 12 |
| VOC Emissions (g/hr) | | 696 | 290 | | 242 | 15 |
| Dilemma Vehicles (#) | | 73 | 37 | | 0 | 0 |
| Queue Length 50th (m) | | 218.1 | 48.3 | | 81.2 | 1.6 |
| Queue Length 95th (m) | | #299.0 | 53.4 | | #113.5 | 18.0 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2078 | 2177 | | 694 | 392 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.94 | 0.52 | | 0.90 | 0.32 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 100 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.94 | | | |
| Intersection Signal Delay: 29.1 | | Intersection LOS: C | |
| Intersection Capacity Utilization 97.3% | | ICU Level of Service F | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



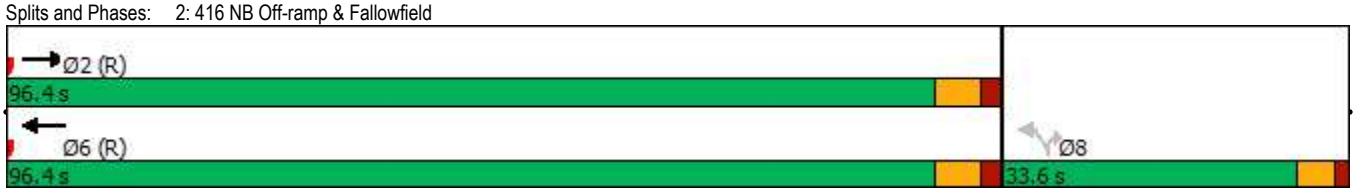
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Future Volume (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 13 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2243 | 0 | 0 | 1017 | 184 | 335 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 96.4 | | | 96.4 | 33.6 | 33.6 |
| Total Split (%) | 74.2% | | | 74.2% | 25.8% | 25.8% |
| Maximum Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

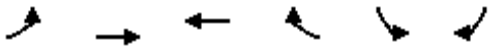
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| Actuated g/C Ratio | 0.69 | | | 0.69 | 0.22 | 0.22 |
| v/c Ratio | 1.02 | | | 0.45 | 0.57 | 1.05 |
| Control Delay | 33.3 | | | 9.8 | 53.4 | 110.1 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.3 | | | 9.8 | 53.4 | 110.1 |
| LOS | C | | | A | D | F |
| Approach Delay | 33.3 | | | 9.8 | 90.0 | |
| Approach LOS | C | | | A | F | |
| 90th %ile Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| 70th %ile Term Code | Coord | | | Coord | Max | Max |
| 50th %ile Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| 50th %ile Term Code | Coord | | | Coord | Max | Max |
| 30th %ile Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| 30th %ile Term Code | Coord | | | Coord | Max | Max |
| 10th %ile Green (s) | 89.7 | | | 89.7 | 28.3 | 28.3 |
| 10th %ile Term Code | Coord | | | Coord | Max | Max |
| Stops (vph) | 1886 | | | 430 | 163 | 273 |
| Fuel Used(l) | 248 | | | 52 | 15 | 42 |
| CO Emissions (g/hr) | 4606 | | | 966 | 285 | 776 |
| NOx Emissions (g/hr) | 889 | | | 187 | 55 | 150 |
| VOC Emissions (g/hr) | 1062 | | | 223 | 66 | 179 |
| Dilemma Vehicles (#) | 82 | | | 39 | 0 | 0 |
| Queue Length 50th (m) | ~318.3 | | | 56.2 | 42.5 | ~90.3 |
| Queue Length 95th (m) | #360.3 | | | 68.7 | 67.0 | #149.2 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2201 | | | 2265 | 322 | 320 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.02 | | | 0.45 | 0.57 | 1.05 |

Intersection Summary

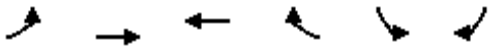
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 34.8 Intersection LOS: C
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





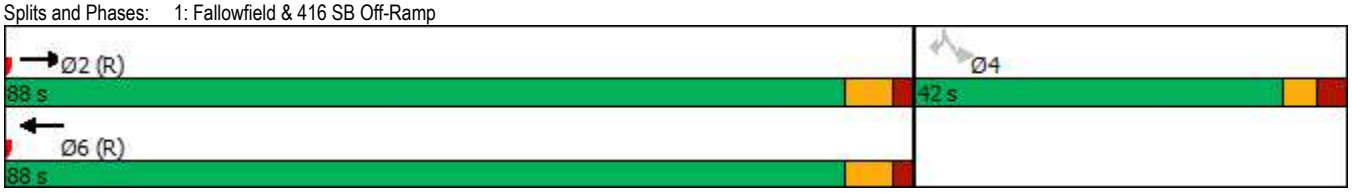
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1600 | 1125 | 0 | 628 | 127 |
| Future Volume (vph) | 0 | 1600 | 1125 | 0 | 628 | 127 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 100 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 35.1 | 463.8 | | 158.9 | |
| Travel Time (s) | | 1.6 | 20.9 | | 11.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1600 | 1125 | 0 | 628 | 127 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1600 | 1125 | 0 | 628 | 127 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 88.0 | 88.0 | | 42.0 | 42.0 |
| Total Split (%) | | 67.7% | 67.7% | | 32.3% | 32.3% |
| Maximum Green (s) | | 81.2 | 81.2 | | 35.7 | 35.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 85.4 | 85.4 | | 31.5 | 31.5 |
| Actuated g/C Ratio | | 0.66 | 0.66 | | 0.24 | 0.24 |
| v/c Ratio | | 0.79 | 0.53 | | 0.85 | 0.32 |
| Control Delay | | 20.5 | 7.3 | | 59.0 | 13.1 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 20.5 | 7.3 | | 59.0 | 13.1 |
| LOS | | C | A | | E | B |
| Approach Delay | | 20.5 | 7.3 | | 51.2 | |
| Approach LOS | | C | A | | D | |
| 90th %ile Green (s) | | 81.2 | 81.2 | | 35.7 | 35.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 81.5 | 81.5 | | 35.4 | 35.4 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 84.9 | 84.9 | | 32.0 | 32.0 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 87.7 | 87.7 | | 29.2 | 29.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 91.9 | 91.9 | | 25.0 | 25.0 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 1129 | 271 | | 587 | 30 |
| Fuel Used(l) | | 113 | 63 | | 51 | 4 |
| CO Emissions (g/hr) | | 2095 | 1170 | | 951 | 72 |
| NOx Emissions (g/hr) | | 404 | 226 | | 184 | 14 |
| VOC Emissions (g/hr) | | 483 | 270 | | 219 | 17 |
| Dilemma Vehicles (#) | | 62 | 37 | | 0 | 0 |
| Queue Length 50th (m) | | 145.1 | 34.0 | | 79.3 | 5.4 |
| Queue Length 95th (m) | | 193.4 | 37.1 | | 97.6 | 21.2 |
| Internal Link Dist (m) | | 11.1 | 439.8 | | 134.9 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 2020 | 2116 | | 834 | 433 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.79 | 0.53 | | 0.75 | 0.29 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 80 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.85 | | | |
| Intersection Signal Delay: 22.9 | | Intersection LOS: C | |
| Intersection Capacity Utilization 81.3% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-Ramp



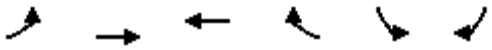
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1693 | 0 | 0 | 1017 | 184 | 335 |
| Future Volume (vph) | 1693 | 0 | 0 | 1017 | 184 | 335 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 14 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 463.8 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.9 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 1693 | 0 | 0 | 1017 | 184 | 335 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1693 | 0 | 0 | 1017 | 184 | 335 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 76.0 | | | 76.0 | 54.0 | 54.0 |
| Total Split (%) | 58.5% | | | 58.5% | 41.5% | 41.5% |
| Maximum Green (s) | 69.3 | | | 69.3 | 48.7 | 48.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 82.7 | | | 82.7 | 35.3 | 35.3 |
| Actuated g/C Ratio | 0.64 | | | 0.64 | 0.27 | 0.27 |
| v/c Ratio | 0.83 | | | 0.49 | 0.46 | 0.84 |
| Control Delay | 18.9 | | | 14.6 | 41.6 | 61.0 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.9 | | | 14.6 | 41.6 | 61.0 |
| LOS | B | | | B | D | E |
| Approach Delay | 18.9 | | | 14.6 | 54.2 | |
| Approach LOS | B | | | B | D | |
| 90th %ile Green (s) | 71.9 | | | 71.9 | 46.1 | 46.1 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 77.9 | | | 77.9 | 40.1 | 40.1 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 82.4 | | | 82.4 | 35.6 | 35.6 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 87.2 | | | 87.2 | 30.8 | 30.8 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 94.1 | | | 94.1 | 23.9 | 23.9 |
| 10th %ile Term Code | Coord | | | Coord | Gap | Gap |
| Stops (vph) | 1057 | | | 527 | 147 | 297 |
| Fuel Used(l) | 147 | | | 61 | 13 | 30 |
| CO Emissions (g/hr) | 2735 | | | 1140 | 244 | 555 |
| NOx Emissions (g/hr) | 528 | | | 220 | 47 | 107 |
| VOC Emissions (g/hr) | 631 | | | 263 | 56 | 128 |
| Dilemma Vehicles (#) | 60 | | | 39 | 0 | 0 |
| Queue Length 50th (m) | 113.3 | | | 68.2 | 39.2 | 78.1 |
| Queue Length 95th (m) | #268.5 | | | 104.4 | 54.6 | 102.5 |
| Internal Link Dist (m) | 439.8 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2029 | | | 2088 | 555 | 543 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | | | 0.49 | 0.33 | 0.62 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.84 | | | |
| Intersection Signal Delay: 23.2 | | Intersection LOS: C | |
| Intersection Capacity Utilization 81.3% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



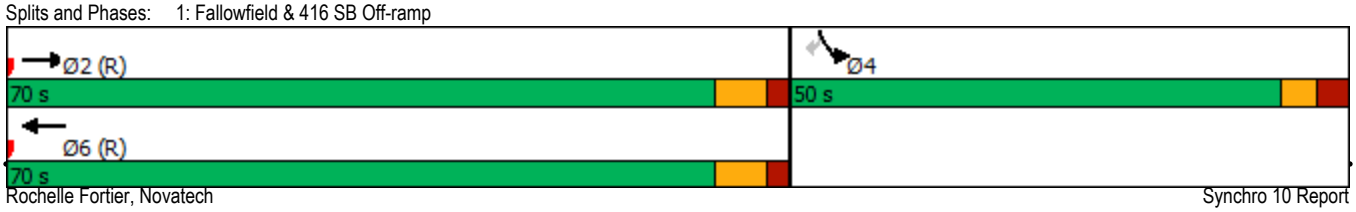


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Future Volume (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 37 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 70.0 | 70.0 | | 50.0 | 50.0 |
| Total Split (%) | | 58.3% | 58.3% | | 41.7% | 41.7% |
| Maximum Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 65.2 | 65.2 | | 41.7 | 41.7 |
| Actuated g/C Ratio | | 0.54 | 0.54 | | 0.35 | 0.35 |
| v/c Ratio | | 0.67 | 0.76 | | 0.91 | 0.60 |
| Control Delay | | 22.5 | 20.5 | | 50.6 | 33.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 22.5 | 20.5 | | 50.6 | 33.3 |
| LOS | | C | C | | D | C |
| Approach Delay | | 22.5 | 20.5 | | 46.6 | |
| Approach LOS | | C | C | | D | |
| 90th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 70th %ile Term Code | | Coord | Coord | | Max | Max |
| 50th %ile Green (s) | | 63.2 | 63.2 | | 43.7 | 43.7 |
| 50th %ile Term Code | | Coord | Coord | | Max | Max |
| 30th %ile Green (s) | | 65.9 | 65.9 | | 41.0 | 41.0 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 70.5 | 70.5 | | 36.4 | 36.4 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 779 | 1048 | | 873 | 205 |
| Fuel Used(l) | | 76 | 128 | | 69 | 16 |
| CO Emissions (g/hr) | | 1410 | 2381 | | 1284 | 289 |
| NOx Emissions (g/hr) | | 272 | 460 | | 248 | 56 |
| VOC Emissions (g/hr) | | 325 | 549 | | 296 | 67 |
| Dilemma Vehicles (#) | | 46 | 51 | | 0 | 0 |
| Queue Length 50th (m) | | 98.7 | 133.8 | | 107.5 | 46.9 |
| Queue Length 95th (m) | | 122.7 | 162.2 | | #136.9 | 75.6 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1670 | 1750 | | 1106 | 502 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.67 | 0.76 | | 0.87 | 0.57 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 4 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.91 | | | |
| Intersection Signal Delay: 30.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 78.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | |
| Queue shown is maximum after two cycles. | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp



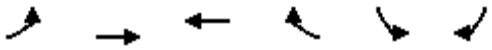
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Future Volume (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 15 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 85.0 | | | 85.0 | 35.0 | 35.0 |
| Total Split (%) | 70.8% | | | 70.8% | 29.2% | 29.2% |
| Maximum Green (s) | 78.3 | | | 78.3 | 29.7 | 29.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 92.0 | | | 92.0 | 16.0 | 16.0 |
| Actuated g/C Ratio | 0.77 | | | 0.77 | 0.13 | 0.13 |
| v/c Ratio | 0.83 | | | 0.60 | 0.65 | 0.68 |
| Control Delay | 8.3 | | | 7.8 | 64.0 | 59.9 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.3 | | | 7.8 | 64.0 | 59.9 |
| LOS | A | | | A | E | E |
| Approach Delay | 8.3 | | | 7.8 | 61.9 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 85.3 | | | 85.3 | 22.7 | 22.7 |
| 90th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 70th %ile Green (s) | 89.4 | | | 89.4 | 18.6 | 18.6 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 92.2 | | | 92.2 | 15.8 | 15.8 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 94.9 | | | 94.9 | 13.1 | 13.1 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 98.0 | | | 98.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 1177 | | | 620 | 120 | 116 |
| Fuel Used(l) | 153 | | | 74 | 12 | 12 |
| CO Emissions (g/hr) | 2842 | | | 1370 | 223 | 223 |
| NOx Emissions (g/hr) | 549 | | | 264 | 43 | 43 |
| VOC Emissions (g/hr) | 656 | | | 316 | 51 | 51 |
| Dilemma Vehicles (#) | 56 | | | 63 | 0 | 0 |
| Queue Length 50th (m) | 88.6 | | | 67.2 | 29.3 | 28.0 |
| Queue Length 95th (m) | 167.4 | | | 108.3 | 46.6 | 46.5 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2445 | | | 2515 | 367 | 364 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | | | 0.60 | 0.35 | 0.38 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.83 | | | |
| Intersection Signal Delay: 11.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 78.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



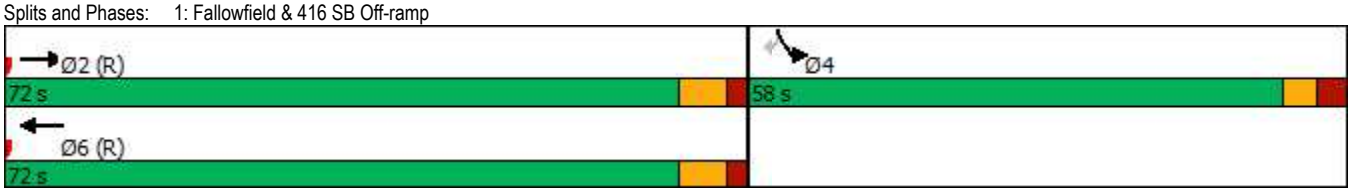


| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Future Volume (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 31 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1115 | 1326 | 0 | 961 | 287 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 72.0 | 72.0 | | 58.0 | 58.0 |
| Total Split (%) | | 55.4% | 55.4% | | 44.6% | 44.6% |
| Maximum Green (s) | | 65.2 | 65.2 | | 51.7 | 51.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 70.1 | 70.1 | | 46.8 | 46.8 |
| Actuated g/C Ratio | | 0.54 | 0.54 | | 0.36 | 0.36 |
| v/c Ratio | | 0.67 | 0.76 | | 0.88 | 0.58 |
| Control Delay | | 25.0 | 24.9 | | 48.8 | 34.3 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 25.0 | 24.9 | | 48.8 | 34.3 |
| LOS | | C | C | | D | C |
| Approach Delay | | 25.0 | 24.9 | | 45.5 | |
| Approach LOS | | C | C | | D | |
| 90th %ile Green (s) | | 65.2 | 65.2 | | 51.7 | 51.7 |
| 90th %ile Term Code | | Coord | Coord | | Max | Max |
| 70th %ile Green (s) | | 66.0 | 66.0 | | 50.9 | 50.9 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 68.9 | 68.9 | | 48.0 | 48.0 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 72.7 | 72.7 | | 44.2 | 44.2 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 77.7 | 77.7 | | 39.2 | 39.2 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 794 | 1063 | | 874 | 203 |
| Fuel Used(l) | | 79 | 133 | | 68 | 16 |
| CO Emissions (g/hr) | | 1465 | 2480 | | 1260 | 293 |
| NOx Emissions (g/hr) | | 283 | 479 | | 243 | 56 |
| VOC Emissions (g/hr) | | 338 | 572 | | 291 | 67 |
| Dilemma Vehicles (#) | | 43 | 47 | | 0 | 0 |
| Queue Length 50th (m) | | 107.1 | 144.8 | | 116.2 | 52.1 |
| Queue Length 95th (m) | | 140.2 | 183.2 | | 136.9 | 77.6 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1658 | 1737 | | 1208 | 542 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.67 | 0.76 | | 0.80 | 0.53 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 40 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.88 | | | |
| Intersection Signal Delay: 31.9 | | Intersection LOS: C | |
| Intersection Capacity Utilization 78.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp

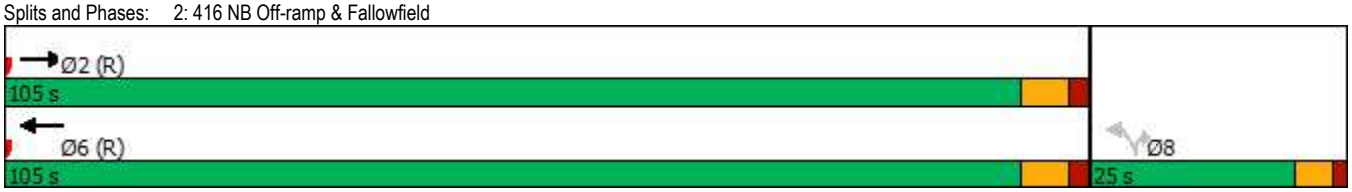


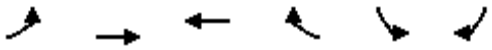
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Future Volume (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 28 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 105.0 | | | 105.0 | 25.0 | 25.0 |
| Total Split (%) | 80.8% | | | 80.8% | 19.2% | 19.2% |
| Maximum Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 102.1 | | | 102.1 | 15.9 | 15.9 |
| Actuated g/C Ratio | 0.79 | | | 0.79 | 0.12 | 0.12 |
| v/c Ratio | 0.81 | | | 0.58 | 0.71 | 0.70 |
| Control Delay | 7.2 | | | 7.0 | 75.7 | 61.3 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 7.2 | | | 7.0 | 75.7 | 61.3 |
| LOS | A | | | A | E | E |
| Approach Delay | 7.2 | | | 7.0 | 68.3 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 98.8 | | | 98.8 | 19.2 | 19.2 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 101.5 | | | 101.5 | 16.5 | 16.5 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 104.1 | | | 104.1 | 13.9 | 13.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 108.0 | | | 108.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 835 | | | 562 | 123 | 107 |
| Fuel Used(l) | 131 | | | 69 | 13 | 12 |
| CO Emissions (g/hr) | 2445 | | | 1289 | 246 | 220 |
| NOx Emissions (g/hr) | 472 | | | 249 | 48 | 42 |
| VOC Emissions (g/hr) | 564 | | | 297 | 57 | 51 |
| Dilemma Vehicles (#) | 69 | | | 58 | 0 | 0 |
| Queue Length 50th (m) | 35.4 | | | 69.4 | 32.1 | 27.3 |
| Queue Length 95th (m) | 181.8 | | | 95.5 | 52.1 | 48.4 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2507 | | | 2579 | 224 | 240 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | | | 0.58 | 0.58 | 0.57 |

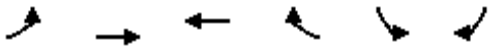
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 128 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.81 | | | |
| Intersection Signal Delay: 11.4 | | Intersection LOS: B | |
| Intersection Capacity Utilization 78.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield





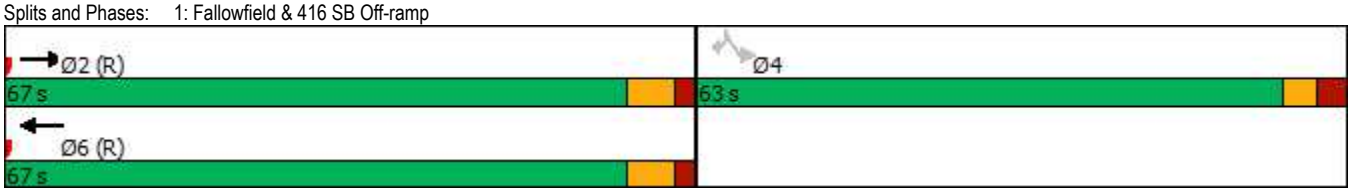
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1015 | 1326 | 0 | 961 | 287 |
| Future Volume (vph) | 0 | 1015 | 1326 | 0 | 961 | 287 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | 0.0 | | | 0.0 | 0.0 | 70.0 |
| Storage Lanes | 0 | | | 0 | 2 | 1 |
| Taper Length (m) | 7.5 | | | | 7.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3075 | 3221 | 0 | 3038 | 1316 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | | | 22 |
| Link Speed (k/h) | | 80 | 80 | | 50 | |
| Link Distance (m) | | 133.9 | 449.9 | | 132.0 | |
| Travel Time (s) | | 6.0 | 20.2 | | 9.5 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 2% | 10% | 5% | 2% | 8% | 15% |
| Adj. Flow (vph) | 0 | 1015 | 1326 | 0 | 961 | 287 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 1015 | 1326 | 0 | 961 | 287 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(m) | | 0.0 | 0.0 | | 7.0 | |
| Link Offset(m) | | 0.0 | 0.0 | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | 4.8 | | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | 24 | | | 14 | 24 | 14 |
| Number of Detectors | | 2 | 2 | | 1 | 1 |
| Detector Template | | Thru | Thru | | Left | Right |
| Leading Detector (m) | | 10.0 | 10.0 | | 2.0 | 2.0 |
| Trailing Detector (m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Position(m) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Size(m) | | 0.6 | 0.6 | | 2.0 | 2.0 |
| Detector 1 Type | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Detector 2 Position(m) | | 9.4 | 9.4 | | | |
| Detector 2 Size(m) | | 0.6 | 0.6 | | | |
| Detector 2 Type | | Cl+Ex | Cl+Ex | | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| Turn Type | | NA | NA | | Perm | Perm |
| Protected Phases | | 2 | 6 | | | |
| Permitted Phases | | | | | 4 | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 20.0 | 20.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 30.8 | 30.8 | | 30.3 | 30.3 |
| Total Split (s) | | 67.0 | 67.0 | | 63.0 | 63.0 |
| Total Split (%) | | 51.5% | 51.5% | | 48.5% | 48.5% |
| Maximum Green (s) | | 60.2 | 60.2 | | 56.7 | 56.7 |
| Yellow Time (s) | | 4.6 | 4.6 | | 3.3 | 3.3 |
| All-Red Time (s) | | 2.2 | 2.2 | | 3.0 | 3.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 6.8 | 6.8 | | 6.3 | 6.3 |



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Recall Mode | | C-Max | C-Max | | None | None |
| Walk Time (s) | | 13.0 | 13.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 9.0 | 9.0 | | 17.0 | 17.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | | 68.4 | 68.4 | | 48.5 | 48.5 |
| Actuated g/C Ratio | | 0.53 | 0.53 | | 0.37 | 0.37 |
| v/c Ratio | | 0.63 | 0.78 | | 0.85 | 0.57 |
| Control Delay | | 25.0 | 26.6 | | 44.9 | 33.7 |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | | 25.0 | 26.6 | | 44.9 | 33.7 |
| LOS | | C | C | | D | C |
| Approach Delay | | 25.0 | 26.6 | | 42.3 | |
| Approach LOS | | C | C | | D | |
| 90th %ile Green (s) | | 60.5 | 60.5 | | 56.4 | 56.4 |
| 90th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 70th %ile Green (s) | | 64.6 | 64.6 | | 52.3 | 52.3 |
| 70th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 50th %ile Green (s) | | 67.8 | 67.8 | | 49.1 | 49.1 |
| 50th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 30th %ile Green (s) | | 71.9 | 71.9 | | 45.0 | 45.0 |
| 30th %ile Term Code | | Coord | Coord | | Gap | Gap |
| 10th %ile Green (s) | | 77.2 | 77.2 | | 39.7 | 39.7 |
| 10th %ile Term Code | | Coord | Coord | | Gap | Gap |
| Stops (vph) | | 710 | 1069 | | 852 | 205 |
| Fuel Used(l) | | 71 | 135 | | 64 | 16 |
| CO Emissions (g/hr) | | 1320 | 2519 | | 1197 | 291 |
| NOx Emissions (g/hr) | | 255 | 486 | | 231 | 56 |
| VOC Emissions (g/hr) | | 305 | 581 | | 276 | 67 |
| Dilemma Vehicles (#) | | 39 | 46 | | 0 | 0 |
| Queue Length 50th (m) | | 94.6 | 147.3 | | 114.5 | 53.3 |
| Queue Length 95th (m) | | 131.8 | 195.6 | | 127.9 | 74.6 |
| Internal Link Dist (m) | | 109.9 | 425.9 | | 108.0 | |
| Turn Bay Length (m) | | | | | | 70.0 |
| Base Capacity (vph) | | 1618 | 1694 | | 1325 | 586 |
| Starvation Cap Reductn | | 0 | 0 | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | | 0 | 0 |
| Reduced v/c Ratio | | 0.63 | 0.78 | | 0.73 | 0.49 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 40 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.85 | | | |
| Intersection Signal Delay: 31.6 | | Intersection LOS: C | |
| Intersection Capacity Utilization 78.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Fallowfield & 416 SB Off-ramp

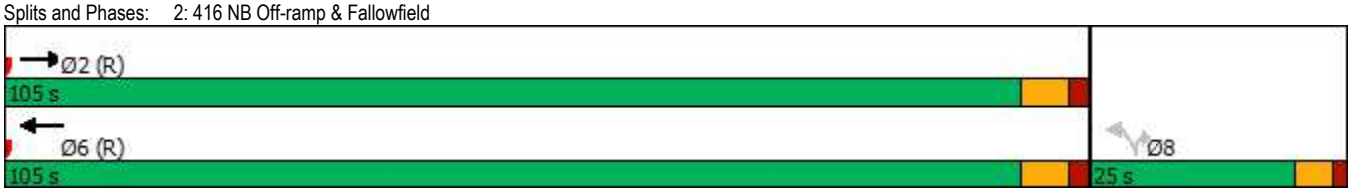


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Future Volume (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage Length (m) | | 0.0 | 0.0 | | 0.0 | 50.0 |
| Storage Lanes | | 0 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 |
| Flt Protected | | | | | 0.950 | |
| Satd. Flow (prot) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Flt Permitted | | | | | 0.950 | |
| Satd. Flow (perm) | 3191 | 0 | 0 | 3283 | 1483 | 1427 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | | | | | 28 |
| Link Speed (k/h) | 80 | | | 80 | 60 | |
| Link Distance (m) | 449.9 | | | 245.0 | 156.0 | |
| Travel Time (s) | 20.2 | | | 11.0 | 9.4 | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Heavy Vehicles (%) | 6% | 2% | 2% | 3% | 14% | 6% |
| Adj. Flow (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 2040 | 0 | 0 | 1504 | 129 | 138 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.5 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 |
| Turning Speed (k/h) | | 14 | 24 | | 24 | 14 |
| Number of Detectors | 2 | | | 2 | 1 | 1 |
| Detector Template | Thru | | | Thru | Left | Right |
| Leading Detector (m) | 10.0 | | | 10.0 | 2.0 | 2.0 |
| Trailing Detector (m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Position(m) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Size(m) | 0.6 | | | 0.6 | 2.0 | 2.0 |
| Detector 1 Type | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(m) | 9.4 | | | 9.4 | | |
| Detector 2 Size(m) | 0.6 | | | 0.6 | | |
| Detector 2 Type | Cl+Ex | | | Cl+Ex | | |
| Detector 2 Channel | | | | | | |
| Detector 2 Extend (s) | 0.0 | | | 0.0 | | |
| Turn Type | NA | | | NA | Perm | Perm |
| Protected Phases | 2 | | | 6 | | |
| Permitted Phases | | | | | 8 | 8 |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 20.0 | | | 20.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.7 | | | 30.7 | 23.4 | 23.4 |
| Total Split (s) | 105.0 | | | 105.0 | 25.0 | 25.0 |
| Total Split (%) | 80.8% | | | 80.8% | 19.2% | 19.2% |
| Maximum Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| Yellow Time (s) | 4.6 | | | 4.6 | 3.7 | 3.7 |
| All-Red Time (s) | 2.1 | | | 2.1 | 1.6 | 1.6 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.7 | | | 6.7 | 5.3 | 5.3 |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Recall Mode | C-Max | | | C-Max | None | None |
| Walk Time (s) | 7.0 | | | 7.0 | | |
| Flash Dont Walk (s) | 17.0 | | | 17.0 | | |
| Pedestrian Calls (#/hr) | 1 | | | 1 | | |
| Act Effct Green (s) | 102.1 | | | 102.1 | 15.9 | 15.9 |
| Actuated g/C Ratio | 0.79 | | | 0.79 | 0.12 | 0.12 |
| v/c Ratio | 0.81 | | | 0.58 | 0.71 | 0.70 |
| Control Delay | 7.9 | | | 7.0 | 75.7 | 61.3 |
| Queue Delay | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Delay | 7.9 | | | 7.0 | 75.7 | 61.3 |
| LOS | A | | | A | E | E |
| Approach Delay | 7.9 | | | 7.0 | 68.3 | |
| Approach LOS | A | | | A | E | |
| 90th %ile Green (s) | 98.3 | | | 98.3 | 19.7 | 19.7 |
| 90th %ile Term Code | Coord | | | Coord | Max | Max |
| 70th %ile Green (s) | 98.8 | | | 98.8 | 19.2 | 19.2 |
| 70th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 50th %ile Green (s) | 101.5 | | | 101.5 | 16.5 | 16.5 |
| 50th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 30th %ile Green (s) | 104.1 | | | 104.1 | 13.9 | 13.9 |
| 30th %ile Term Code | Coord | | | Coord | Gap | Gap |
| 10th %ile Green (s) | 108.0 | | | 108.0 | 10.0 | 10.0 |
| 10th %ile Term Code | Coord | | | Coord | Min | Min |
| Stops (vph) | 923 | | | 562 | 123 | 107 |
| Fuel Used(l) | 138 | | | 69 | 13 | 12 |
| CO Emissions (g/hr) | 2560 | | | 1289 | 246 | 220 |
| NOx Emissions (g/hr) | 494 | | | 249 | 48 | 42 |
| VOC Emissions (g/hr) | 590 | | | 297 | 57 | 51 |
| Dilemma Vehicles (#) | 55 | | | 58 | 0 | 0 |
| Queue Length 50th (m) | 29.4 | | | 69.4 | 32.1 | 27.3 |
| Queue Length 95th (m) | 194.7 | | | 95.5 | 52.1 | 48.4 |
| Internal Link Dist (m) | 425.9 | | | 221.0 | 132.0 | |
| Turn Bay Length (m) | | | | | | 50.0 |
| Base Capacity (vph) | 2507 | | | 2579 | 224 | 240 |
| Starvation Cap Reductn | 0 | | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | | | 0.58 | 0.58 | 0.57 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 130 | | | |
| Actuated Cycle Length: 130 | | | |
| Offset: 128 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.81 | | | |
| Intersection Signal Delay: 11.8 | | Intersection LOS: B | |
| Intersection Capacity Utilization 78.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: 416 NB Off-ramp & Fallowfield



# Scheme Summary

## Control Data

### Control Data and Model Parameters

| | |
|---|---|
| 120025 - Block 13 | 2021 PHF Flow Profile (veh) |
| 2021 Total - AM peak | 7.5 min Time Slice |
| Rodel-Win1 | Queuing Delays (sec) |
| Right Hand Drive | Daylight conditions |
| AM Peak Hour | Peak 60/15 min Results |
| AVERAGE DELAY to Geometry | Output flows: Vehicles |
| Metric Units (m) | 85% Confidence Level |

### Available Data

| | |
|---|---|
| Entry Capacity Calibrated | No |
| Entry Capacity Modified | No |
| Crosswalks | No |
| Flows Factored | No |
| Approach/Exit Road Capacity Calibrated | No |
| Accidents | No |
| Accident Costs | No |
| Bypass Model | No |
| Bypass Calibration | No |
| Global Results | Yes |

# Operational Data

## Main Geometry (m)

### Geometry and Design Target

| Leg | Leg Names | Approach Geometry (m) | | | | Target | Circulating and Exit Geom | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Bearing (deg) | Grade Sep G | Half Width V | Lanes n | Average Delay (sec/veh) | Inscribed Diameter D | Half Width Vx | Lanes n |
| 1 | Citigate | 0 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 2 | Crosskeys (future) | 90 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 3 | Citigate (future) | 180 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 4 | Crosskeys | 270 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |

### Capacity Modifiers and Capacity Calibration (veh/hr)

| Leg | Leg Names | Entry Capacity | | Entry Calibration | | Approach Road | | | Exit Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Capacity + or - | XWalk Factor | Intercept + or - | Slope Factor | V (m) | Default Capacity | Calib Capacity | V (m) | Default Capacity | Calib Capacity |
| 1 | Citigate | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 2 | Crosskeys (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 3 | Citigate (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 4 | Crosskeys | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |

## Traffic Flow Data (veh/hr)

### 2021 AM Peak Peak Hour Flows

| Leg | Leg Names | Turning Flows | | | | | Flow Modifiers | | |
|---|---|---|---|---|---|---|---|---|---|
| | | U-Turn | Exit-3 | Exit-2 | Exit-1 | Bypass | Trucks % | Flow Factor | Peak Hour Factor |
| 1 | Citigate | 0 | 15 | 47 | 94 | 0 | 5.0 | 1.00 | 1.000 |
| 2 | Crosskeys (future) | 0 | 117 | 29 | 0 | 0 | 5.0 | 1.00 | 1.000 |
| 3 | Citigate (future) | 0 | 0 | 55 | 12 | 0 | 5.0 | 1.00 | 1.000 |
| 4 | Crosskeys | 3 | 17 | 47 | 17 | 0 | 5.0 | 1.00 | 1.000 |

# Operational Results

## Geometry for Target Input

### Geometry Options for 2021 AM Peak

| Leg 1 - Citigate | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2021 AM Peak

| Leg 2 - Crosskeys (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2021 AM Peak

| Leg 3 - Citigate (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 1 | 5.50 | 0.00 |

### Geometry Options for 2021 AM Peak

| Leg 4 - Crosskeys | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

## 2021 AM Peak - 60 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | Citigate | None | 156 | | 67 | | 189 | 1283 | | 0.1216 | |
| 2 | Crosskeys (future) | None | 146 | | 82 | | 141 | 1274 | | 0.1146 | |
| 3 | Citigate (future) | None | 67 | | 164 | | 64 | 1225 | | 0.0547 | |
| 4 | Crosskeys | None | 84 | | 172 | | 59 | 1220 | | 0.0689 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | Citigate | None | 3.02 | | 3.02 | 0.35 | | A | | A |
| 2 | Crosskeys (future) | None | 3.02 | | 3.02 | 0.32 | | A | | A |
| 3 | Citigate (future) | None | 2.95 | | 2.95 | 0.15 | | A | | A |
| 4 | Crosskeys | None | 3.00 | | 3.00 | 0.19 | | A | | A |

## 2021 AM Peak - 15 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | Citigate | None | 156 | | 67 | | 189 | 1283 | | 0.1216 | |
| 2 | Crosskeys (future) | None | 146 | | 82 | | 141 | 1274 | | 0.1146 | |
| 3 | Citigate (future) | None | 67 | | 164 | | 64 | 1225 | | 0.0547 | |
| 4 | Crosskeys | None | 84 | | 172 | | 59 | 1220 | | 0.0689 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | Citigate | None | 3.02 | | 3.02 | 0.35 | | A | | A |
| 2 | Crosskeys (future) | None | 3.02 | | 3.02 | 0.32 | | A | | A |
| 3 | Citigate (future) | None | 2.95 | | 2.95 | 0.15 | | A | | A |
| 4 | Crosskeys | None | 3.01 | | 3.01 | 0.19 | | A | | A |

# Scheme Summary

## Control Data

### Control Data and Model Parameters

| | |
|---|---|
| 122025 - Block 13 | 2021 PHF Flow Profile (veh) |
| 2021 Total - PM peak | 7.5 min Time Slice |
| Rodel-Win1 | Queuing Delays (sec) |
| Right Hand Drive | Daylight conditions |
| PM Peak Hour | Peak 60/15 min Results |
| AVERAGE DELAY to Geometry | Output flows: Vehicles |
| Metric Units (m) | 85% Confidence Level |

### Available Data

| | |
|---|---|
| Entry Capacity Calibrated | No |
| Entry Capacity Modified | No |
| Crosswalks | No |
| Flows Factored | No |
| Approach/Exit Road Capacity Calibrated | No |
| Accidents | No |
| Accident Costs | No |
| Bypass Model | No |
| Bypass Calibration | No |
| Global Results | Yes |

# Operational Data

## Main Geometry (m)

### Geometry and Design Target

| Leg | Leg Names | Approach Geometry (m) | | | | Target | Circulating and Exit Geom | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Bearing (deg) | Grade Sep G | Half Width V | Lanes n | Average Delay (sec/veh) | Inscribed Diameter D | Half Width Vx | Lanes n |
| 1 | N - Citigate | 0 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 2 | W - Crosskeys (future) | 90 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 3 | S - Citigate (future) | 180 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 4 | E - Crosskeys | 270 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |

### Capacity Modifiers and Capacity Calibration (veh/hr)

| Leg | Leg Names | Entry Capacity | | Entry Calibration | | Approach Road | | | Exit Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Capacity + or - | XWalk Factor | Intercept + or - | Slope Factor | V (m) | Default Capacity | Calib Capacity | V (m) | Default Capacity | Calib Capacity |
| 1 | N - Citigate | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 2 | W - Crosskeys (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 3 | S - Citigate (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 4 | E - Crosskeys | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |

## Traffic Flow Data (veh/hr)

### 2021 PM Peak Peak Hour Flows

| Leg | Leg Names | Turning Flows | | | | | Flow Modifiers | | |
|---|---|---|---|---|---|---|---|---|---|
| | | U-Turn | Exit-3 | Exit-2 | Exit-1 | Bypass | Trucks % | Flow Factor | Peak Hour Factor |
| 1 | N - Citigate | 0 | 59 | 62 | 124 | 0 | 5.0 | 1.00 | 1.000 |
| 2 | W - Crosskeys (future) | 0 | 150 | 33 | 0 | 0 | 5.0 | 1.00 | 1.000 |
| 3 | S - Citigate (future) | 0 | 0 | 70 | 15 | 0 | 5.0 | 1.00 | 1.000 |
| 4 | E - Crosskeys | 21 | 23 | 57 | 7 | 0 | 5.0 | 1.00 | 1.000 |

# Operational Results

## Geometry for Target Input

### Geometry Options for 2021 PM Peak

| Leg 1 - N - Citigate | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2021 PM Peak

| Leg 2 - W - Crosskeys (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2021 PM Peak

| Leg 3 - S - Citigate (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 1 | 5.50 | 0.00 |

### Geometry Options for 2021 PM Peak

| Leg 4 - E - Crosskeys | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

## 2021 PM Peak - 60 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | N - Citigate | None | 245 | | 101 | | 227 | 1263 | | 0.1940 | |
| 2 | W - Crosskeys (future) | None | 183 | | 165 | | 181 | 1224 | | 0.1495 | |
| 3 | S - Citigate (future) | None | 85 | | 263 | | 85 | 1165 | | 0.0730 | |
| 4 | E - Crosskeys | None | 108 | | 220 | | 128 | 1191 | | 0.0907 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | N - Citigate | None | 3.32 | | 3.32 | 0.60 | | A | | A |
| 2 | W - Crosskeys (future) | None | 3.26 | | 3.26 | 0.44 | | A | | A |
| 3 | S - Citigate (future) | None | 3.16 | | 3.16 | 0.20 | | A | | A |
| 4 | E - Crosskeys | None | 3.15 | | 3.15 | 0.25 | | A | | A |

## 2021 PM Peak - 15 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | N - Citigate | None | 245 | | 101 | | 227 | 1263 | | 0.1940 | |
| 2 | W - Crosskeys (future) | None | 183 | | 165 | | 181 | 1224 | | 0.1495 | |
| 3 | S - Citigate (future) | None | 85 | | 263 | | 85 | 1165 | | 0.0730 | |
| 4 | E - Crosskeys | None | 108 | | 220 | | 128 | 1191 | | 0.0907 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | N - Citigate | None | 3.33 | | 3.33 | 0.60 | | A | | A |
| 2 | W - Crosskeys (future) | None | 3.26 | | 3.26 | 0.44 | | A | | A |
| 3 | S - Citigate (future) | None | 3.16 | | 3.16 | 0.20 | | A | | A |
| 4 | E - Crosskeys | None | 3.15 | | 3.15 | 0.25 | | A | | A |

# Scheme Summary

## Control Data

### Control Data and Model Parameters

| | |
|---|---|
| 120025 - Block 13 | 2026 PHF Flow Profile (veh) |
| 2026 Total - AM peak | 7.5 min Time Slice |
| Rodel-Win1 | Queuing Delays (sec) |
| Right Hand Drive | Daylight conditions |
| AM Peak Hour | Peak 60/15 min Results |
| AVERAGE DELAY to Geometry | Output flows: Vehicles |
| Metric Units (m) | 85% Confidence Level |

### Available Data

| | |
|---|---|
| Entry Capacity Calibrated | No |
| Entry Capacity Modified | No |
| Crosswalks | No |
| Flows Factored | No |
| Approach/Exit Road Capacity Calibrated | No |
| Accidents | No |
| Accident Costs | No |
| Bypass Model | No |
| Bypass Calibration | No |
| Global Results | Yes |

# Operational Data

## Main Geometry (m)

### Geometry and Design Target

| Leg | Leg Names | Approach Geometry (m) | | | | Target | Circulating and Exit Geom | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Bearing (deg) | Grade Sep G | Half Width V | Lanes n | Average Delay (sec/veh) | Inscribed Diameter D | Half Width Vx | Lanes n |
| 1 | Citigate | 0 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 2 | Crosskeys (future) | 90 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 3 | Citigate (future) | 180 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 4 | Crosskeys | 270 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |

### Capacity Modifiers and Capacity Calibration (veh/hr)

| Leg | Leg Names | Entry Capacity | | Entry Calibration | | Approach Road | | | Exit Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Capacity + or - | XWalk Factor | Intercept + or - | Slope Factor | V (m) | Default Capacity | Calib Capacity | V (m) | Default Capacity | Calib Capacity |
| 1 | Citigate | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 2 | Crosskeys (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 3 | Citigate (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 4 | Crosskeys | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |

## Traffic Flow Data (veh/hr)

### 2026 AM Peak Peak Hour Flows

| Leg | Leg Names | Turning Flows | | | | | Flow Modifiers | | |
|---|---|---|---|---|---|---|---|---|---|
| | | U-Turn | Exit-3 | Exit-2 | Exit-1 | Bypass | Trucks % | Flow Factor | Peak Hour Factor |
| 1 | Citigate | 0 | 17 | 47 | 94 | 0 | 5.0 | 1.00 | 1.000 |
| 2 | Crosskeys (future) | 0 | 117 | 29 | 0 | 0 | 5.0 | 1.00 | 1.000 |
| 3 | Citigate (future) | 0 | 0 | 55 | 12 | 0 | 5.0 | 1.00 | 1.000 |
| 4 | Crosskeys | 3 | 17 | 47 | 19 | 0 | 5.0 | 1.00 | 1.000 |

# Operational Results

## Geometry for Target Input

### Geometry Options for 2026 AM Peak

| Leg 1 - Citigate | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2026 AM Peak

| Leg 2 - Crosskeys (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2026 AM Peak

| Leg 3 - Citigate (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 1 | 5.50 | 0.00 |

### Geometry Options for 2026 AM Peak

| Leg 4 - Crosskeys | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

## 2026 AM Peak - 60 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | Citigate | None | 158 | | 67 | | 191 | 1283 | | 0.1231 | |
| 2 | Crosskeys (future) | None | 146 | | 84 | | 141 | 1273 | | 0.1147 | |
| 3 | Citigate (future) | None | 67 | | 166 | | 64 | 1223 | | 0.0548 | |
| 4 | Crosskeys | None | 86 | | 172 | | 61 | 1220 | | 0.0705 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | Citigate | None | 3.02 | | 3.02 | 0.35 | | A | | A |
| 2 | Crosskeys (future) | None | 3.02 | | 3.02 | 0.32 | | A | | A |
| 3 | Citigate (future) | None | 2.95 | | 2.95 | 0.15 | | A | | A |
| 4 | Crosskeys | None | 3.01 | | 3.01 | 0.19 | | A | | A |

## 2026 AM Peak - 15 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | Citigate | None | 158 | | 67 | | 191 | 1283 | | 0.1231 | |
| 2 | Crosskeys (future) | None | 146 | | 84 | | 141 | 1273 | | 0.1147 | |
| 3 | Citigate (future) | None | 67 | | 166 | | 64 | 1223 | | 0.0548 | |
| 4 | Crosskeys | None | 86 | | 172 | | 61 | 1220 | | 0.0705 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | Citigate | None | 3.02 | | 3.02 | 0.35 | | A | | A |
| 2 | Crosskeys (future) | None | 3.02 | | 3.02 | 0.32 | | A | | A |
| 3 | Citigate (future) | None | 2.95 | | 2.95 | 0.15 | | A | | A |
| 4 | Crosskeys | None | 3.01 | | 3.01 | 0.19 | | A | | A |

# Scheme Summary

## Control Data

### Control Data and Model Parameters

| | |
|---|---|
| 122025 - Block 13 | 2026 PHF Flow Profile (veh) |
| 2026 Total - PM peak | 7.5 min Time Slice |
| Rodel-Win1 | Queuing Delays (sec) |
| Right Hand Drive | Daylight conditions |
| PM Peak Hour | Peak 60/15 min Results |
| AVERAGE DELAY to Geometry | Output flows: Vehicles |
| Metric Units (m) | 85% Confidence Level |

### Available Data

| | |
|---|---|
| Entry Capacity Calibrated | No |
| Entry Capacity Modified | No |
| Crosswalks | No |
| Flows Factored | No |
| Approach/Exit Road Capacity Calibrated | No |
| Accidents | No |
| Accident Costs | No |
| Bypass Model | No |
| Bypass Calibration | No |
| Global Results | Yes |

# Operational Data

## Main Geometry (m)

### Geometry and Design Target

| Leg | Leg Names | Approach Geometry (m) | | | | Target | Circulating and Exit Geom | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Bearing (deg) | Grade Sep G | Half Width V | Lanes n | Average Delay (sec/veh) | Inscribed Diameter D | Half Width Vx | Lanes n |
| 1 | N - Citigate | 0 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 2 | W - Crosskeys (future) | 90 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 3 | S - Citigate (future) | 180 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |
| 4 | E - Crosskeys | 270 | 0 | 5.50 | 1 | 15 | 40.00 | 5.50 | 1 |

### Capacity Modifiers and Capacity Calibration (veh/hr)

| Leg | Leg Names | Entry Capacity | | Entry Calibration | | Approach Road | | | Exit Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Capacity + or - | XWalk Factor | Intercept + or - | Slope Factor | V (m) | Default Capacity | Calib Capacity | V (m) | Default Capacity | Calib Capacity |
| 1 | N - Citigate | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 2 | W - Crosskeys (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 3 | S - Citigate (future) | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |
| 4 | E - Crosskeys | 0 | 1.000 | 0 | 1.000 | 6.00 | 2695 | 0 | 5.50 | 2695 | 0 |

## Traffic Flow Data (veh/hr)

### 2026 PM Peak Peak Hour Flows

| Leg | Leg Names | Turning Flows | | | | | Flow Modifiers | | |
|---|---|---|---|---|---|---|---|---|---|
| | | U-Turn | Exit-3 | Exit-2 | Exit-1 | Bypass | Trucks % | Flow Factor | Peak Hour Factor |
| 1 | N - Citigate | 0 | 65 | 62 | 124 | 0 | 5.0 | 1.00 | 1.000 |
| 2 | W - Crosskeys (future) | 0 | 150 | 33 | 0 | 0 | 5.0 | 1.00 | 1.000 |
| 3 | S - Citigate (future) | 0 | 0 | 70 | 15 | 0 | 5.0 | 1.00 | 1.000 |
| 4 | E - Crosskeys | 21 | 23 | 57 | 8 | 0 | 5.0 | 1.00 | 1.000 |

# Operational Results

## Geometry for Target Input

### Geometry Options for 2026 PM Peak

| Leg 1 - N - Citigate | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2026 PM Peak

| Leg 2 - W - Crosskeys (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

### Geometry Options for 2026 PM Peak

| Leg 3 - S - Citigate (future) | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 1 | 5.50 | 0.00 |

### Geometry Options for 2026 PM Peak

| Leg 4 - E - Crosskeys | | | | | |
|---|---|---|---|---|---|
| nv | ne | nc | nx | E (m) | L' (m) |
| 1 | 1 | 3 | 2 | 5.50 | 0.00 |

## 2026 PM Peak - 60 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | N - Citigate | None | 251 | | 101 | | 228 | 1263 | | 0.1988 | |
| 2 | W - Crosskeys (future) | None | 183 | | 171 | | 181 | 1220 | | 0.1500 | |
| 3 | S - Citigate (future) | None | 85 | | 269 | | 85 | 1161 | | 0.0732 | |
| 4 | E - Crosskeys | None | 109 | | 220 | | 134 | 1191 | | 0.0915 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | N - Citigate | None | 3.34 | | 3.34 | 0.61 | | A | | A |
| 2 | W - Crosskeys (future) | None | 3.27 | | 3.27 | 0.44 | | A | | A |
| 3 | S - Citigate (future) | None | 3.17 | | 3.17 | 0.20 | | A | | A |
| 4 | E - Crosskeys | None | 3.15 | | 3.15 | 0.25 | | A | | A |

## 2026 PM Peak - 15 minutes

### Flows and Capacity

| Leg | Leg Names | Bypass Type | Flows (veh/hr) | | | | | Capacity (veh/hr) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Arrival Flow | | Opposing Flow | | Exit Flow | Capacity | | Average VCR | |
| | | | Entry | Bypass | Entry | Bypass | | Entry | Bypass | Entry | Bypass |
| 1 | N - Citigate | None | 251 | | 101 | | 228 | 1263 | | 0.1988 | |
| 2 | W - Crosskeys (future) | None | 183 | | 171 | | 181 | 1220 | | 0.1500 | |
| 3 | S - Citigate (future) | None | 85 | | 269 | | 85 | 1161 | | 0.0732 | |
| 4 | E - Crosskeys | None | 109 | | 220 | | 134 | 1191 | | 0.0915 | |

### Delays, Queues and Level of Service

| Leg | Leg Names | Bypass Type | Average Delay (sec) | | | 95% Queue (veh) | | Level of Service | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Entry | Bypass | Leg | Entry | Bypass | Entry | Bypass | Leg |
| 1 | N - Citigate | None | 3.35 | | 3.35 | 0.61 | | A | | A |
| 2 | W - Crosskeys (future) | None | 3.27 | | 3.27 | 0.44 | | A | | A |
| 3 | S - Citigate (future) | None | 3.17 | | 3.17 | 0.20 | | A | | A |
| 4 | E - Crosskeys | None | 3.15 | | 3.15 | 0.25 | | A | | A |