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4175 Strandherd Drive

Transportation Impact Assessment

Proposed Commercial Development

4175 Strandherd Drive

Transportation Impact Assessment

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
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K2M 1P6

Dated: February 2026

Novatech File: 125050
Ref: R-2025-099

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Engineers, Planners & Landscape Architects

February 2, 2026

City of Ottawa
Planning, Development, and Building Services Department
110 Laurier Ave. W., 4th Floor
Ottawa, Ontario K1P 1J1

Attention: **Ms. Josiane Gervais**
Transportation Project Manager, Infrastructure Approvals

Dear Ms. Gervais:

Reference: **4175 Strandherd Drive**
Transportation Impact Assessment
Novatech File No. 125050

We are pleased to submit the following Transportation Impact Assessment (TIA), in support of a Site Plan application at 4175 Strandherd Drive, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2023).

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

Yours truly,

NOVATECH

Trevor Van Wiechen, P.Eng.
Project Engineer | Transportation

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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 2 day of February, 2026 .

Name: Brad Byvelds
(Please Print)

Professional Title: P. Eng. - Senior Project Manager

B. Byvelds

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

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EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan application for the commercial development at 4175 Strandherd Drive. The subject site is currently vacant.

The subject site is located in the southwest corner of the Strandherd Drive/Systemhouse Street/Maravista Drive intersection and is surrounded by the following:

- Systemhouse Street followed by commercial developments to the north,
- Strandherd Drive followed by residential developments to the east,
- Commercial developments and Dealership Drive to the south, and
- Undeveloped lands followed by Highway 416 to the west.

For the purposes of this application, the proposed development includes 125,000ft² gross floor area of commercial retail. The previous TIA report completed for the Zoning By-law Amendment application included a concept plan with 30,000ft² of automobile dealership and 90,000ft² gross floor area of commercial retail. The proposed development is anticipated to be completed in one phase, with a full buildout occurring in 2026.

As shown in the previous zoning report, restricting access to the site along Strandherd Drive to right-in right-out operations is anticipated to result in congestion and safety issues along Systemhouse Street. A new signalized intersection on Strandherd Drive will improve operations along Systemhouse Street to an acceptable LOS. Based on the conclusions of the zoning report, the development proposes one stop control access to Systemhouse Street opposite the Trinity Commons access, and right-in right-out and signalized accesses to Strandherd Drive.

The Subject Property is designated Mixed Industrial within the Suburban (Southwest) Transect of the City of Ottawa Official Plan. The property is zoned Business Park Industrial Zone (IP[2298] H(18)) in the City of Ottawa Zoning By-law 2008-250.

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

Forecasting

- The proposed development is anticipated to generate 564 trips (339 vehicle trips) in the AM peak, 1,380 trips (828 vehicle trips) in the PM peak, and 1,482 trips (889 vehicle trips) during the Saturday peak hour.

Access Design

- The development is expected to meet all PABL requirements.

- The development is expected to be able to meet all TAC Geometric Design Guide standards.

Existing and Background Intersection Operations

- Under existing and background traffic conditions, critical northbound through movements at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection are anticipated to operate with a LOS F during the AM and PM peak hour.

- Under existing and background traffic conditions, the critical southbound through movement at the Strandherd Drive/Systemhouse Street/Maravista Drive intersection are anticipated to operate with a LOS F during the PM and Saturday peak hour.

Development Design

- Sidewalks will be provided throughout the development to encourage internal pedestrian circulation between the various retail blocks.

- Bicycle parking will be provided throughout the site and near the various building entrances.

- The following 'basic' and 'better' design measures from the City's TDM Infrastructure Checklist will be implemented for the proposed redevelopment:

    - Some building will be located near the street and have no parking areas between the street and building entrances; and
    - Building doors and windows will ensure visibility of pedestrians from the building.

- No pedestrian/cyclist crossing is proposed across the O'Keefe drainage corridor. This is due to the desire to not mix pedestrian/cyclist and truck traffic accessing loading bays along the western frontage of the site, and the lack of a strong desire line for pedestrians and cyclists not already served within the study area. The majority of pedestrians and cyclists entering the site from the residential areas to the north and east are expected to travel along Strandherd Drive. Pedestrians and cyclists trips coming from the various auto dealerships and commercial businesses to the south will have the option of using the existing O'Keefe drain pathway, Strandherd Drive, or the future Citigate Drive extension.

- Consideration should be given by the City to improving the uncontrolled pedestrian crossing at the O'Keefe Drain to provide improved pedestrian permeability along Systemhouse Street. Based on the Pedestrian Crossover Selection Matrix in Ontario Traffic Manual (OTM) Book 15, a PXO C is recommended at the O'Keefe Drain crossing based on the anticipated traffic volumes, a speed limit of 50km/hr, and a crossing width equivalent to three lanes crossed.

- Garbage and loading area bays are available at the majority of the proposed buildings.

- The fire route will be provided throughout the subject site and a firetruck will be able to access all building accesses without needing to reverse.

Parking

- The development is anticipated to require roughly 415 parking spaces and will provide 498.

- The development is anticipated to require roughly 23 bike parking spaces and will provide 30.

- For parking lots with 451-500 parking spaces the City's Traffic and Parking By-law requires six Type A and six Type B accessible parking spaces. The development provides 24 accessible parking spaces meeting this requirement.

Boundary Streets MMLOS

- Neither side of Strandherd Drive meets the target PLOS C due to high traffic volumes and vehicle speeds.

- Systemhouse Street does not meet the target BLOS E. Based on the City's MMLOS Guidelines, on Systemhouse Street a BLOS E can be achieved by either reducing the posted speed to 40km/h or painting 1.2m wide bike lanes. This is identified for the City's consideration.

- Strandherd Drive and Systemhouse Street meet the target truck level of service (TkLOS).

Transit

- Based on a comparison of the results of the synchro analysis of the background and total traffic conditions of the above movements, the site traffic does not have a significant impact to delays of movements that have transit routes.

Intersection MMLOS

- All study area intersections do not meet the target PLOS. There is limited opportunity to improve the PLOS without reducing the number of lanes crossed at each intersection.

- Two-stage left turning cycling facilities for the side street cycling facilities is required to meet the target BLOS for the Strandherd Drive/Citigate Drive/Fallowfield Road, Strandherd Drive/CrossKeys Place/Hélène-Campbell Road, and Strandherd Drive/Systemhouse Street/Maravista Drive intersections. This is identified for the City's consideration.

- All study area intersections do not meet the target TkLOS. As the side streets do not form part of the City's Truck Route network, no mitigation measures are identified.

2025 Total Traffic Operations

- Compared to the 2025 background traffic conditions, site-generated traffic is anticipated to deteriorate the LOS for select movements at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection. The northbound through movement deteriorated to a 1.47 v/c ratio from a 1.15 v/c ratio in the PM peak hour. The northbound through movement deteriorated to a LOS E from a LOS C in the Saturday peak hour. The site traffic does not have a significant impact on traffic operations during the AM peak hour.

- Compared to the 2025 background traffic conditions, site-generated traffic is anticipated to deteriorate the LOS at select movements at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection. The southbound through movement deteriorated to a LOS F from a LOS E in the PM peak hour. The southbound through movement deteriorated to a 1.20 v/c ratio from a 1.09 v/c ratio in the Saturday peak hour. Queues within the northbound left turn movement exceed available storage capacity during the PM and Saturday peak hours. The site traffic does not have a significant impact on traffic operations during the AM peak hour.

2030 Total Traffic Operations

- Compared to the 2030 background traffic conditions, site-generated traffic is anticipated to increase critical v/c ratios at the Strandherd Drive/Citigate Drive/Fallowfield Road and Strandherd Drive/Systemhouse Street/Maravista Drive intersections during peak hours. In addition to the previously failing movements, the northbound through movement at the

Strandherd Drive/Citigate Drive/Fallowfield Road intersection deteriorates to a LOS F from a LOS D during the Saturday peak.

- Congestion concerns along Strandherd Drive are attributable to background traffic volumes. For the purposes of this report, background traffic projections conservatively include a 1% growth rate along Strandherd Drive, as well as several other area developments. Based on the analysis above, a reduction of approximately 670 northbound vehicles during the AM peak hour, 480 northbound and 430 southbound vehicles during the PM peak hour and 50 northbound and 280 southbound vehicles are required during the Saturday peak hour to eliminate all capacity and queueing issues through the previously identified intersections.

- As Strandherd Drive approaches capacity, traffic can be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate time to travel for drivers to make use of off-peak capacity, and alternate routes of travel. This can be achieved through City and Province investment into the below roadway and transit infrastructure projects within the Barrhaven/South Nepean area:

    - O-Train Line 1 Extension from Algonquin Station to Barrhaven Town Centre Station
    - South Transitway from Longfields Drive to Greenbank Road
    - Southwest Transitway from Barrhaven Centre Station to Kilbirnie Station
    - Greenbank Road Realignment from Marketplace Avenue to Barnsdale Road
    - Highway 416 Interchange at Barnsdale Road

- It is realistic to assume that with the implementation of new or improved transportation infrastructure to the Barrhaven/Nepean South area, the necessary reductions in background traffic along Strandherd Drive, necessary to reach LOS targets, can be achieved.

- A signalization warrant has been completed based on volumes from the 2030 Total Traffic Scenario. Based on projected volumes of the future intersection the signal is 166% justified based on Justification 2 – Delay to Cross Traffic. Based on the July 2024 Ontario Traffic Manual Book 12, as the signal is 166% justified it falls into the Case 2 category and a signal might be warranted. Regardless of signalization warrants, all movement access to Strandherd Drive is recommended to be signalized at the time of development due to operational and safety concerns.

- The proposed intersection has been designed in accordance with the City's PIDG. The storage requirements for auxiliary lanes at the new intersection have been developed based on the worst case 95th percentile queue length presented in the Synchro analysis and relevant TAC equations.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan application for the commercial development at 4175 Strandherd Drive. The subject site is currently vacant.

The subject site is located in the southwest corner of the Strandherd Drive/Systemhouse Street/Maravista Drive intersection and is surrounded by the following:

- Systemhouse Street followed by commercial developments to the north,
- Strandherd Drive followed by residential developments to the east,
- Commercial developments and Dealership Drive to the south, and
- Undeveloped lands followed by Highway 416 to the west.

An aerial of the vicinity around the subject site is provided in **Figure 1**.

1.2 Proposed Development

For the purposes of this application, the proposed development includes 125,000ft² gross floor area of commercial retail. The previous TIA report completed for the Zoning By-law Amendment application included a concept plan with 30,000ft² of automobile dealership and 90,000ft² gross floor area of commercial retail. The proposed development is anticipated to be completed in one phase, with a full buildout occurring in 2026.

As shown in the previous zoning report, restricting access to the site along Strandherd Drive to right-in right-out operations is anticipated to result in congestion and safety issues along Systemhouse Street. A new signalized intersection on Strandherd Drive will improve operations along Systemhouse Street to an acceptable LOS. Based on the conclusions of the zoning report, the development proposes one stop control access to Systemhouse Street opposite the Trinity Commons access, and right-in right-out and signalized accesses to Strandherd Drive. Excerpts from the previous zoning report are included in **Appendix A**.

The Subject Property is designated Mixed Industrial within the Suburban (Southwest) Transect of the City of Ottawa Official Plan. The property is zoned Business Park Industrial Zone (IP[2298] H(18)) in the City of Ottawa Zoning By-law 2008-250.

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

1.3 Screening Form

The City's *2023 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, which is included in **Appendix C**. The trigger results are as follows:

Figure 1: View of the Subject Site



- Trip Generation Trigger – The development is expected to generate a net additional 60 peak hour person trips; further assessment is **required** based on this trigger.
- Location Triggers – The development is not located within a design priority area; further assessment is **not required** based on this trigger.
- Safety Triggers – It is assumed that the development will propose access within 150m of a traffic signal and propose an access within the auxiliary lane of an intersection; further assessment is **required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

Strandherd Drive was recently reconstructed between Systemhouse Street and Jockvale Road. Pavement Marking and Signage drawings for the recent reconstruction are included in **Appendix D**. The following summary of existing conditions is reflective of the recent reconstruction of Strandherd Drive.

2.1.1 Roadways

All roadways within the study area fall under the jurisdiction of the City of Ottawa.

Strandherd Drive is an arterial roadway that generally runs in an east-west direction between Fallowfield Road and River Road. Within the study area it runs north-south with a four-lane divided urban cross section with a posted speed limit of 70km/hr. Sidewalks and cycle tracks are provided on both sides of the roadway. Strandherd Drive is classified as a truck route allowing full loads. For the purposes of this report, Strandherd Drive is considered a north-south roadway. Schedule C16 of the City of Ottawa's Official Plan identifies a right-of-way protection requirement of 44.5m along Strandherd Drive between Fallowfield Road and Greenbank Road.

Systemhouse Street is a collector roadway that runs in an east-west direction between Citigate Drive and Strandherd Drive. West of Strandherd Drive, Systemhouse Street has a five-lane cross-section divided by a median with sidewalks on both sides of the road. The road transitions to a two-lane undivided urban cross section with a sidewalk on the south side and Multi-Use Pathway (MUP) on the north side west of the private commercial entrance (Costco). Systemhouse Street has an unposted regulatory speed limit of 50km/h.

Maravista Drive is a collector roadway that runs in an east-west direction between Strandherd Drive and Cedarview Road. It has a two-lane undivided urban cross-section with sidewalks on both sides of the road and a posted speed limit of 40km/h.

Dealership Drive is a collector roadway that runs in an east-west direction between Citigate Drive and Strandherd Drive. It has a two-lane undivided urban cross-section with sidewalks on both sides of the road and an unposted regulatory speed limit of 50km/h.

Kennevale Drive is a collector roadway that runs in an east-west direction between Strandherd Drive and Cedarview Road. It has a two-lane undivided urban cross-section with sidewalks on both sides of the road and a posted speed limit of 40km/h.

Fallowfield Road is an arterial roadway that generally runs in an east-west direction between Highway 416 and Cedarview Road. Within the study area it has a three-lane undivided urban cross section with a posted speed limit of 60km/hr. Paved shoulders are provided on both sides of the roadway. Fallowfield Road is classified as a truck route allowing full loads. Schedule C16 of the City of Ottawa's Official Plan identifies a right-of-way protection requirement of 44.5m along Fallowfield Road between Strandherd Drive and Cedarview Road.

Citigate Drive is a major collector roadway that runs in a north-south direction between Systemhouse Street and Strandherd Drive. It has a two-lane undivided urban cross-section with a sidewalk on the west side and a bi-drectional multi-use pathway on the east side. Citigate Drive has an unposted regulatory speed limit of 50km/h.

Hélène-Campbell Road is a collector roadway that runs in an east-west direction between Strandherd Drive and Cedarview Road. It has a two-lane undivided urban cross-section with sidewalks on both sides of the road and a posted speed limit of 50km/h.

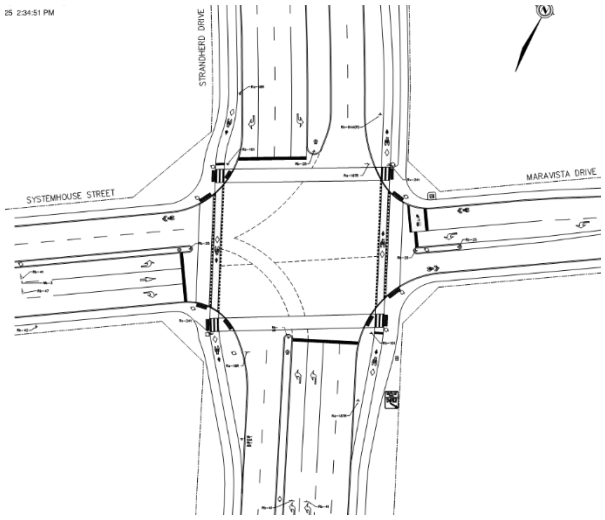
CrossKeys Place is a collector roadway that runs in an east-west direction between Strandherd Drive and Citigate Drive. It has a two-lane undivided urban cross-section with sidewalks on both sides of the road east of the commercial access (Citigate Street). The sidewalk on the south side

of the road transitions to a MUP west of the commercial access. It has an unposted regulatory speed limit of 50km/h.

2.1.2 Intersections

Strandherd Drive/Systemhouse Street/Maravista Drive

- Four-legged signalized intersection
- Northbound Approach (Strandherd Drive): two left turn lanes, one through lane and one shared through/right turn lane
- Southbound Approach (Strandherd Drive): one left turn lane, two through lanes, and one right turn lane
- Westbound Approach (Maravista Drive): one left turn lane and one shared through/right turn lane
- Eastbound Approach (Systemhouse Street): one left turn lane, one through lane, and one right turn lane
- Standard pedestrian crossings on all approaches
- Green thermoplastic bicycle crossrides on east and west approaches



Strandherd Drive/Dealership Drive/Kennevale Drive

- Four-legged signalized protected intersection
- Northbound Approach (Strandherd Drive): two left turn lanes, one through lane and one shared through/right turn lane
- Southbound Approach (Strandherd Drive): one left turn lane, two through lanes, and one right turn lane
- Westbound Approach (Kennevale Drive): one left turn lane and one shared through/right turn lane
- Eastbound Approach (Dealership Drive): one left turn lane, one through lane and one right turn lane
- Ladder pedestrian crossings and green thermoplastic bicycle crossrides are provided on all approaches



Strandherd Drive/Citigate Drive/Fallowfield Road

- Four-legged signalized intersection
- Northbound Approach (Strandherd Drive): one left turn lane, two through lanes, and one right turn lane
- Southbound Approach (Fallowfield Road West): two left turn lanes, two through lanes, and one right turn lane
- Westbound Approach (Fallowfield Road East): one left turn lane, one through lane and one channelized right turn lane with receiving lane
- Eastbound Approach (Citigate Drive): two left turn lanes and one shared through/right turn lane
- Standard pedestrian crossings on all approaches
- Green thermoplastic bicycle crossrides on east and west approaches



Strandherd Drive/CrossKeys Place/Hélène-Campbell Road

- Four-legged signalized intersection
- Northbound Approach (Strandherd Drive): two left turn lanes, two through lanes, and one right turn lane
- Southbound Approach (Strandherd Drive): one left turn lane, two through lanes, and one right turn lane
- Westbound Approach (Hélène-Campbell Road): one left turn lane, one through lane, one pocket bike lane, and one right turn lane
- Eastbound Approach (CrossKeys Place): one left turn lane, one through lane, one pocket bike lane, and one right turn lane
- Standard pedestrian crossings on all approaches
- Green thermoplastic bicycle crossrides on east and west approaches



Systemhouse Street/Citigate Drive

- Three-legged unsignalized intersection
- Stop control on east and west approaches
- Southbound Approach (Citigate Drive): one shared all-movement lane
- Westbound Approach (Systemhouse Street): one shared all-movement lane
- Eastbound Approach (Amazon Warehouse): one shared all-movement lane



2.1.3 Driveways

A review of adjacent driveways along the boundary roads are provided as follows:

Strandherd Drive, West Side:

- Two right-in right-out accesses are shared by two car dealerships at 4149 Strandherd Drive

Systemhouse Street, North Side:

- One all movement access to a commercial development (Costco) at 4225 and 4235 Strandherd Drive

Strandherd Drive, East Side:

- One right-out access to a commercial development at 155 Prem Circle and 200 Kennevale Drive

Systemhouse Street, South Side:

- None

2.1.4 Pedestrian and Cycling Facilities

Strandherd Drive is classified as a crosstown bikeway route and has cycle tracks on both sides of the road within the study area. The Strandherd Drive/Dealership Drive/Kennevale Drive intersection was recently reconstructed to be a protected intersection, while the Strandherd Drive/Systemhouse Street/Maravista Drive, Strandherd Drive/Cross Keys Place/Helene-Campbell Rd and Strandherd Drive/Fallowfield Road/Citigate Drive intersections have green thermoplastic crossrides and two-staged left turn bike boxes.

All roadways (excluding Fallowfield Road east and west of Strandherd Drive) have pedestrian facilities on both sides of the roadway. The sidewalk along the north side of Systemhouse Street transitions to a MUP mid-block between Strandherd Drive and Citigate Drive and continues on the east side of Citigate Drive. A north-south MUP is also provided along the creek corridor south of Systemhouse Street.

A map showing the pedestrian and cycling facilities is shown in **Figure 2**.

2.1.5 Transit

The closest OC Transpo bus stops in the vicinity of the subject site are described in **Table 1** and are shown in **Figure 3**. A summary of various routes which serve the study area is included in **Table 2**. Detailed route information is included in **Appendix E**.

Figure 2: Existing Pedestrian and Cycling Facilities



Table 1: OC Transpo Transit Stops

Stop	Location	Routes Serviced
#4714	South side of Systemhouse Street west of the Costco Access	70, 110, 173
#4715	North side of Systemhouse Street west of the Costco Access	70, 110, 173
#5373	Northwest corner of Maravista Drive/Cobble Hill Drive	675, 679, 696
#1788	Southeast corner of Maravista Drive/Cobble Hill Drive	70, 110, 173, 675, 679, 696
#1214	Southwest corner of Maravista Drive/Cobble Hill Drive	70, 110, 173
#1184	Northeast corner of Maravista Drive/Bamburgh Way	None at this time
#3394	Northwest corner of Kennevale Drive/Cobble Hill Drive	70, 110, 683
#1792	Northeast corner of Kennevale Drive/Cobble Hill Drive	70, 110, 173, 675, 679, 696
#3393	Southeast corner of Kennevale Drive/Cobble Hill Drive	173, 675, 679, 683, 696

Table 2: OC Transpo Route Information

Route	From ↔ To	Frequency
70	Limebank ↔ Fallowfield	15-minute headways, all-day service 7-days per week
110	Innovation ↔ Limebank	30-minute headways, all-day service 7-days per week,
173	Barrhaven Centre ↔ Citigate	30-minute headways, all-day service 7-days per week
675	Bell H.S./Franco-Ouest ↔ Cambrian	One-way school bus route
679	Cobble Hill ↔ St Joseph	One-way school bus route
683	Half Moon Bay ↔ Cedarview	One-way school bus route
696	Larkin ↔ St. Mother Teresa H.S.	One-way school bus route

Figure 3: OC Transpo Bus Stop Locations



2.1.6 Area Traffic Management

There are no Area Traffic Management (ATM) studies within the study area that have been completed or are currently in progress.

Pavement markings and centreline flex posts noting the maximum posted speed limit are provided on Maravista Drive and Kennevale Drive.

2.1.7 Existing Traffic Volumes

Weekday and weekend traffic counts were coordinated by Novatech to determine existing pedestrian, cyclist, and vehicular traffic volumes at the study area intersections. These counts were completed on the following dates:

- Strandherd Drive/Systemhouse Street/Maravista Drive — April 9, 2024; April 6, 2024 (Weekend)
- Strandherd Drive/Dealership Drive/Kennevale Drive — March 19, 2024; March 23, 2024 (Weekend)
- Strandherd Drive/Citigate Drive/Fallowfield Road — Sept. 17, 2024; Sept. 14, 2024 (Weekend)
- Strandherd Drive/CrossKeys Place/Hélène-Campbell Rd — Sept. 17, 2024; Sept. 14, 2024 (Weekend)
- Citigate Drive/Systemhouse Street — October 3, 2024; October 5, 2024 (Weekend)

All traffic count data is included in **Appendix F**. Traffic at the Systemhouse Street/Costco Access intersection has been estimated based on the intersection counts to the east and west. Weekday AM, PM and Saturday peak hour traffic volumes within the study area are shown in **Figure 4**.

2.1.8 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 and road segments between intersections. Copies of the collision summary reports are included in **Appendix G**.

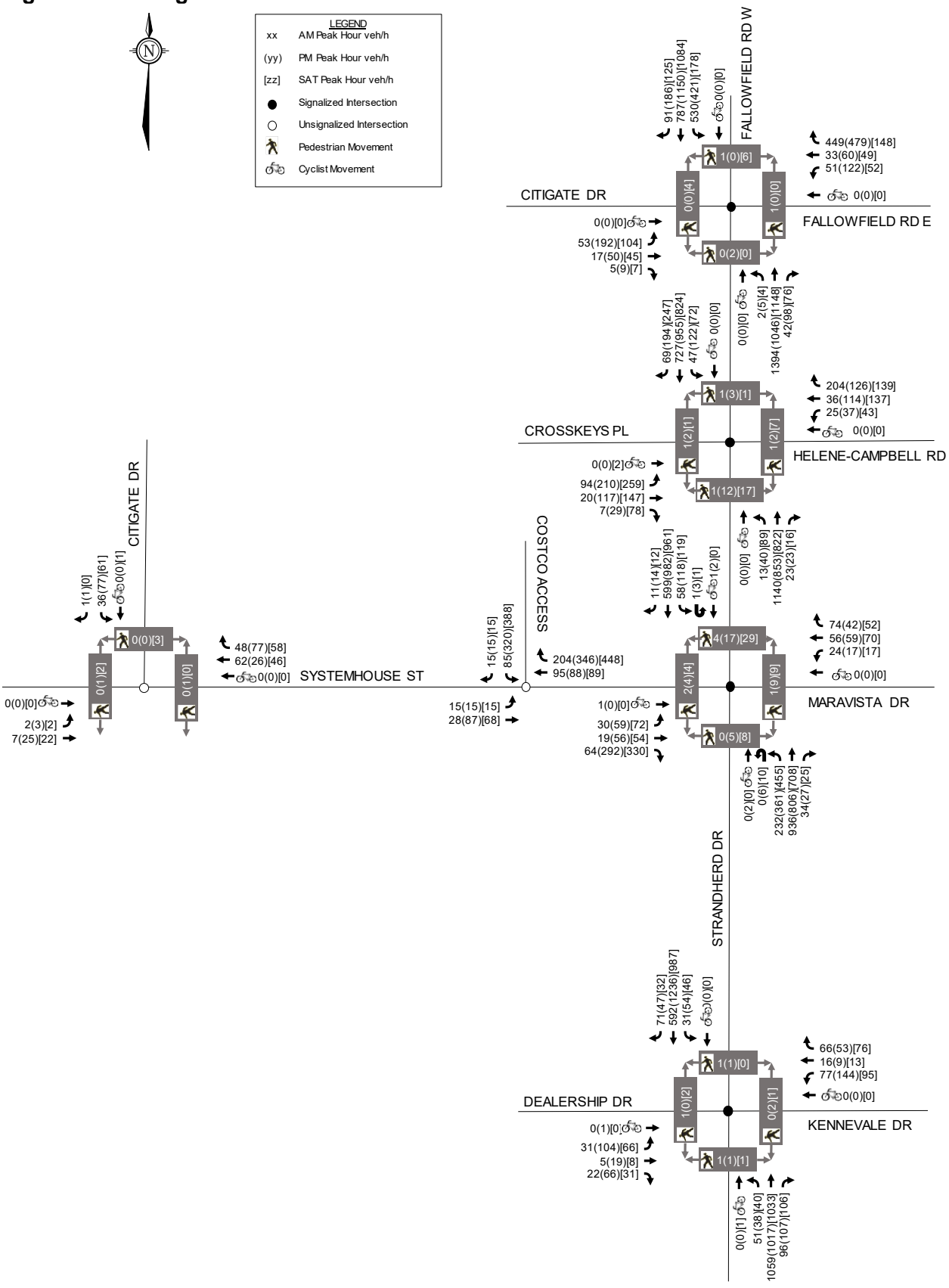
The collision data has been evaluated to determine if there are any identifiable collision patterns, defined in the *2017 TIA Guidelines* as 'more than six collisions in five years' for any one movement. The number of collisions at each intersection from January 1, 2017 to December 31, 2021 is summarized in **Table 3**.

Table 3: Reported Collisions

Location	Impact Types						Total
	Approach	Angle	Rear End	Sideswipe	Turning Mvmt	SMV[1]/ Other	
Strandherd Drive/Systemhouse Street/Maravista Drive	-	5	22	14	2	3	**46**
Strandherd Drive/Dealership Drive/Kennevale Drive	-	4	22	2	9	4	**41**
Strandherd Drive/Citigate Drive/Fallowfield Road	1	5	33	8	2	3	**52**
Strandherd Drive/CrossKeys Place/Hélène Campbell Drive	-	9	18	3	3	2	**35**
Strandherd Drive between Maravista Drive and Kennevale Drive	-	-	8	3	-	1	**12**
Systemhouse Street between Citigate Drive and Strandherd Drive	-	-	-	1	-	-	**1**

1. SMV = Single Motor Vehicle

Figure 4: Existing Traffic Volumes



Strandherd Drive/Systemhouse Street/Maravista Drive
A total of 46 collisions were reported at this intersection over the last five years, of which there were five angle impacts, 22 rear-end impacts, 14 sideswipe impacts, two turning movement impacts, and three single motor vehicle impacts. Six collisions resulted in injuries, but none caused fatalities. None of the collisions involved cyclists or pedestrians.

Of the 46 collisions at this location, one occurred during rain conditions, four of them occurred during snow conditions, and one occurred during freezing rain conditions, for all other collisions weather was not a factor. Additionally, of the 46 collisions, 32 of them occurred during daylight hours.

Of the 22 rear end collisions, six involved northbound vehicles, five involved southbound vehicles, nine involved eastbound vehicles, and two involved westbound vehicles. As the northbound and eastbound approaches have clear sight lines with no horizontal or vertical curves, the rear end collision pattern of these approaches is anticipated to be attributed to high traffic volumes and high speeds.

Of the 14 sideswipe collisions, one involved northbound vehicles, five involved southbound vehicles, four involved eastbound vehicles, and four involved westbound vehicles.

Calculations of the intersection collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.89/MEV. As the MEV collision rate is below 1.0, Strandherd Drive/Systemhouse Street/Maravista Drive does not experience an abnormally high rate of collisions.

Strandherd Drive/Dealership Drive/Kennevale Drive
A total of 41 collisions were reported at this intersection over the last five years, of which there were four angle impacts, 22 rear-end impacts, two sideswipe impacts, nine turning movement impacts, and four single motor vehicle impacts. Four collisions resulted in injuries, but none caused fatalities. None of the collisions involved cyclists or pedestrians. It is noteworthy that this intersection was under construction for periods of the data collection, which may have impacted the collision history at this location.

Of the 41 collisions at this location, three of them occurred during rain conditions and two of them occurred during snow conditions, for all other collisions weather was not a factor. Additionally, of the 41 collisions, 32 of them occurred during daylight hours.

Of the 22 rear end collisions, four involved northbound vehicles, seven involved southbound vehicles, two involved eastbound vehicles, and nine involved westbound vehicles. As the southbound and westbound approaches have clear sight lines with no horizontal or vertical curves, the rear end collision pattern on these approaches is anticipated to be attributed to high traffic volumes and high speeds.

Of the nine turning movement collisions, five involved southbound left turning vehicles, one involved a northbound right turning vehicle, one involved a northbound U-turning vehicle, and two involved eastbound left turning vehicles. It is worth noting that fully protected northbound and southbound left turn phasing was implemented in 2023 which may mitigate the northbound and southbound left turning collisions.

Calculations of the intersection collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.78/MEV. As the

MEV collision rate is below 1.0, Strandherd Drive/Dealership Drive/Kennevale Drive does not experience an abnormally high rate of collisions.

Strandherd Drive/Citigate Drive/Fallowfield Road
A total of 52 collisions were reported at this intersection over the last five years, of which there were one approaching impact, five angle impacts, 33 rear-end impacts, eight sideswipe impacts, two turning movement impacts, and three single motor vehicle impacts. Nine collisions resulted in injuries, but none caused fatalities. None of the collisions involved cyclists or pedestrians.

Of the 52 collisions at this location, three of them occurred during rain conditions and four of them occurred during snow conditions, for all other collisions weather was not a factor. Additionally, of the 52 collisions, 42 of them occurred during daylight hours.

Of the 33 rear end collisions, 14 involved southbound vehicles, six involved eastbound vehicles, and 13 involved westbound vehicles. As the southbound and westbound approaches have clear sight lines with no horizontal or vertical curves, the rear end collision pattern on these approaches is anticipated to be attributed to high traffic volumes and high speeds.

Of the 8 sideswipe collisions, four involved eastbound vehicles and four involved westbound vehicles.

Calculations of the intersection collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.75/MEV. As the MEV collision rate is below 1.0, Strandherd Drive/Citigate Drive/Fallowfield Road does not experience an abnormally high rate of collisions.

Strandherd Drive/CrossKeys Place/Hélène Campbell Drive
A total of 35 collisions were reported at this intersection over the last five years, of which there were nine angle impacts, 18 rear-end impacts, three sideswipe impacts, three turning movement impacts, and two single motor vehicle impacts. Three collisions resulted in injuries, but none caused fatalities. None of the collisions involved cyclists or pedestrians.

Of the 35 collisions at this location, three of them occurred during rain conditions and one occurred during snow conditions, for all other collisions weather was not a factor. Additionally, of the 35 collisions, 27 of them occurred during daylight hours.

Of the nine angle collisions, three involved northbound and eastbound vehicles, three involved northbound and westbound vehicles, two involved southbound and eastbound vehicles, and one involved southbound and westbound vehicles.

Of the 18 rear end collisions, two involved northbound vehicles, five involved southbound vehicles, four involved eastbound vehicles, and seven involved westbound vehicles. As the westbound approach has some horizontal curvature near the intersection, the rear end collision pattern on these approaches is anticipated to be attributed to high traffic volumes and horizontal curvature.

Calculations of the intersection collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.68/MEV. As the MEV collision rate is below 1.0, Strandherd Drive/CrossKeys Place/Hélène Campbell Drive does not experience an abnormally high rate of collisions.

Strandherd Drive between Maravista Drive and Kennevale Drive
A total of 12 collisions were reported within this roadway segment over the last five years, of which there were eight rear-end impacts, three sideswipe impact, and one single motor vehicle impacts. Two collisions resulted in injuries, but none caused fatalities. None of the collisions involved cyclists or pedestrians.

Of the 12 collisions at this location, one of them occurred during rain conditions, for all other collisions weather was not a factor. Additionally, of the 12 collisions, 11 of them occurred during daylight hours.

Of the eight rear end collisions, two involved northbound vehicles and six involved southbound vehicles. As the southbound direction has clear sight lines with no horizontal or vertical curves, the rear end collision pattern at this location is anticipated to be attributed to high traffic volumes and high speeds.

Calculations of the segment collision rate per Million Entering Vehicles (MEV) for all collision types across the five-year study period showed an intersection collision rate of 0.26/MEV. As the MEV collision rate is below 1.0, Strandherd Drive between Maravista Drive and Kennevale Drive does not experience an abnormally high rate of collisions.

Systemhouse Street between Citigate Drive and Strandherd Drive
One collision was reported along Systemhouse Street between Citigate Drive and Strandherd Drive in the last five years. As there were less than six collisions of any given type there is no discernible collision pattern at this location.

2.2 Planned Conditions

2.2.1 Planned Roadway and Transit Projects

The City's 2025 Transportation Master Plan (TMP) Update has been recently completed including the new Capital Infrastructure Plan. The City of Ottawa's 2025 TMP update identifies the following projects within the study area:

- Transit Projects
    - O-Train Line 1 Extension (Priority Network): Extends O-Train service to Barrhaven Town Centre, increasing long-term ridership capacity and supporting growth in Barrhaven
    - South Transitway (Longfields Drive to Greenbank Road) (Priority Network): Dedicated bus rapid transit with at-grade crossings. Extends the South Transitway from its current terminus at Longfields Drive to connect to the Southwest Transitway at Barrhaven Town Centre. Improves service and connectivity.
    - Southwest Transitway (Barrhaven Centre Station to Kilbirnie Station) (Priority Network): Median bus rapid transit. Connects the growing Barrhaven South community to Barrhaven Centre Station, the South Transitway, and destinations within the community.
    - South Transitway (Limebank Station to Borrisokane Road) (Needs-Based Network): Dedicated bus rapid transit with at-grade crossings from Limebank Station to Nepean Woods Station, transitioning to median bus rapid transit in the Chapman Mills corridor.

- Road Network Projects
    - Greenbank Road Re-Alignment (Marketplace Avenue to Cambrian Road)(Committed Project): New four-lane road from Jockvale Road to Cambrian Road to address capacity deficiencies.
    - Greenbank Road Re-Alignment (Cambrian Road to Kilbirnie Drive) (Phase 1 Priority Network): New road (two lanes) connecting Cambrian Road to Kilbirnie Drive to provide access to lands in South Nepean.
    - Greenbank Road Re-Alignment (Kilbirnie Drive to Barnsdale Road) (Phase 1 Priority Network): New road (two lanes) connecting Kilbirnie Drive to Barnsdale Road to provide access to lands in South Nepean.
    - Borrisokane Road Urbanization (Strandherd Drive to Cambrian Road) (Phase 1 Priority Network): Implement new active transportation facilities on both sides, and tie into the existing sidewalk and cycle tracks at the recently reconstructed Strandherd Drive/Borrisokane Road intersection.
    - Fallowfield Road Urbanization (Greenbank Road to Strandherd Drive) (Phase 2 Priority Network): Implement new active transportation facilities, likely in the form of a new multi-use pathway on the south side.
    - Barnsdale Road Widening (Highway 416 to Greenbank Road Extension) (Needs-Based Network): Widen from two to four lanes between Highway 416 and Greenbank Road Extension.
    - Fallowfield Road Widening (Old Richmond Road to Moodie Drive) (Needs-Based Network): Widen from two to four lanes between Old Richmond Road and Moodie Drive.
    - Barnsdale Road/Highway 416 Interchange (Priority Network)
- Active Transportation Projects
    - Fallowfield Rd – Forager St Pathway (Later Phase): Multi-use pathway along Fallowfield Rd from Strandherd Dr to Forager St.

2.2.2 Other Area Developments

In proximity of the proposed development, there are multiple developments that are approved, or in the approval process. Other developments in the area include:

- 575 Dealership Drive – Two industrial buildings with a small associated office space are proposed for the site. A TIA was not prepared in support of the development. The location of the development is shown on **Figure 5**.

- 115 Lusk Street – A TIA was prepared by IBI Group in 2021 in support of a restaurant and medical office development located between Lusk Street, Forager Street, and Fallowfield Road East, as shown on **Figure 5**. Full buildout was planned in 2023. The TIA estimated that the development would generate 13 and 32 vehicle trips during the AM and PM peak hours, respectively.

- 135 Lusk Street – A TIA was prepared by IBI Group in 2021 in support of a hotel development located on Lusk Street, as shown on **Figure 5**. Full buildout was planned in 2023. The TIA estimated that the development would generate 42 and 53 vehicle trips during the AM and PM peak hours, respectively.

- 140 Lusk Street – A TIA was prepared by Arcadis IBI Group in 2022 in support of a hotel development located on Lusk Street, as shown on **Figure 5**. Full buildout was planned in

2023. The TIA estimated that the development would generate 36 and 45 vehicle trips during the AM and PM peak hours, respectively.

- 4149 Strandherd Drive – A TIA was prepared by McIntosh Perry in 2022 in support of a development including two car dealerships located on Strandherd Drive, as shown on **Figure 5**. Both dealerships were constructed at the time of the traffic counts described in Section 2.1.7.

- 444 CitiGate Drive and 560 Dealership Drive – A Technical Memorandum updating the trip generation presented in the *Citigate Highway 416 Employment Lands Community Transportation Study* (CTS) was prepared by Novatech in 2023 in support of six future industrial/warehouse buildings, as shown on **Figure 5**. A buildout year was not identified within this study. The memo estimated that the lands would generate 623 and 548 vehicle trips during the AM and PM peak hours, respectively.

- 4433 Strandherd Drive – A TIA was prepared by Novatech in 2019 in support of a hotel development located on Strandherd Drive, as shown on **Figure 5**. Full buildout was planned in 2020. The TIA estimated that the development would generate 48, 53, and 77 vehicle trips during the AM, PM, and Saturday peak hours, respectively.

- 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. Based on aerial photography, it is estimated that this development is 50% constructed. The location of the development is shown in **Figure 6**.

- 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. Based on aerial photography, it is estimated that this development is 90% constructed. The location of the development is shown in **Figure 6**.

- The residential development at 3288 & 3300 Borrisokane Road and 4305, 4345, and 4375 McKenna Casey Drive. A total of 1,995 residential dwellings, consisting of 331 single family and 1,664 townhomes. A TIA was prepared by CGH in March 2024 in support of the proposed development. The estimated date of occupancy is 2030. The location of the development is shown in **Figure 6**.

- The residential development at 3432 Greenbank Road. A total of 529 residential dwellings, consisting of 105 single family and 424 townhomes. A TIA was prepared by CGH in August 2023 in support of the proposed development. The estimated date of occupancy is 2024. The location of the development is shown in **Figure 6**.

- The mixed-use development at 3194 Jockvale Road. Consisting of 210 townhomes and 200,000ft² of retail space. A TIA was prepared by CGH in January 2019 in support of the proposed development. The estimated date of occupancy is 2026. The location of the development is shown in **Figure 6**.

- The mixed-use development at 1034 McGarry Terrace. Consisting of two residential towers containing a total of 592 residential units and 1,100m² of ground floor retail space. A TIA was prepared by CGH in August 2023 in support of the proposed development. The estimated date of occupancy is 2026. The location of the development is shown in **Figure 6**.

Excerpts from relevant transportation studies have been attached in **Appendix H**. The following figures summarize the location of the nearby developments.

2.3 Study Area and Time Periods

The study area for this report includes the boundary roadways Strandherd Drive and Systemhouse Street, as well as the following intersections:

- Strandherd Drive/Citigate Drive/Fallowfield Road;
- Strandherd Drive/CrossKeys Place/Hélène-Campbell Road;
- Strandherd Drive/Systemhouse Street/Maravista Drive;
- Strandherd Drive/Dealership Drive/Kennevale Drive; and
- Citigate Drive/Systemhouse Street

Analysis will be completed for the weekday AM, PM and Saturday peak hours, as this represents the worst-case combination of site generated traffic and adjacent street traffic. The TIA guidelines require arterial road intersections impacted by auto demand within 1,000m of the subject site to be included within a TIA study area. The intersection of Citigate Drive/CrossKeys Place has not been included as it does not include an arterial road. City staff have confirmed that Citigate Drive/CrossKeys Place intersection is not required to be included within the analysis.

The previous Zoning TIA completed analysis based on a 2025 build-out year and 2030 horizon year. While the build-out year has been shifted to 2026, one additional year of background growth at 1% per annum is anticipated to have minimal impacts to the overall intersection operations presented in the Zoning TIA. As such, this report has carried a 2025 build-out and 2030 horizon year to salvage analysis presented in the previous report.

2.4 Development Generated Traffic

The proposed development includes 125,000ft² of retail. The previous zoning TIA report included trip generation calculations based on a concept with one automobile dealerships with 30,000ft² of gross floor area and 95,000ft² of retail. Trip generation calculations have been updated to the latest site plan.

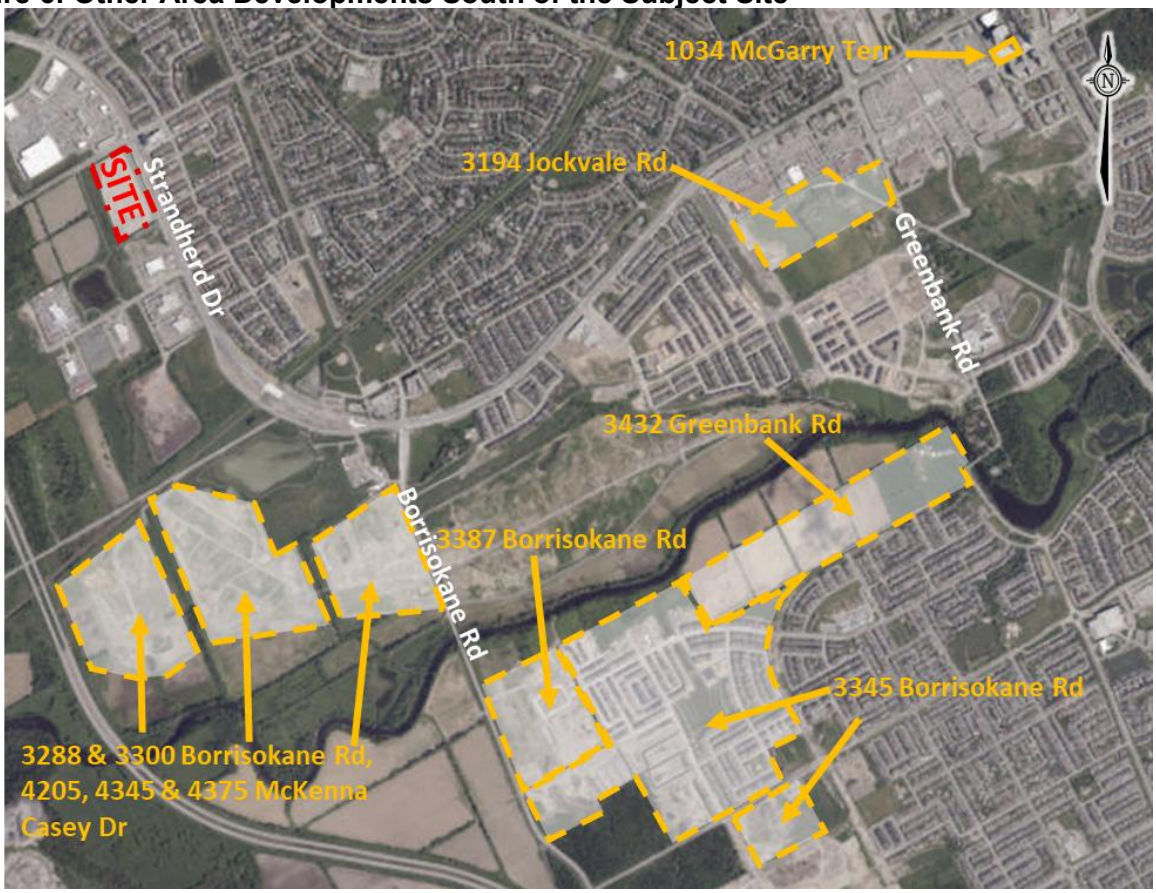
The number of peak hour person trips generated by the proposed development has been estimated using the *ITE Trip Generation Manual, 11th Edition* (released in 2021 by the Institute of Transportation Engineers).

For this study, the rates associated with the Shopping Plaza (with Supermarket) land use have been considered for the entire development, as the rates are appropriate for sites between 40,000 ft² and 150,000 ft². The Shopping Plaza rates are different for sites with a supermarket anchor versus without. The 'Supermarket – Yes' land use subcategory has been considered as there is potential for a supermarket land use to be included within the final site plan. The Shopping Plaza rates also account for internally captured trips without requiring a separate process for estimation.

Figure 5: Other Area Developments in Close Proximity to the Subject Site



Figure 6: Other Area Developments South of the Subject Site



To convert ITE vehicle trip rates to person trip rates a 1.28 factor was applied to all trips generated by the retail/supermarket uses. Person trips generated by the commercial development using ITE trip rates can be found in **Table 4**.

The modal shares are assumed to be consistent with the modal shares outlined in the *2020 TRANS Trip Generation Manual*, specific to the South Nepean region. The modal shares for the shopping plaza uses have been assumed to follow Table 13 within the 2020 TRANS Trip Generation Manual as a commercial generator. For the purposes of this report, the modal shares have been rounded to the nearest 5%. A breakdown of trips generated by the commercial development by modal share is shown in **Table 5**.

From **Table 5**, the proposed development is anticipated to generate 564 trips (339 vehicle trips) in the AM peak, 1,380 trips (828 vehicle trips) in the PM peak, and 1,482 trips (889 vehicle trips) during the Saturday peak hour.

The proposed development is anticipated to generate two types of external peak hour trips: primary trips and pass-by trips. Primary trips are made for the specific purpose of visiting the site, while pass-by trips are made as intermediate stops on the way to another destination. The *ITE Trip Generation Manual* includes AM peak hour, PM peak hour, and Saturday peak hour pass-by percentages for the Shopping Plaza and Supermarket land uses. For the purposes of this TIA, the percentages of both land uses have been blended, to reflect that the proposed supermarket is anticipated to be the largest trip generator of the development. While ITE does not identify AM pass by rates for the commercial uses proposed, the PM pass by rates have been used as some pass-by trips are expected.

The pass-by percentages identified in the *ITE Trip Generation Manual* and the blended pass-by rates assumed in this TIA are summarized as follows:

- AM Peak Hour: 40% (Shopping Plaza) and 24% (Supermarket) = 32% (blended rate)
- PM Peak Hour: 40% (Shopping Plaza) and 24% (Supermarket) = 32% (blended rate)
- SAT Peak Hour: 31% (Shopping Plaza) and 19% (Supermarket) = 25% (blended rate)

The projected primary and pass-by trips generated by the proposed development are summarized in **Table 6**.

From **Table 6**, the development is projected to generate 231 primary vehicle trips during the AM peak hour, 564 primary vehicle trips during the PM peak hour, and 667 primary vehicle trips during the Saturday peak hour.

2.5 Trip Distribution

The distribution of primary trips has been derived based on the existing traffic patterns, knowledge of the local area, and previous reports within the study area. It is described as follows:

- 25% to/from the north via Fallowfield Road East
- 20% to/from the north via Fallowfield Road West
- 5% to/from the east via Maravista Drive
- 45% to/from the south via Strandherd Drive
- 5% to/from the north via 4225 and 4235 Strandherd Drive (Costco and Trinity Common Commercial Development)

The distribution of pass-by trips is based on the peak hour commuter flow which is approximately 55% northbound and 45% southbound in the AM, 45% northbound and 55% southbound in the PM and, 55% northbound and 45% southbound in the Saturday peak hour.

2.6 Trip Assignment

The proposed development will have one all-movement access to Systemhouse Street, one right-in right-out access to Strandherd Drive, and one all-movement signalized access to Strandherd Drive. The assignment of trips to the accesses is summarized below.

- Systemhouse Access
  - 100% to/from the East
  - 40% to/from the North
- Strandherd RIRO Access
  - 20% from the North
  - 50% to the South
- Strandherd Signalized Access
  - 100% from the South and 50% to the South
  - 40% from the North and 60% to the North

Primary and pass-by trips generated by the previous concept are shown in **Figures 7** and **8**.

Table 4: Person Trips Generated by Commercial

Land Use	ITE Code	GFA	AM Peak Hour (pph[1]))			PM Peak Hour (pph[1]))			Sat Peak Hour (pph[1]))		
			IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
Shopping Plaza Supermarket - Yes	821	125,000ft^2	350	214	*564*	662	718	*1,380*	756	726	*1,482*

1. pph: peak person trips per hour

Table 5: Peak Hour Person Trips by Mode Share for the Commercial Development

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour			Sat Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Shopping Plaza Person Trips		**350**	**214**	***564***	**662**	**718**	***1,380***	**756**	**726**	***1,482***
Auto Driver	60%	210	129	339	397	431	828	453	436	889
Auto Passenger	25%	88	53	141	166	179	345	189	182	371
Transit	5%	17	11	28	33	36	69	38	36	74
Cyclist	0%	0	0	0	0	0	0	0	0	0
Pedestrian	10%	35	21	56	66	72	138	76	72	148

Table 6: Primary and Pass-by Trips

Trip Type	AM Peak Hour (vph)			PM Peak Hour (vph)			SAT Peak Hour (vph)		
	IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
Shopping Plaza Trips									
Total Vehicle Trips	**210**	**129**	**339**	**397**	**431**	**828**	**453**	**436**	**889**
Pass-by Adjustment (32% AM, 32% PM, 25% SAT)	*-54*	*-54*	*-108*	*-132*	*-132*	*-264*	*-111*	*-111*	*-222*
Primary Trips (68%, 68% PM, 75% SAT)	**156**	**75**	**231**	**265**	**299**	**564**	**342**	**325**	**667**

Figure 7: Primary Trips

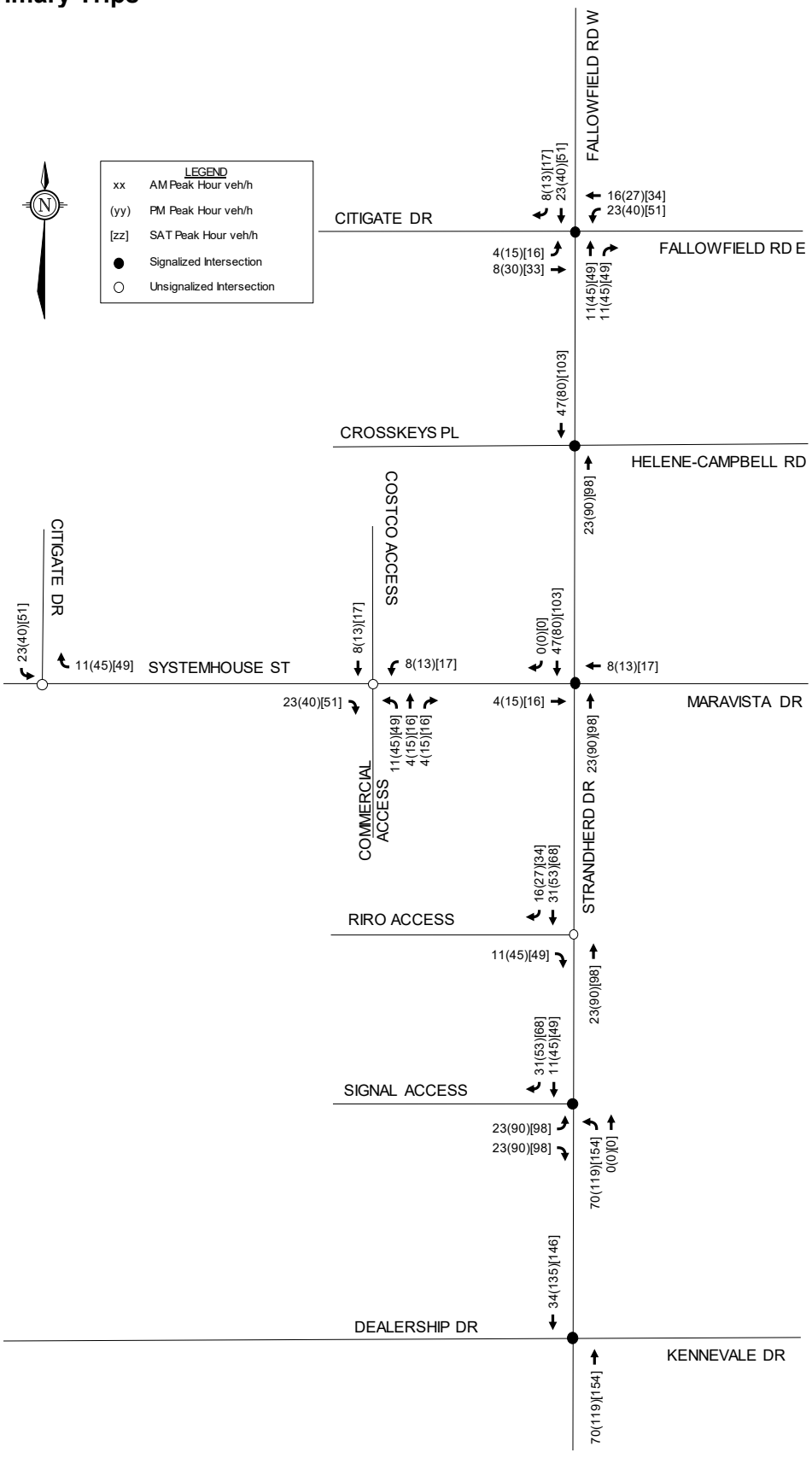
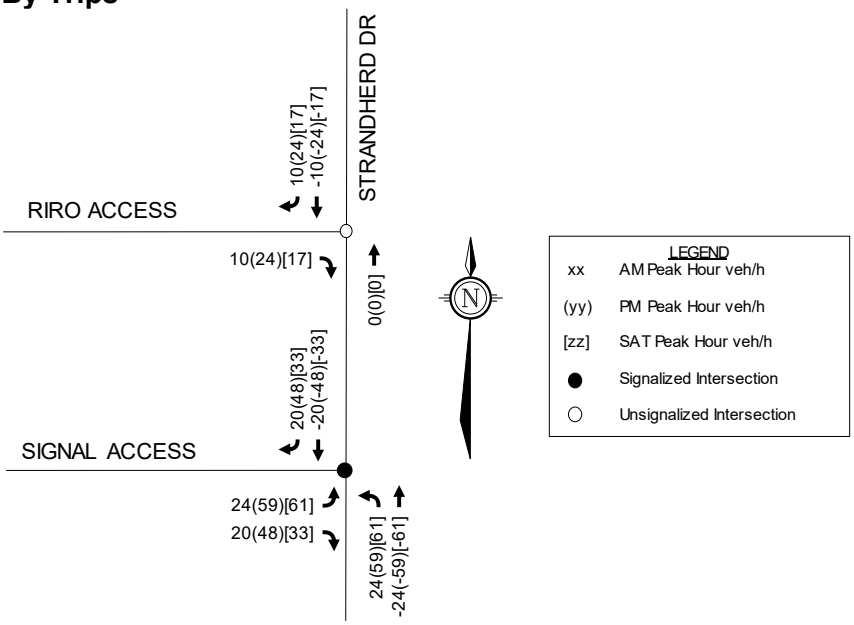


Figure 8: Pass-By Trips



2.7 Access Location

The proposed site plan shows one access to Systemhouse Street, one right-in right-out access to Strandherd Drive south of Systemhouse Street, one signalized access to Strandherd Drive located mid-block between Systemhouse Street and Dealership Drive. Due to the size of the development and existing traffic patterns within the study area, the proposed accesses will provide alternative routes to and from the various buildings. While two accesses are proposed crossing the existing cycle track on Strandherd Drive, one will be a protected intersection, and the other will be restricted to right-in right-out and include tight radii to discourage high speed turns.

The access design has been reviewed with respect to relevant requirements of the City's *Private Approach By-Law* (PABL) and the Transportation Association of Canada (TAC) *Geometric Design Guidelines for Canadian Roads*.

Section 25(a) of the PABL identifies that a property with 46-150m of frontage may have a maximum of two two-way private approaches and for each additional 90m of frontage an additional two-way approach or two additional one-way approaches are permitted. This requirement is met. The subject site has approximately 150m of frontage on Systemhouse Street and one two-way access is proposed. The subject site has approximately 300m of frontage on Strandherd Drive and one full movement and one right-in right-out access are proposed.

Section 25(c) of the PABL identifies a maximum width requirement of 9.0m for any two-way private approach, as measured at the street line. The width of the Sytemhouse Street access is 9m and the right-in right-out access to Strandherd Drive is 8m, meeting the requirement. The all-movement signalized access is roughly 12m, this is assumed to be acceptable as it has one inbound lane and two outbound lands.

Section 25(m) of the PABL identifies a minimum space requirement of 75m between a private approach and the nearest intersecting street line and any other private approach. All accesses to Systemhouse Street and Strandherd Drive provide at least 75m of clear space between the access and the nearest intersecting street line and any other private approach.

Section 25(p) of the PABL identifies a minimum separation requirement of 3.0m between the nearest edge of a private approach and the closest property line, as measured at the street line. All accesses are at least 3.0m from any property line.

Section 25(u) of the PABL identifies a maximum driveway grade of 2% for a distance of 9m within the property, for driveways serving more than 50 parking spaces. This requirement is met at all accesses.

Intersection sight distance (ISD) at the proposed accesses have been determined using the TAC *Geometric Design Guidelines for Canadian Roads.* The ISD requirements for the Strandherd Drive accesses, based on a design speed of 80km/h, are as follows:

- Left Turn from Minor Road 170 metres
- Right Turn from Minor Road 145 metres

The ISD requirements for the Systemhouse Street access, based on a design speed of 60km/h, are as follows:

- Left Turn from Minor Road 130 metres
- Right Turn from Minor Road 110 metres

As the accesses meet Strandherd Drive and Systemhouse Street at a perpendicular angle and no sightline obstruction has been identified based on a desktop review, available sightlines are within recommended guidelines to allow safe all directional access to the development.

The TAC Geometric Design Guide for Canadian Roads identifies minimum clear throat lengths based on road classification and land use. For a shopping centre land use under 25,000m^2 GFA a minimum clear throat length of 8m is required for collector roads and 15m is required arterial roads. For a supermarket with greater than 2,000m² GFA a minimum clear throat length of 25m is required for collector roads and 40m is required arterial roads. The access to Systemhouse Street has roughly 25m of clear throat to the nearest crosswalk within the site, meeting all requirements for an access to a collector road. The signalized access to Strandherd Drive has 41.7m of clear throat to the nearest crosswalk within the site, meeting all requirements for an access to an arterial road. The right-in right-out access to Strandherd Drive has 37m of clear throat to the pedestrian crosswalk and does not meet the requirement for an access to a supermarket land use to an arterial road. The provided clear throat is assumed to be acceptable as the signalized access forms more of desirable path for access from Strandherd Drive to the supermarket. Based on the projected inbound trips the right-in right-out access, it will accommodate roughly 50 inbound vehicle trips during the peak trip generation hours, which roughly equates to less than one vehicle per minute. Due to the expected trip generation rates queue spillback from the right-in right-out access onto Strandherd Drive is not anticipated.

The TAC Geometric Design Guide for Canadian Roads identifies a minimum corner clearance distance of 70m for an access upstream and downstream of a signal on a divided arterial road and 55m for an access upstream of a signal on an undivided collector road. The available corner clearance is met at all accesses.

2.8 Exemptions Review

This module reviews possible exemptions from the final Transportation Impact Assessment, as outlined in the *2023 TIA Guidelines*. The applicable exemptions for this site are shown in **Table 7**.

Table 7: TIA Exemptions

Module	Element	Exemption Criteria	Exemption Status
4.1 Development Design	*4.1.2* Circulation and Access	• Only required for Site Plan and Zoning By-law Applications	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 Plan and Zoning By-law Applications	Not Exempt
4.6 Neighbourhood Traffic Management	*4.6.1* Adjacent Neighbourhoods	• If the development meets all of the following criteria along the route(s) site generated traffic is expected to utilize between arterial road and the site's access: 1. Access to a Collector or Local; 2. "Significant sensitive land use presence" exists where there is at least two of the following adjacent to the subject street segment (School, Park, Retirement/Older Adult Facility, Licenced Child Care Centre, Community Centre, or 50% or greater of the property is occupied by residential land uses) 3. Application is for Zoning By-Law Amendment or Draft Plan of Subdivision 4. At least 75 site generated auto trips 5. Site Trip Infiltration expected	Exempt
4.7 Transit	*4.7.1 Transit Route Capacity*	• Greater than 75 site transit trips	Exempt
	4.7.2 Transit Priority Requirements	• Greater than 75 site auto trips	Not Exempt
4.8 Network Concept	*All elements*	• Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Not Exempt
4.9 Intersection Design	*4.9.1 Intersection Controls*	• Greater than 75 site auto trips	Not Exempt
	4.9.2 Intersection Design	• Greater than 75 site auto trips	Not Exempt

The following modules will be included in the TIA report:

- Module 4.1: Development Design
- Module 4.2: Parking
- Module 4.3: Boundary Streets

- Module 4.5: Transportation Demand Management
- Module 4.7: Transit
- Module 4.8: Network Concept
- Module 4.9: Intersection Design

3.0 FORECASTING

3.1 Background Traffic

3.1.1 Other Area Developments

A review of other area development traffic has been conducted, per the developments listed in Section 2.2.2. Traffic generated by these developments have been considered in other studies. Relevant excerpts of the traffic studies associated with the developments below are included in **Appendix H**.

575 Dealership Drive
A TIA was not prepared for the industrial/office space development. Therefore, additional traffic generated by the development is assumed to be insignificant and has not been included within this report.

115 Lusk Street
The proposed restaurant and medical office development is expected to generate 13 and 32 vehicle trips during the AM and PM peak hours, respectively. Site traffic for the proposed development has been included in 2025 and 2030 background traffic.

135 Lusk Street
The proposed hotel development is expected to generate 42 and 53 vehicle trips during the AM and PM peak hours, respectively. Site traffic for the proposed development has been included in 2025 and 2030 background traffic.

140 Lusk Street
The proposed hotel development is expected to generate 36 and 45 vehicle trips during the AM and PM peak hours, respectively. Site traffic for the proposed development has been included in 2025 and 2030 background traffic.

4149 Strandherd Drive
Both of the car dealerships within this site has been built and traffic generated by it has been captured in existing traffic counts. Site traffic for the proposed development has been included in 2025 and 2030 background traffic.

444 CitiGate Drive and 560 Dealership Drive
The proposed industrial/warehouse development is expected to generate 623 and 548 vehicle trips during the AM and PM peak hours at full build out, respectively.

4433 Strandherd Drive
The proposed hotel development is expected to generate 48, 53, and 77 vehicle trips during the AM, PM, and Saturday peak hours, respectively. Site traffic for the proposed development has been included in 2025 and 2030 background traffic.

3387 Borrisokane Road (Glenview Homes)
The proposed residential development is expected to generate 320 and 231 vehicle trips at full buildout during the AM and PM peak hours, respectively. As the development is roughly 50% built out based on recent aerial photography, 160 and 116 vehicle trips have been included in 2025 and 2030 background traffic.

3345 Borrisokane Road (Half Moon Bay West)
The proposed residential development is expected to generate 441 and 610 vehicle trips at full buildout during the AM and PM peak hours, respectively. As the development is roughly 90% built out based on recent aerial photography, 44 and 61 vehicle trips have been included in 2025 and 2030 background traffic.

3288 & 3300 Borrisokane Road and 4305, 4345, and 4375 McKenna Casey Drive
The proposed residential development is expected to generate 554 and 606 vehicle trips during the AM and PM peak hours at full build out, respectively. The development is expected to be fully built out by 2030 with construction occurring in phases per the March 2024 TIA prepared for the development. Half of the site traffic for the proposed development has been included in 2025 background traffic and all site traffic has been included in the 2030 background traffic.

3432 Greenbank Road
The proposed residential development is expected to generate 187 and 205 vehicle trips during the AM and PM peak hours, respectively. Site traffic for the proposed development has been included in 2025 and 2030 background traffic.

3194 Jockvale Road
The proposed mixed-use development is expected to generate 221 and 589 vehicle trips during the AM and PM peak hours, respectively. Site traffic for the proposed development has been included in 2030 background traffic.

1034 McGarry Terrace
The proposed mixed-use development is expected to generate 52 and 57 vehicle trips during the AM and PM peak hours, respectively. Site traffic for the proposed development has been included in 2030 background traffic.

3.1.2 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.

Growth rates used in other study area developments vary between 1% (such as the reports for 1034 McGarry Terrrace, 3194 Jockvale Road, and 4433 Strandherd Drive), 1.5% (such as the reports for 3288 Borrisokane Road and 4149 Strandherd Drive), and 2% (such as the reports for 3432 Greenbank Road and 4149 Strandherd Drive).

The TIA for 4433 Strandherd Drive completed by Novatech in 2019 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 rate was applied to through traffic along Strandherd Drive 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.

3.2 Future Traffic Conditions

The figures listed below present the following future traffic conditions:

- Proposed net site-generated traffic volumes in 2025 are shown in **Figure 9**;
- Background traffic volumes in 2025 are shown in **Figure 10**;
- Background traffic volumes in 2030 are shown in **Figure 11**;
- Total traffic volumes in 2025 are shown in **Figure 12**;
- Total traffic volumes in 2030 are shown in **Figure 13**.

3.3 Demand Rationalization

A review of the existing and background intersection operations has been conducted to determine if the study area intersections are operating above the City target LOS E (i.e. V/C >=1.0). The intersection parameters used in the analysis are consistent with the *2017 TIA Guidelines* (Saturated Flow Rate: 1,800 vphpl, Peak Hour Factor: 0.9 in existing conditions and 1.0 in future conditions).

Signal timing plans were obtained from the City, and are included in **Appendix I**.

Figure 9: Net Site-Generated Volumes

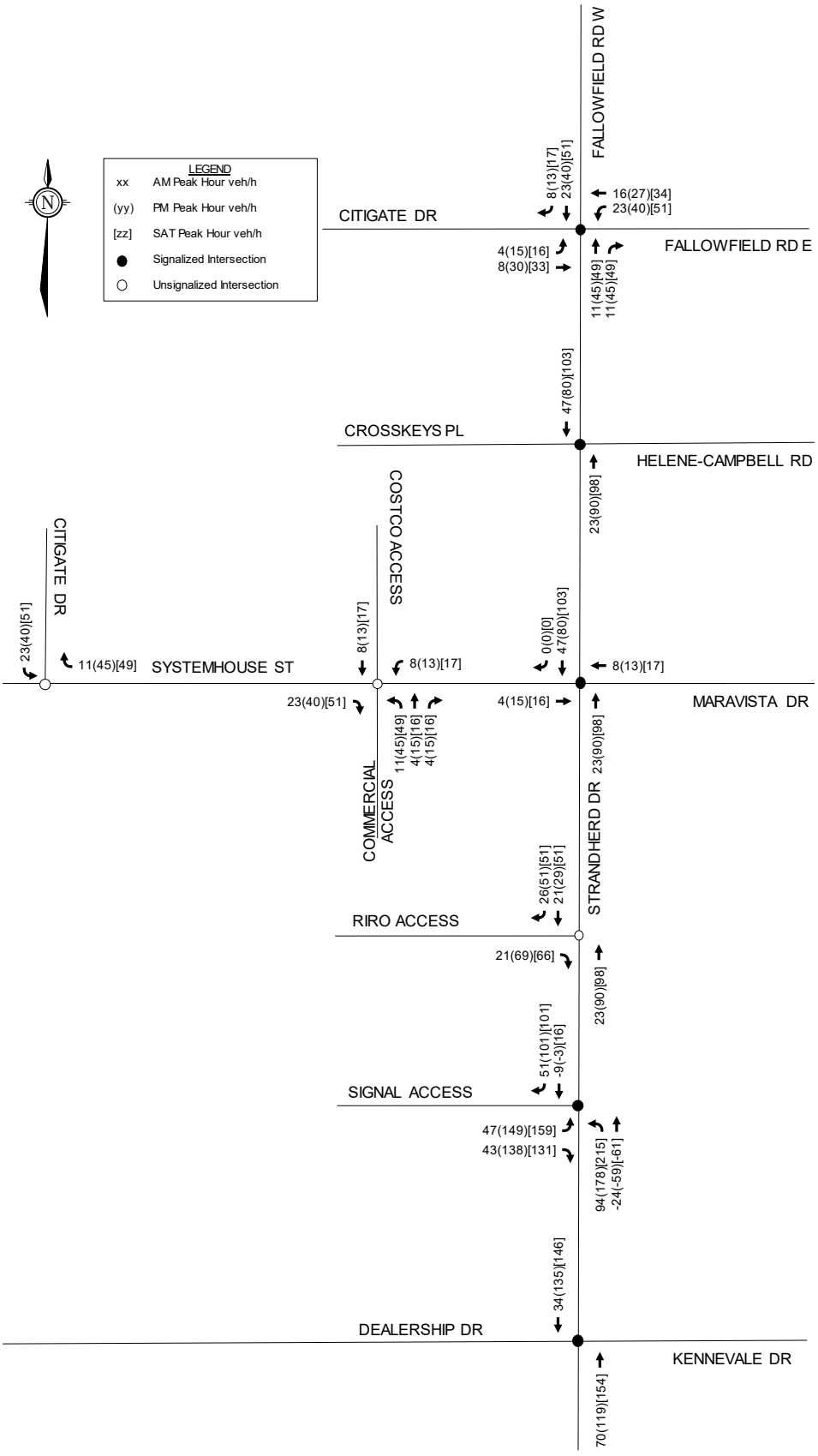


Figure 10: 2025 Background Traffic

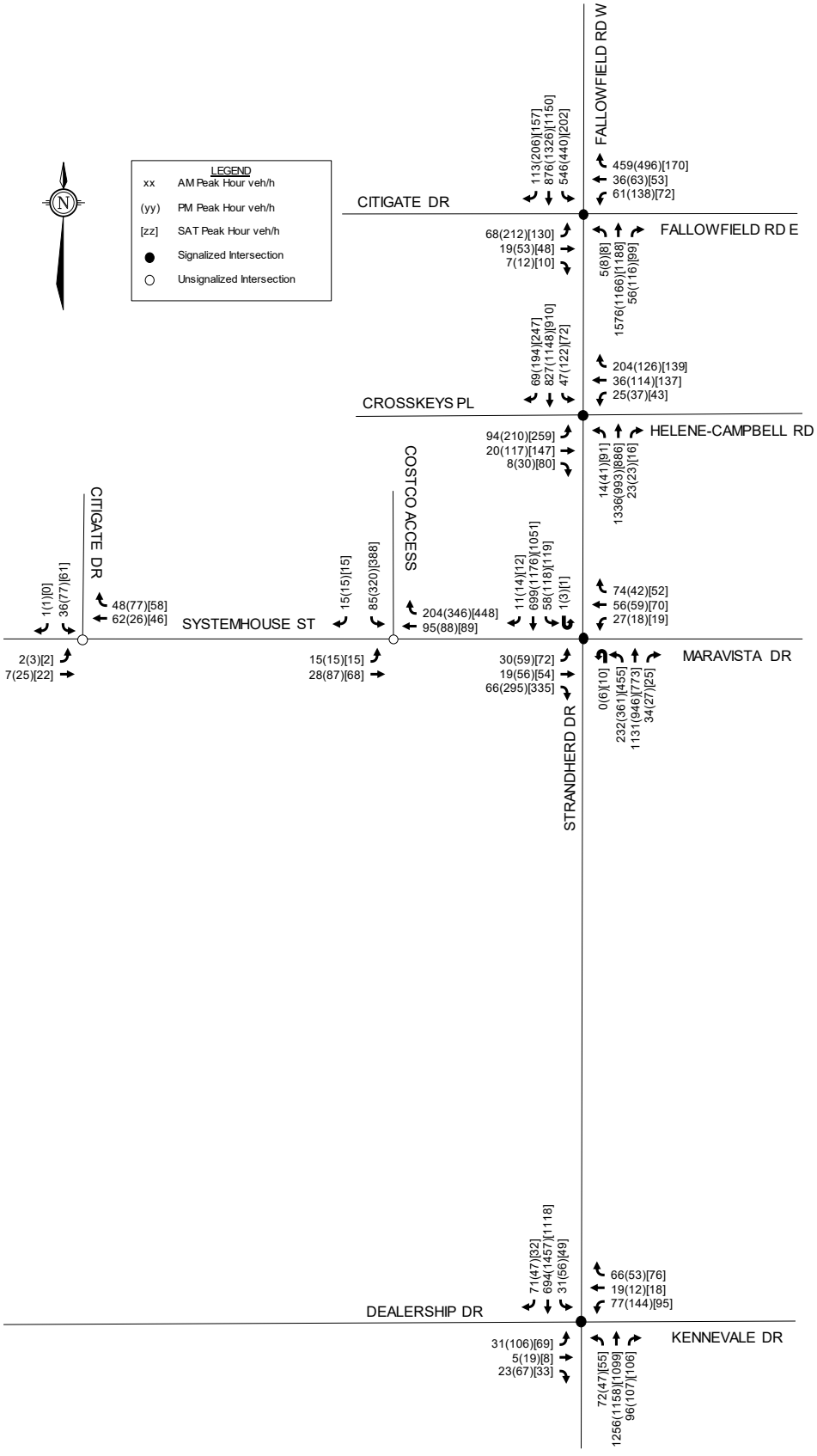


Figure 11: 2030 Background Traffic

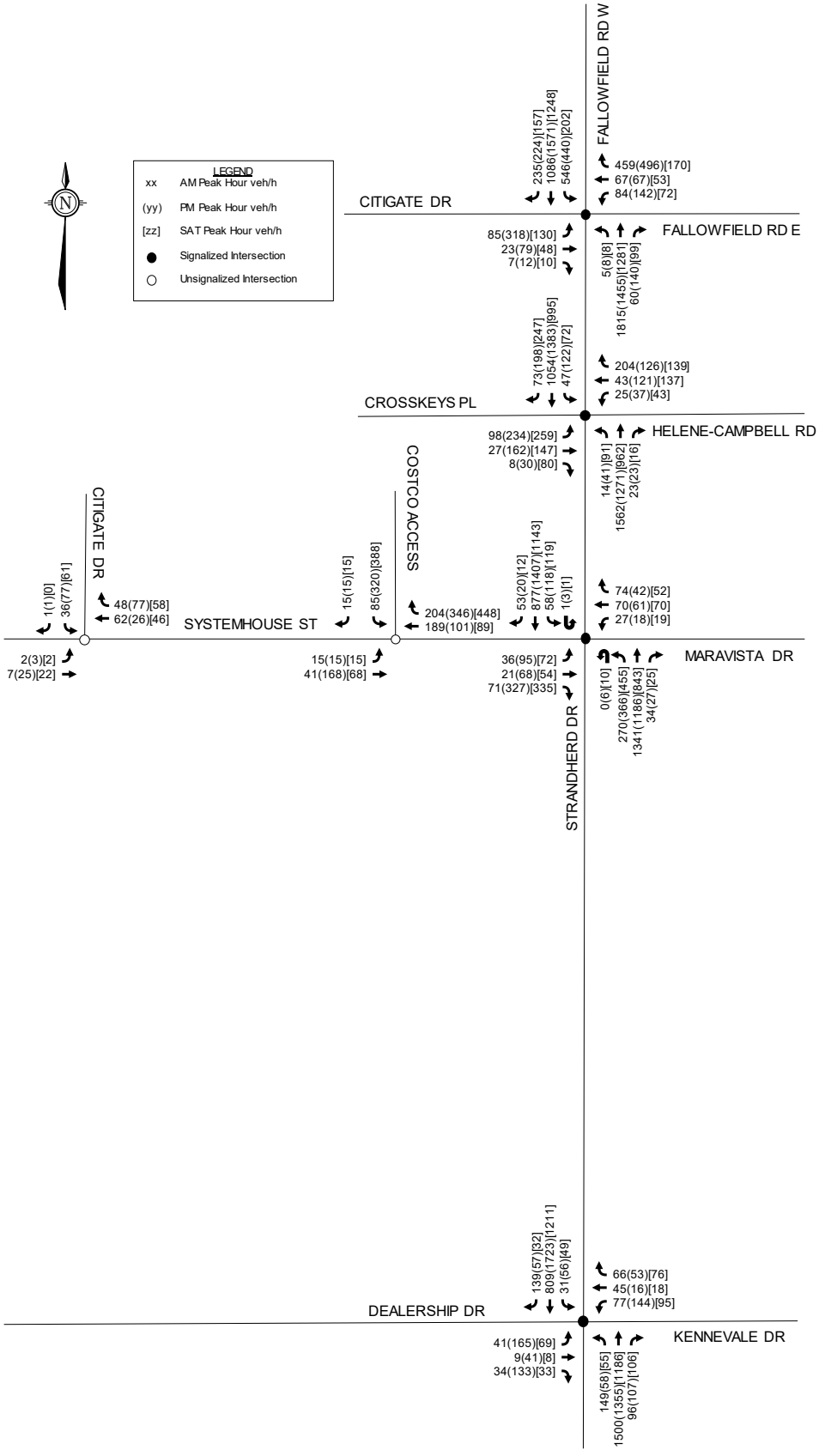


Figure 12: 2025 Total Traffic

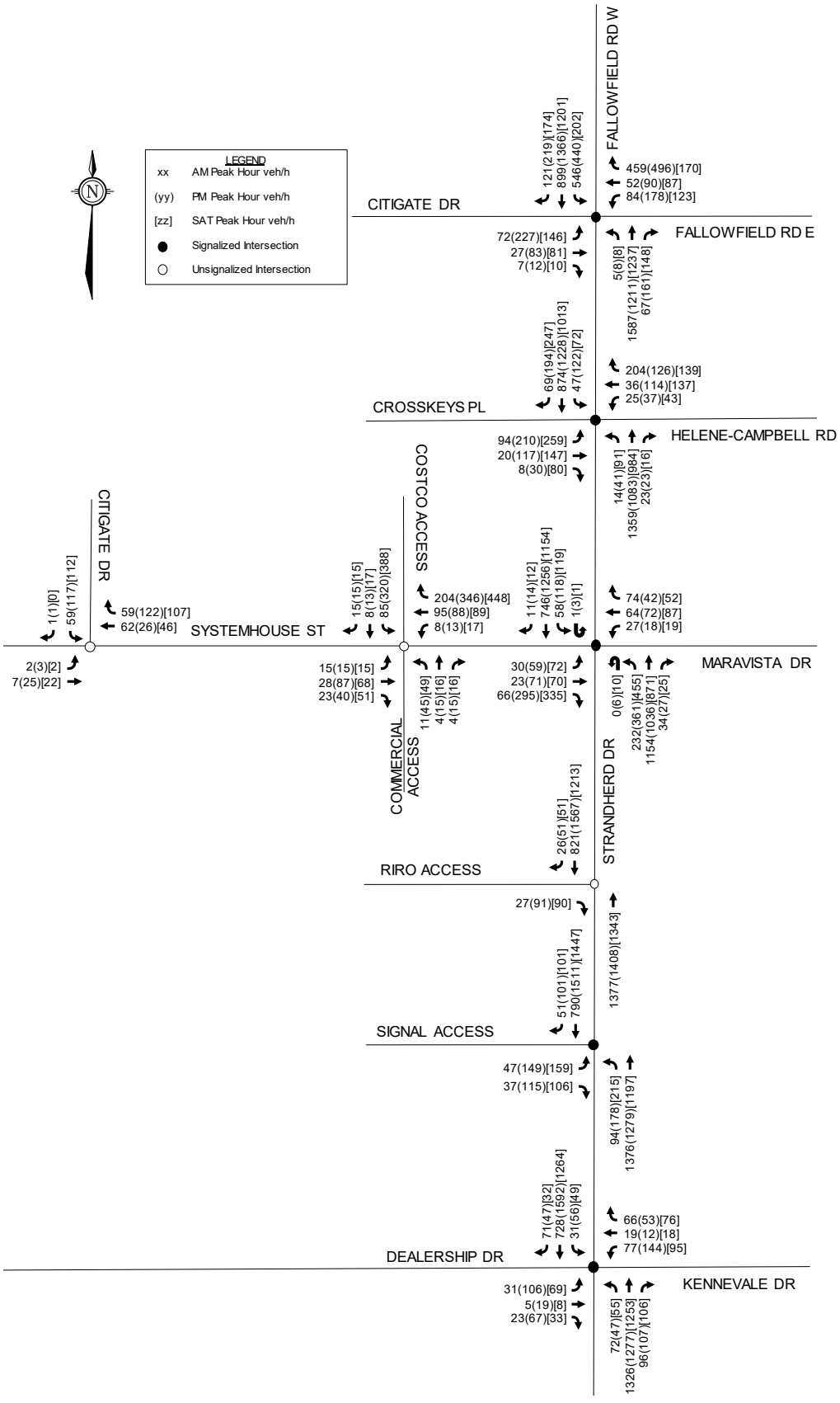
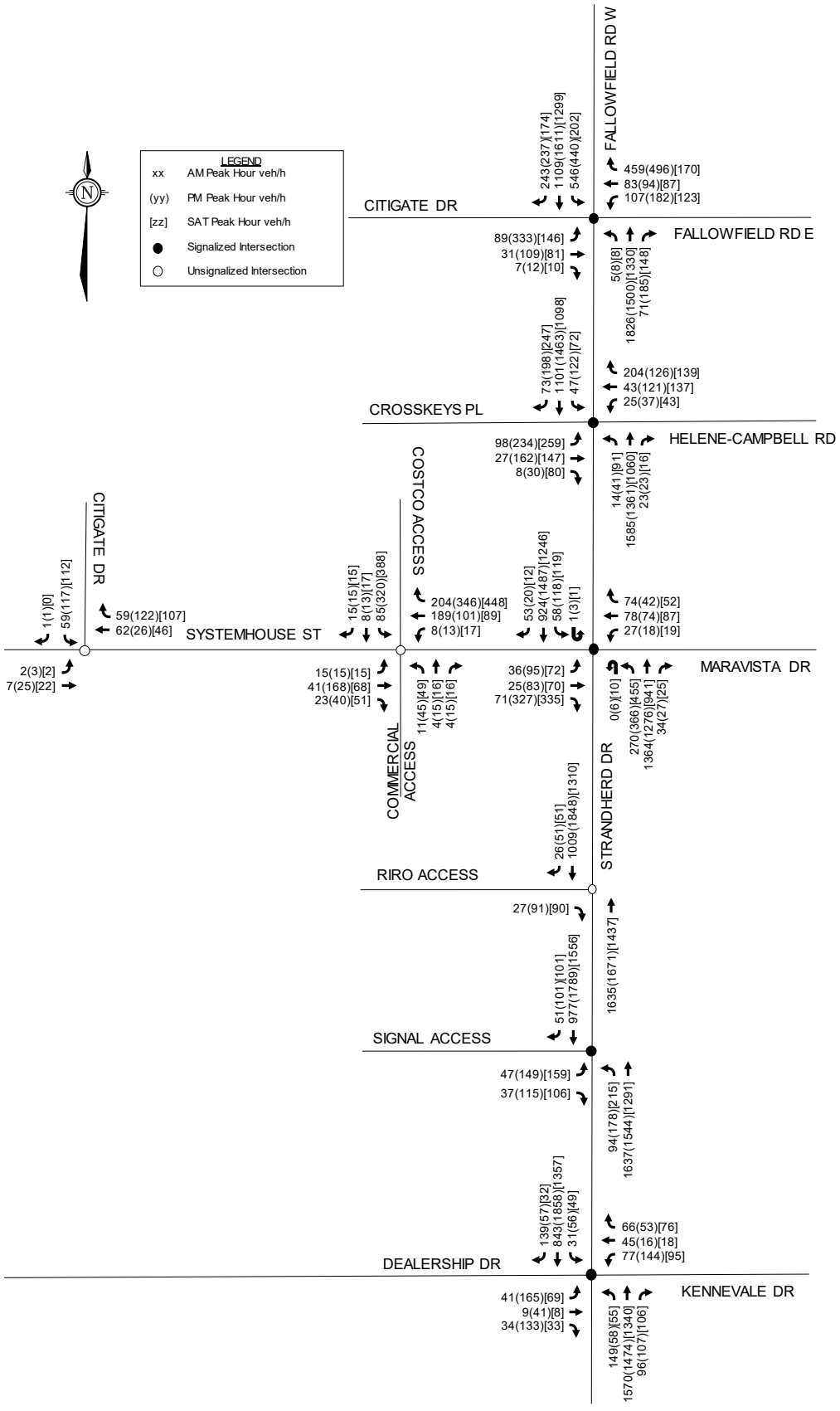


Figure 13: 2030 Total Traffic



3.3.1 Existing Intersection Operations

Intersection Capacity analysis has been conducted for the existing traffic conditions. The results of the analysis are summarized in **Table 8** for the weekday PM and Saturday peak hours. Detailed reports are included in **Appendix I**.

Table 8: Existing Traffic Operations

Intersection	Mvmt	Storage/ Spacing (1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
Strandherd Dr/Citigate Dr/Fallowfield Rd	EBL	65m	0.34 [A]	14	0.58 [A]	#53	0.43 [A]	21
	EBT/R	240m	0.18 [A]	13	0.42 [A]	27	0.29 [A]	23
	WBL	125m	0.19 [A]	20	0.31 [A]	42	0.38 [A]	24
	WBT	360m	0.14 [A]	14	0.19 [A]	21	0.33 [A]	23
	WBR	100m	0.86 [D]	58	0.90 [D]	77	0.56 [A]	17
	NBL	70m	0.03 [A]	m1	0.09 [A]	m3	0.05 [A]	m2
	NBT	200m	**1.60 [F]**	**#354**	**1.29 [F]**	**#242**	0.84 [D]	#187
	NBR	90m	0.08 [A]	m0	0.21 [A]	m3	0.11 [A]	m1
	SBL	120m	0.77 [C]	#113	0.80 [C]	#92	0.56 [A]	32
	SBT	440m	0.47 [A]	125	0.78 [C]	#239	0.61 [B]	143
	SBR	80m	0.11 [A]	8	0.20 [A]	17	0.14 [A]	5
Strandherd Dr/CrossKeys Pl/Hélène-Campbell Rd	EBL	60m	0.51 [A]	32	0.81 [D]	**73**	0.84 [D]	**81**
	EBT	110m	0.08 [A]	9	0.31 [A]	38	0.31 [A]	39
	EBR	60m	0.02 [A]	0	0.08 [A]	0	0.17 [A]	7
	WBL	30m	0.13 [A]	11	0.15 [A]	15	0.14 [A]	15
	WBT	160m	0.14 [A]	14	0.30 [A]	37	0.29 [A]	37
	WBR	70m	0.59 [A]	29	0.30 [A]	14	0.28 [A]	13
	NBL	150m	0.08 [A]	m3	0.23 [A]	m8	0.41 [A]	m19
	NBT	400m	0.63 [B]	#182	0.67 [B]	147	0.62 [B]	120
	NBR	90m	0.03 [A]	m2	0.04 [A]	m2	0.02 [A]	m0
	SBL	80m	0.46 [A]	27	0.57 [A]	m#59	0.55 [A]	m#36
	SBT	200m	0.38 [A]	73	0.58 [A]	m124	0.61 [B]	50
	SBR	70m	0.08 [A]	12	0.24 [A]	m38	0.34 [A]	8
Strandherd Dr/Sytemhouse St/Maravista Dr	EBL	80m	0.40 [A]	20	0.57 [A]	40	0.69 [B]	#43
	EBT/R	100m	0.09 [A]	10	0.16 [A]	20	0.09 [A]	18
	EBR	100m	0.17 [A]	4	0.47 [A]	40	0.41 [A]	33
	WBL	20m	0.15 [A]	17	0.11 [A]	12	0.20 [A]	12
	WBT/R	90m	0.44 [A]	34	0.34 [A]	27	0.32 [A]	30
	NBL	125m	0.76 [C]	#53	0.66 [B]	#99	0.81 [D]	#116
	NBT/R	480m	0.61 [B]	#201	0.70 [B]	#152	0.72 [C]	#144
	SBL	150m	0.51 [A]	31	0.73 [C]	#71	0.78 [C]	#59
	SBT	400m	0.43 [A]	99	**1.01 [F]**	#203	**1.30 [F]**	#208
	SBR	60m	0.02 [A]	0	0.03 [A]	m0	0.02 [A]	0
Strandherd Dr/Dealership Dr/Kennevale Dr	EBL	70m	0.21 [A]	15	0.54 [A]	41	0.40 [A]	25
	EBT	175m	0.03 [A]	5	0.07 [A]	10	0.03 [A]	5
	EBR	70m	0.08 [A]	4	0.20 [A]	15	0.10 [A]	5
	WBL	60m	0.49 [C]	31	0.73 [C]	55	0.54 [A]	34
	WBT/R	130m	0.34 [A]	16	0.23 [A]	13	0.33 [A]	15
	NBL	70m	0.28 [A]	13	0.22 [A]	11	0.23 [A]	10
	NBT/R	1,000m	0.57 [B]	156	0.63 [B]	156	0.62 [B]	142
	SBL	50m	0.31 [A]	18	0.44 [A]	27	0.41 [A]	#25
	SBT	480m	0.31 [B]	64	0.66 [B]	166	0.52 [A]	115

Intersection	Mvmt	Storage/ Spacing (1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
	SBR	110m	0.08 [A]	5	0.05 [A]	0	0.04 [A]	0
Systemhouse St/Citigate Dr	EB	150m	10 sec. [A]	0	11 sec. [B]	1	10 sec. [B]	1
	WB	330m	10 sec. [A]	4	9 sec. [A]	3	10 sec. [B]	3
	SB	330m	7 sec. [A]	1	7 sec. [A]	1	7 sec. [A]	1
Systemhouse St/Costco Access	EB	330m	3 sec. [A]	0	1 sec. [A]	0	2 sec. [A]	0
	WB	110m	0 sec. [A]	0	0 sec. [A]	0	0 sec. [A]	0
	SB	160m	10 sec. [B]	4	15 sec. [C]	23	17 sec. [C]	31

#: volume for the 95th percentile cycle exceeds capacity

Under existing traffic conditions, all movements at the Strandherd Drive/CrossKeys Place/Hélène-Campbell Road, Strandherd Drive/Dealership Drive/Kennevale Drive, Systemhouse Street/Citigate Drive, and Systemhouse Street/Costco Access intersections are currently operating with a LOS of D or better during AM, PM, and Saturday peak hour conditions.

Critical northbound through movements at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection operate with a LOS F during the AM and PM peak hours. The maximum (95th percentile) northbound through queues extend into the upstream Strandherd Drive/Cross Keys Place intersection. The intersection operated with a LOS D during the Saturday peak hour.

The critical southbound through movement at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection operates with a LOS F during the PM and Saturday peak hours. The intersection operates with a LOS D or better during the AM peak hour.

3.3.2 2025 Background Traffic Conditions

Operating conditions at study area intersections are summarized in **Table 9** for the 2025 weekday PM and Saturday peak periods. Detailed reports are included in **Appendix J**.

Table 9: 2025 Background Traffic Operations

Intersection	Mvmt	Storage/ Spacing (1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
Strandherd Dr/Citigate Dr/Fallowfield Rd	EBL	65m	0.38 [A]	16	0.55 [A]	#39	0.44 [A]	23
	EBT/R	240m	0.19 [A]	13	0.47 [A]	26	0.37 [A]	22
	WBL	125m	0.22 [A]	21	0.35 [A]	42	0.32 [A]	28
	WBT	360m	0.15 [A]	13	0.22 [A]	21	0.32 [A]	23
	WBR	100m	0.83 [D]	47	0.90 [D]	67	0.57 [A]	18
	NBL	70m	0.08 [A]	m2	0.12 [A]	m4	0.10 [A]	m3
	NBT	200m	**1.43 [F]**	**#361**	**1.15 [F]**	**#243**	0.80 [C]	#170
	NBR	90m	0.09 [A]	m0	0.20 [A]	m3	0.13 [A]	m2
	SBL	120m	0.80 [C]	#102	0.79 [C]	#84	0.57 [A]	32
	SBT	440m	0.46 [A]	126	0.76 [C]	#253	0.60 [A]	138
	SBR	80m	0.11 [A]	8	0.19 [A]	17	0.15 [A]	5
Strandherd Dr/CrossKeys Pl/Hélène-Campbell Rd	EBL	60m	0.47 [A]	29	0.79 [C]	**68**	0.81 [D]	**72**
	EBT	110m	0.07 [A]	9	0.30 [A]	36	0.31 [A]	36
	EBR	60m	0.03 [A]	0	0.08 [A]	0	0.17 [A]	6
	WBL	30m	0.12 [A]	10	0.14 [A]	15	0.14 [A]	14
	WBT	160m	0.13 [A]	13	0.29 [A]	35	0.29 [A]	34

Intersection	Mvmt	Storage/ Spacing (1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
	WBR	70m	0.55 [A]	23	0.30 [A]	14	0.28 [A]	12
	NBL	150m	0.08 [A]	m3	0.22 [A]	m7	0.38 [A]	m17
	NBT	400m	0.66 [B]	#199	0.66 [B]	153	0.57 [A]	116
	NBR	90m	0.02 [A]	m1	0.03 [A]	m1	0.02 [A]	m0
	SBL	80m	0.43 [A]	25	0.54 [A]	m44	0.51 [A]	m31
	SBT	200m	0.38 [A]	74	0.60 [A]	m122	0.55 [A]	41
	SBR	70m	0.07 [A]	10	0.21 [A]	m31	0.29 [A]	7
Strandherd Dr/Sytemhouse St/Maravista Dr	EBL	80m	0.37 [A]	18	0.55 [A]	14	0.65 [B]	#38
	EBT/R	100m	0.09 [A]	9	0.16 [A]	49	0.09 [A]	17
	EBR	100m	0.16 [A]	3	0.48 [A]	49	0.40 [A]	28
	WBL	20m	0.15 [A]	17	0.11 [A]	12	0.20 [A]	12
	WBT/R	90m	0.40 [A]	30	0.30 [A]	25	0.28 [A]	27
	NBL	125m	0.72 [C]	44	0.67 [B]	#84	0.79 [C]	#102
	NBT/R	480m	0.66 [B]	#226	0.66 [B]	#172	0.65 [B]	#140
	SBL	150m	0.47 [A]	28	0.73 [C]	#56	0.72 [C]	#52
	SBT	400m	0.44 [A]	105	0.94 [E]	#218	**1.09 [F]**	#204
	SBR	60m	0.02 [A]	m0	0.02 [A]	m0	0.02 [A]	0
Strandherd Dr/Dealership Dr/Kennevale Dr	EBL	70m	0.20 [A]	14	0.52 [A]	37	0.39 [A]	23
	EBT	175m	0.02 [A]	4	0.07 [A]	10	0.03 [A]	5
	EBR	70m	0.07 [A]	3	0.19 [A]	14	0.10 [A]	5
	WBL	60m	0.46 [A]	28	0.70 [B]	49	0.50 [A]	30
	WBT/R	130m	0.33 [A]	16	0.23 [A]	13	0.33 [A]	15
	NBL	70m	0.33 [A]	16	0.24 [A]	12	0.27 [A]	12
	NBT/R	1,000m	0.60 [A]	168	0.63 [B]	159	0.59 [A]	132
	SBL	50m	0.29 [A]	17	0.43 [A]	25	0.40 [A]	#25
	SBT	480m	0.33 [A]	69	0.69 [B]	185	0.53 [A]	118
	SBR	110m	0.07 [A]	3	0.05 [A]	0	0.03 [A]	0
Systemhouse St/Citigate Dr	EB	150m	10 sec. [A]	0	11 sec. [B]	1	10 sec. [B]	1
	WB	330m	10 sec. [A]	3	9 sec. [A]	3	10 sec. [B]	3
	SB	330m	7 sec. [A]	1	7 sec. [A]	1	7 sec. [A]	1
Systemhouse St/Costco Access	EB	330m	3 sec. [A]	0	1 sec. [A]	0	2 sec. [A]	0
	WB	110m	0 sec. [A]	0	0 sec. [A]	0	0 sec. [A]	0
	SB	160m	10 sec. [B]	3	14 sec. [C]	23	15 sec. [C]	23

#: volume for the 95th percentile cycle exceeds capacity

Due to analysis of future conditions being completed using a PHF of 1.0 as opposed to the 0.9 that was used during existing conditions analysis some movements show a small improvement in terms of capacity and queue lengths compared to results from the existing conditions.

Under 2025 background traffic conditions, the critical northbound through movement at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection continues to operate with a LOS F during the AM and PM peak hours. During the Saturday peak hour the intersection operates with a LOS C.
The critical southbound through movement at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection continues to operate with a LOS F during the Saturday peak hour.

All other study area intersections continue to operate with a LOS E or better during the AM, PM, and Saturday peak hours.

3.3.3 2030 Background Traffic Conditions

Operating conditions at study area intersections are summarized in **Table 10** for the 2030 weekday PM and Saturday peak periods. Detailed reports are included in **Appendix J**.

Table 10: 2030 Background Traffic Operations

Intersection	Mvmt	Storage/ Spacing (1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
Strandherd Dr/Citigate Dr/Fallowfield Rd	EBL	65m	0.45 [A]	19	0.52 [A]	**71**	0.44 [A]	23
	EBT/R	240m	0.26 [A]	15	0.55 [A]	35	0.37 [A]	22
	WBL	125m	0.26 [A]	27	0.31 [A]	45	0.32 [A]	28
	WBT	360m	0.27 [A]	21	0.23 [A]	22	0.32 [A]	23
	WBR	100m	0.83 [D]	50	0.90 [D]	68	0.57 [A]	18
	NBL	70m	0.08 [A]	m2	0.12 [A]	m3	0.10 [A]	m3
	NBT	200m	**1.69 [F]**	**#422**	**1.80 [F]**	**#319**	0.86 [D]	#193
	NBR	90m	0.09 [A]	m0	0.28 [A]	m3	0.13 [A]	m4
	SBL	120m	0.80 [C]	#102	0.83 [D]	#84	0.57 [A]	32
	SBT	440m	0.58 [A]	#185	**1.05 [F]**	#317	0.65 [B]	156
	SBR	80m	0.23 [A]	12	0.21 [A]	21	0.15 [A]	6
Strandherd Dr/CrossKeys Pl/Hélène-Campbell Rd	EBL	60m	0.49 [A]	30	0.81 [D]	**74**	0.81 [D]	**72**
	EBT	110m	0.10 [A]	11	0.38 [A]	46	0.31 [A]	36
	EBR	60m	0.03 [A]	0	0.07 [A]	0	0.17 [A]	6
	WBL	30m	0.12 [A]	10	0.14 [A]	14	0.14 [A]	14
	WBT	160m	0.15 [A]	15	0.28 [A]	35	0.29 [A]	34
	WBR	70m	0.55 [A]	25	0.28 [A]	13	0.28 [A]	12
	NBL	150m	0.08 [A]	m3	0.22 [A]	m6	0.38 [A]	m16
	NBT	400m	0.77 [C]	#256	0.87 [D]	#207	0.62 [B]	126
	NBR	90m	0.02 [A]	m0	0.03 [A]	m0	0.02 [A]	m0
	SBL	80m	0.43 [A]	m21	0.57 [A]	m37	0.51 [A]	m28
	SBT	200m	0.49 [A]	98	0.76 [C]	m#192	0.60 [A]	75
	SBR	70m	0.07 [A]	m10	0.23 [A]	m29	0.29 [A]	12
Strandherd Dr/Sytemhouse St/Maravista Dr	EBL	80m	0.43 [A]	21	0.58 [A]	#59	0.65 [B]	#38
	EBT	100m	0.08 [A]	10	0.15 [A]	21	0.09 [A]	17
	EBR	100m	0.16 [A]	4	0.47 [A]	41	0.40 [A]	28
	WBL	20m	0.15 [A]	17	0.11 [A]	12	0.20 [A]	12
	WBT/R	90m	0.44 [A]	36	0.31 [A]	24	0.28 [A]	27
	NBL	125m	0.78 [C]	#57	0.68 [B]	#89	0.79 [C]	#102
	NBT/R	480m	0.82 [D]	#286	0.95 [E]	#227	0.70 [B]	#158
	SBL	150m	0.47 [A]	28	0.73 [C]	m#47	0.72 [C]	#52
	SBT	400m	0.59 [A]	#146	**1.33 [F]**	#289	**1.18 [F]**	#227
	SBR	60m	0.08 [A]	1	0.03 [A]	m0	0.02 [A]	0
Strandherd Dr/Dealership Dr/Kennevale Dr	EBL	70m	0.27 [A]	17	0.75 [C]	57	0.39 [A]	23
	EBT	175m	0.04 [A]	6	0.13 [A]	17	0.03 [A]	5
	EBR	70m	0.10 [A]	6	0.35 [A]	29	0.10 [A]	5
	WBL	60m	0.46 [A]	28	0.65 [B]	50	0.50 [A]	30
	WBT/R	130m	0.44 [A]	25	0.22 [A]	15	0.33 [A]	15
	NBL	70m	0.51 [A]	27	0.28 [A]	13	0.27 [A]	12
	NBT/R	1,000m	0.71 [C]	#241	0.74 [C]	#216	0.63 [B]	147
	SBL	50m	0.29 [A]	17	0.43 [A]	25	0.40 [A]	#25
	SBT	480m	0.41 [A]	88	0.87 [D]	#268	0.57 [A]	133
	SBR	110m	0.15 [A]	11	0.06 [A]	1	0.03 [A]	0

Intersection	Mvmt	Storage/ Spacing (1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
Systemhouse St/Citigate Dr	EB	150m	10 sec. [A]	0	11 sec. [B]	1	10 sec. [B]	1
	WB	330m	10 sec. [A]	3	9 sec. [A]	3	10 sec. [B]	3
	SB	330m	7 sec. [A]	1	7 sec. [A]	1	7 sec. [A]	1
Systemhouse St/Costco Access	EB	330m	2 sec. [A]	0	1 sec. [A]	0	2 sec. [A]	0
	WB	110m	0 sec. [A]	0	0 sec. [A]	0	0 sec. [A]	0
	SB	160m	11 sec. [B]	4	16 sec. [C]	23	15 sec. [C]	23

#: volume for the 95th percentile cycle exceeds capacity

Under 2030 background traffic conditions, the critical northbound through movement at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection continues to operate with a LOS F during the AM and PM peak hours. During the Saturday peak hour the intersection operates with a LOS C.

The critical southbound through movement at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection operates with a LOS F during the PM and Saturday peak hours.

All other study area intersections continue to operate with a LOS E or better during the PM and Saturday peak hours.

The failing intersection operations along Strandherd Drive are attributable to high traffic volumes along the corridor. This is exacerbated by background growth and other area developments noted in Section 3.0. The approximate required reduction in volumes to meet the target Auto LOS for each over-capacity movement in 2030 is included below.

AM Peak Hour

- Strandherd Drive/Citigate Drive/Fallowfield Road (Assumed increased cycle length of 150 seconds)
    - Northbound through (v/c: 1.69): reduction of 570 vehicles required.

PM Peak Hour

- Strandherd Drive/Citigate Drive/Fallowfield Road (Assumed increased cycle length of 150 seconds)
    - Northbound through (v/c: 1.80): reduction of 405 vehicles required.

- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Southbound through (v/c: 1.33): reduction of 345 vehicles required.

Saturday Peak Hour

- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Southbound through (v/c: 1.18): reduction of 175 vehicles required.

Traffic throughout the study area could be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate time to travel for drivers using the study area roadways to make use of off-peak capacity, and alternate routes for travel. A further description of each option is provided below.

Increased Use of Non-Auto Modes
The City's 2025 TMP identifies the O-Train Line 1 Extension from Algonquin Station to Barrhaven Town Centre Station, the South Transitway from Longfields Drive to Greenbank Road, and the Southwest Transitway from Barrhaven Centre Station to Kilbirnie Station. All three projects are included in the priority network with implementation by 2046. However, the TMP notes that the O-Train Line 1 Extension will be fully reliant on funding from other levels of government.

Based on Table 5 in the City's 2020 TRANS Trip Generation Manual, a transit modal share of 23% (average AM and PM peak) has been achieved in the South Nepean District. The aforementioned transit projects will provide fast, reliable transit service through the existing Barrhaven community and extend transit to the rapidly growing developments south of the Jock River. The provision of improved transit is anticipated to increase the transit modal share in these communities. A further shift to transit will improve roadway congestion to/from the north, including reducing traffic along the Strandherd Drive corridor.

Alternate Travel Times
As congestion increases within the study area, some motorists will alter their travel to occur outside of the peak hours. A shift in travel times will result in a reduction of peak hour traffic volumes along the Strandherd Drive corridor.

Alternate Routes of Travel
As congestion increases within the study area, some motorists may choose alternate routes of travel outside the study area. Current north-south routes for commuters in the Barrhaven/South Nepean communities include Highway 416 (interchange at Fallowfield Road), Greenbank Road, Woodroffe Avenue, and Prince of Wales Drive.

The City's 2025 TMP identifies a new interchange to Highway 416 at Barnsdale Road in the priority network. This new interchange will provide an alternative connection to Highway 416 for residents of the rapidly growing community south of the Jock River. Currently the only Highway 416 interchange in Barrhaven is located along Fallowfield Road northwest of the study area and requires all commuters destined to/from the highway to use Strandherd Drive.

The new interchange at Barnsdale Road will reduce traffic along the Strandherd Drive corridor by re-routing commuters from south of the Jock River to the new interchange. It is understood that funding for the new interchange has been secured by the province, but the construction timeline is currently unknown.

Greenbank Road is currently a two-lane roadway south of Marketplace Avenue. It performs two 90-degree bends crossing the Jock River. The City's 2025 TMP identifies the Greenbank Road realignment from Marketplace Avenue to Barnsdale Road within its Priority Road Network. The project will be constructed in three phases. Funding has been committed to the first phase including a new four-lane road from Marketplace Avenue to Cambrian Road. Phases 2 and 3 will include a new two lane road from Cambrian Road to Kilbirnie Drive and Barnsdale Road respectively. Phases 2 and 3 are identified as Phase 1 Projects in the Priority Road Network, with implementation by 2046. These projects will provide improved access to ongoing development south of the Jock River and additional capacity crossing of the Jock River. The increased capacity and improved flow of traffic will draw north-south vehicles away from Strandherd Drive onto the improved roadway.

The 2030 total traffic projections presented in the 3288 and 3300 Borisokane Road TIA dated March 2024, projects approximately 1200 and 810 vehicles will perform the northbound left during the AM and PM peak hours and 580 and 1,200 vehicles will perform the eastbound right during the AM and

PM peak hours at the Strandherd Drive/Borrisokane Road intersection (i.e. approximately 1,800 to 2,000 vehicles two-way along Strandherd Drive through the study area) during the 2030 AM and PM peak hour. In order to reduce the v/c ratios to 1.0 along Strandherd Drive at our study area intersections approximately 50% of the northbound left turning vehicles at this intersection would need to be displaced during the AM and PM peak hours. Additionally, approximately 30% of the eastbound right turning vehicles would need to be displaced through either a shift to non-auto modes, alternate travel times, or alternate routes (i.e. Greenbank Road or Barnsdale Interchange).

Based on the foregoing, Strandherd Drive will continue to experience congestion due to background growth. City and Province investment in roadway and transit infrastructure projects within the Barrhaven/South Nepean is required to support the ongoing development in the area and to relieve existing and projected traffic pressures along the Strandherd Drive corridor. It is realistic to assume that with the implementation of new or improved transportation infrastructure to the Barrhaven/Nepean South area, the necessary reductions in background traffic along Strandherd Drive can be achieved.

The roadway and transit infrastructure projects within Barrhaven/South Nepean that will alleviate background traffic conditions are shown in **Figure 14**.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Sidewalks will be provided throughout the development to encourage internal pedestrian circulation between the various retail blocks. A north-south sidewalk will be provided along the front of the retail developments at the rear of the site, connecting directly to Systemhouse Street. Two-east west sidewalks will be provided across the site, providing pedestrian connectivity from Strandherd Drive to the commercial units at the rear of the site. Additionally, a pedestrian plaza is proposed in the northeast corner of the site, providing connectivity to the Strandherd Drive/Systemhouse Street signalized intersection.

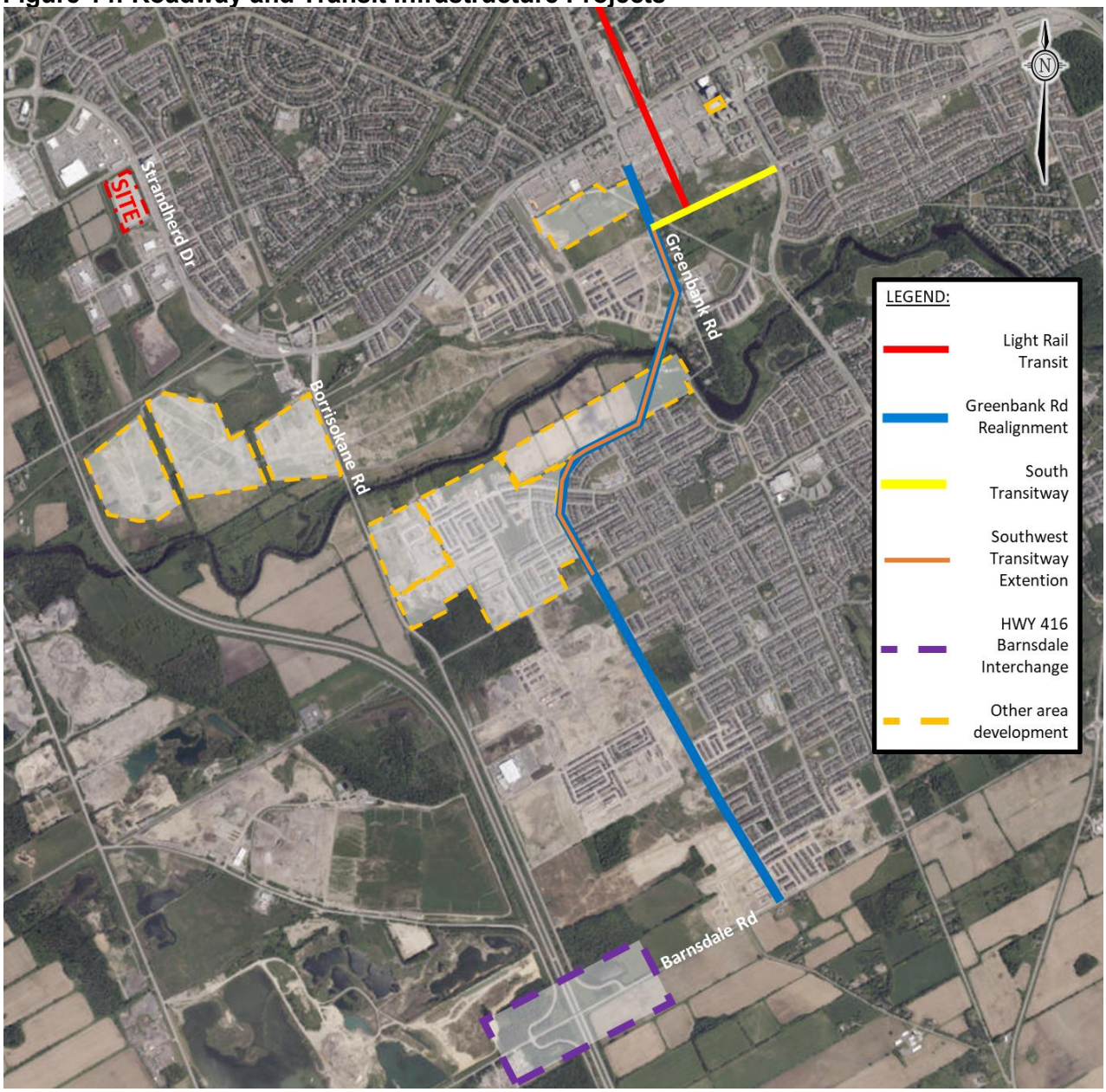
Bicycle parking will be provided throughout the site and near various building entrances.

All bus stops discussed in Section 2.1.5 (and shown in **Figure 2**) are within 400m walking distance of the entrances to the proposed development. These stops are served by Routes 70, 110, and 173 as well as School Routes 675, 679, 683, and 696. A 400m walking distance is equivalent to a five-minute walk, per OC Transpo's service design guidelines.

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

In order to encourage the use of sustainable modes, the following 'basic' and 'better' design measures from the City's TDM Infrastructure Checklist will be implemented for the proposed redevelopment:

Figure 14: Roadway and Transit Infrastructure Projects



- Some building will be located near the street and have no parking areas between the street and building entrances; and
- Building doors and windows will ensure visibility of pedestrians from the building.

A sidewalk has recently been constructed on the south side of Systemhouse Street, connecting Strandherd Drive to Citigate Drive. The sidewalk, however, is currently barricaded west of the subject site until grading concerns are accounted for at a property to the west of the subject site. Pedestrian connectivity to the Trinity Commons businesses and bus stop ID: 4715 will be provided through the protected intersection crosswalks at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection as well as the existing uncontrolled crossing at the O'Keefe Drain MUP. As Systemhouse Street is approximately 20m wide at the proposed access location and the proposed access is located approximately 115m west of the Strandherd

Drive/Systemhouse Street signalized intersection, a direct pedestrian crossing at the access may be a safety concern. Consideration should be given by the City to improving the uncontrolled pedestrian crossing at the O'Keefe Drain to provide improved pedestrian permeability along Systemhouse Street. Based on the Pedestrian Crossover Selection Matrix in Ontario Traffic Manual (OTM) Book 15, a PXO C is recommended at the O'Keefe Drain crossing based on the anticipated traffic volumes, a speed limit of 50km/hr, and a crossing width equivalent to three lanes crossed.

No pedestrian/cyclist crossing is proposed across the O'Keefe drainage corridor. This is due to the desire to not mix pedestrian/cyclist and truck traffic accessing loading bays along the western frontage of the site, and the lack of a strong desire line for pedestrians and cyclists not already served within the study area. The majority of pedestrians and cyclists entering the site from the residential areas to the north and east are expected to travel along Strandherd Drive. Pedestrians and cyclists trips coming from the various auto dealerships and commercial businesses to the south will have the option of using the existing O'Keefe drain pathway, Strandherd Drive, or the future Citigate Drive extension.

4.1.2 Circulation and Access

Garbage and loading area bays are available at the majority of the proposed buildings. Turning movements figures have been completed showing a WB-20 and HSU trucks entering and exiting the site as well as accessing various loading bays within the site. Turning movement figures are shown in **Figures 15-31**.

The fire route will be provided throughout the subject site and a firetruck will be able to access all building accesses without needing to reverse.

4.2 Parking

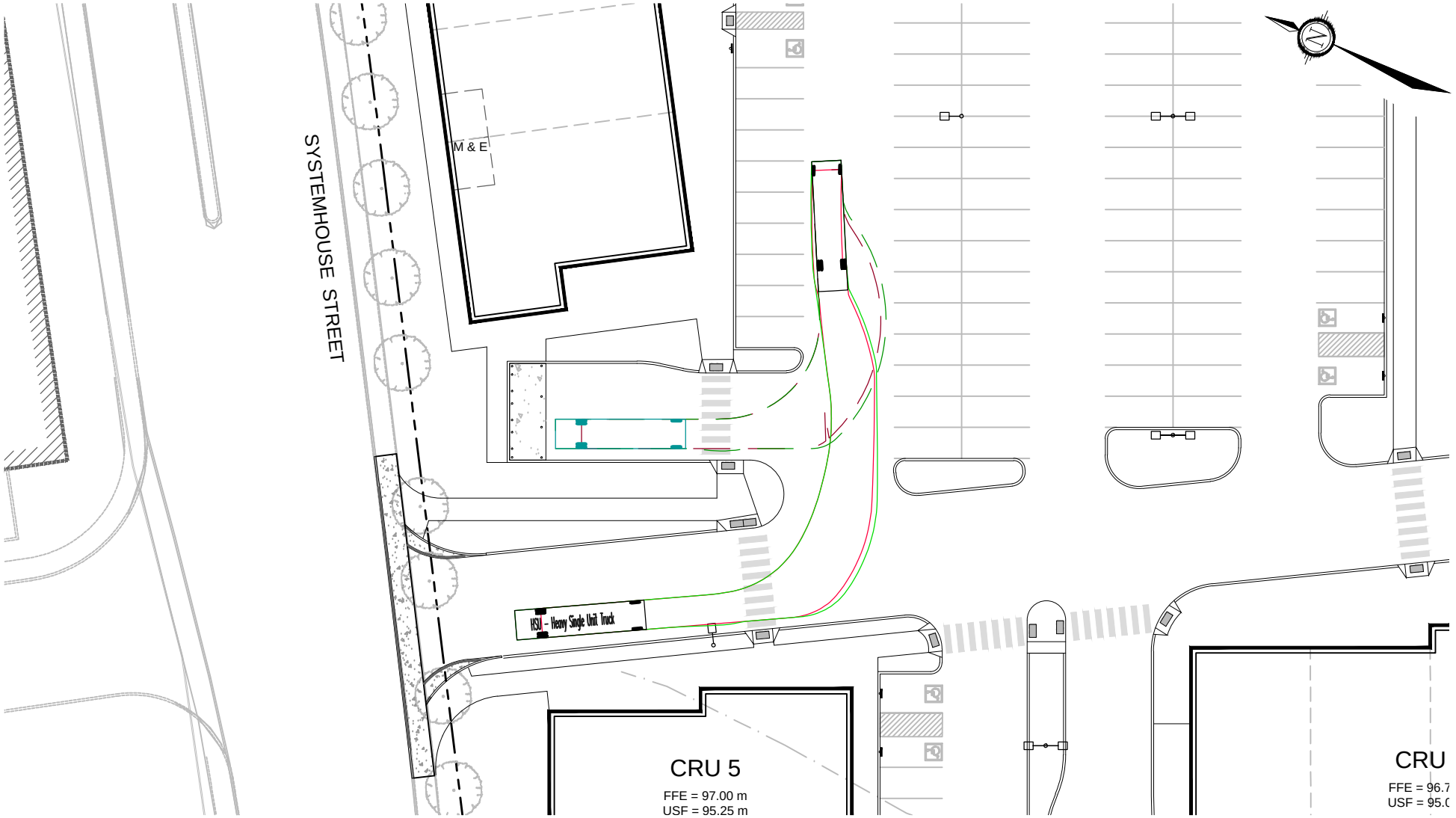
The subject site is located in Area C of Schedule 1 and Schedule 1A of the City of Ottawa's ZBL. Minimum vehicle and bicycle parking rates for the proposed commercial development are identified in Sections 101 and 111 of the ZBL, and are summarized in **Table 11**.

Table 11: Parking Requirements per Zoning By-Law

Land Use	Rate	GFA	Required	Provided
Vehicle Parking				
Shopping Centre	3.6 per 100m² of gross leasable floor area	11,530m²	415	498
Bicycle Parking				
Retail Store	1.0 per 500m² of gross leasable floor area	11,530m²	23	30

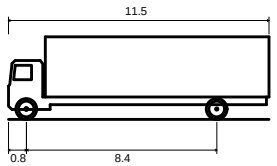
Based on the previous table, the minimum parking requirements will be met for both vehicles and bicycles.

For parking lots with 451-500 parking spaces the City's Traffic and Parking By-law requires six Type A and six Type B accessible parking spaces. The development provides 24 accessible parking spaces meeting this requirement.



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HSU - Heavy Single Unit Truck

Overall Length	11.500m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	14.100m

4275 STRANDHERD DRIVE

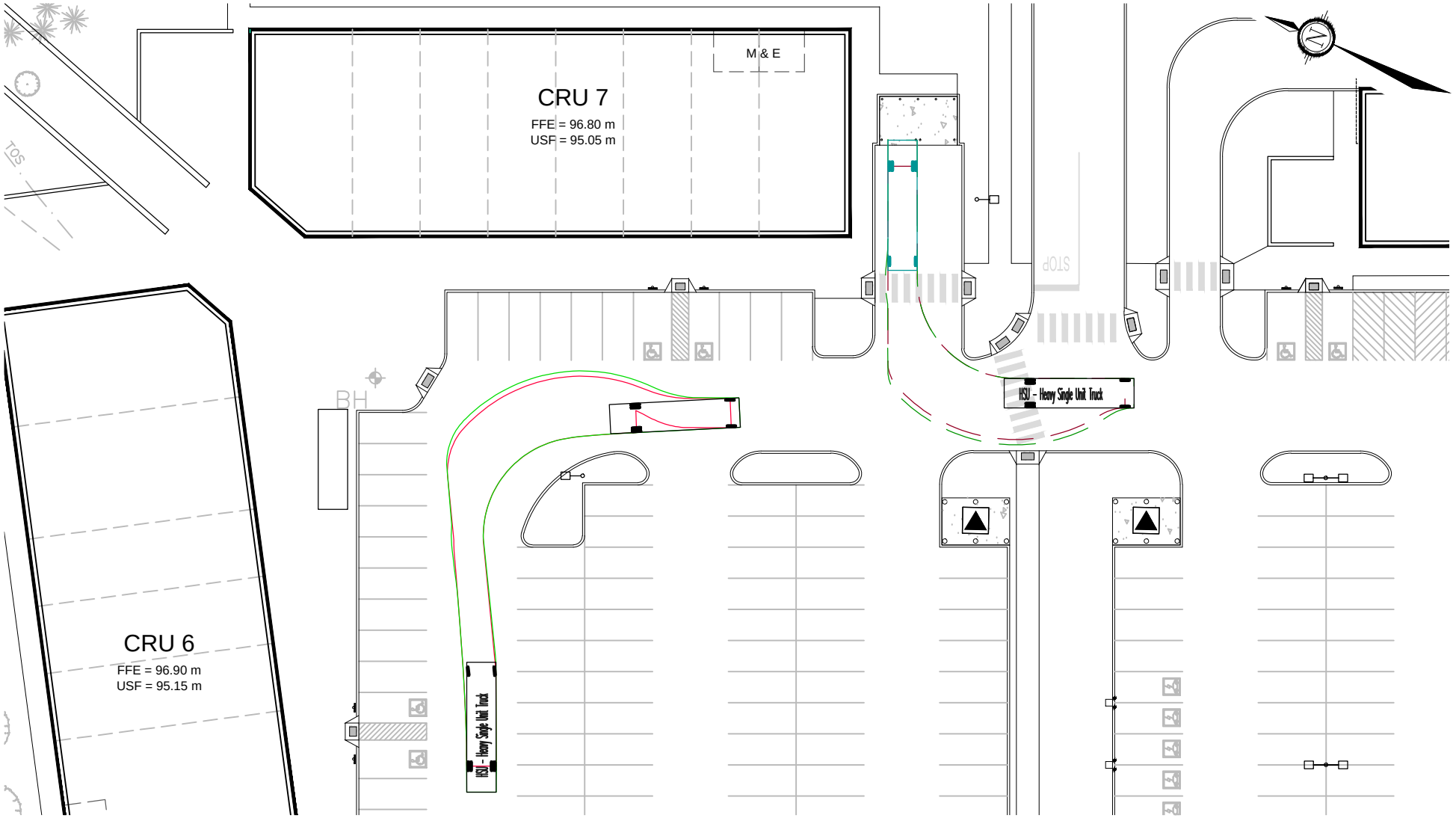
TURNING MOVEMENT (HSU)

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

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 15

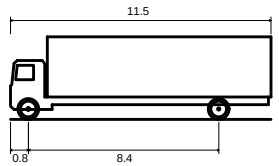
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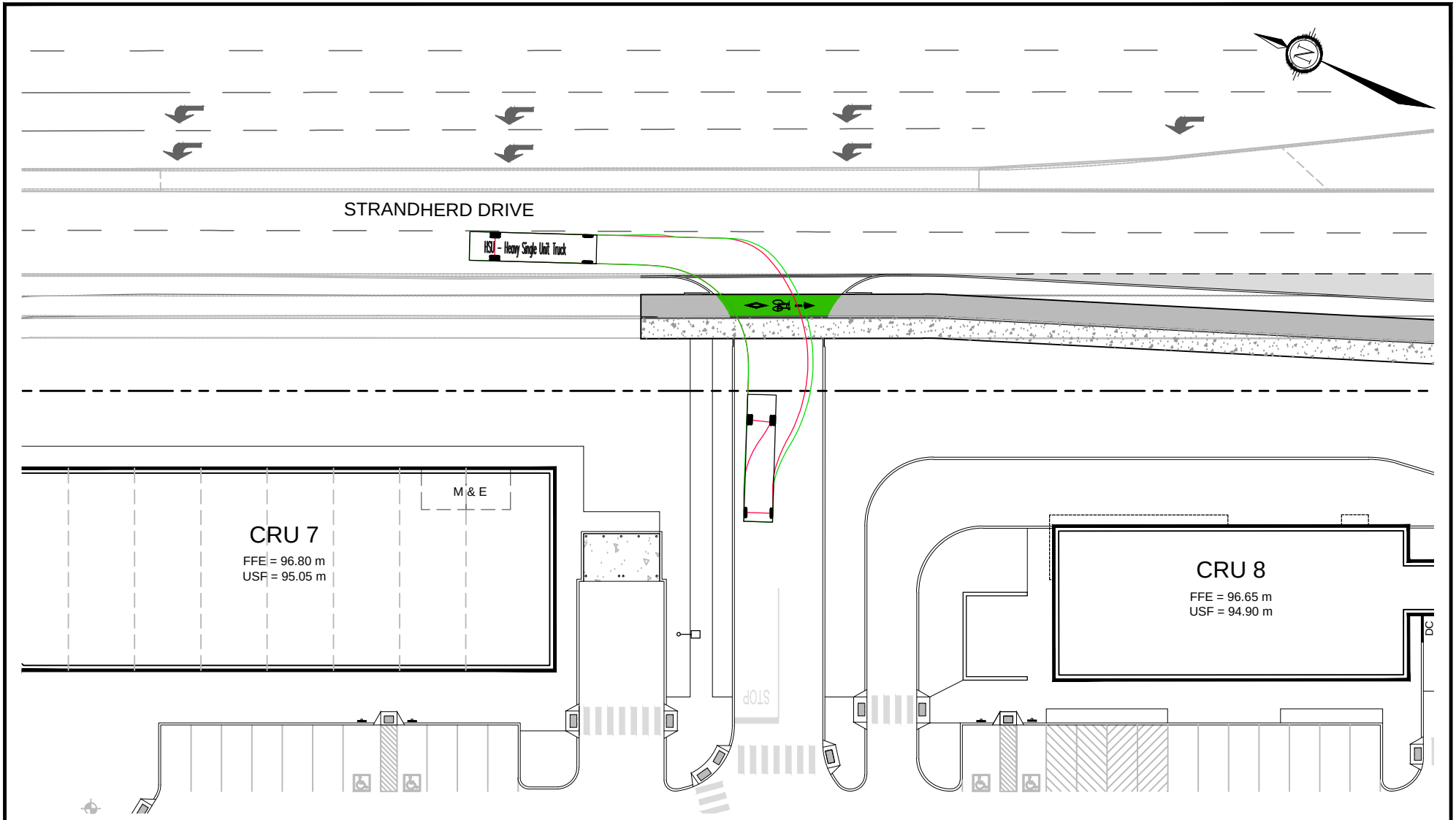
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DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 16

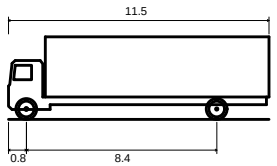
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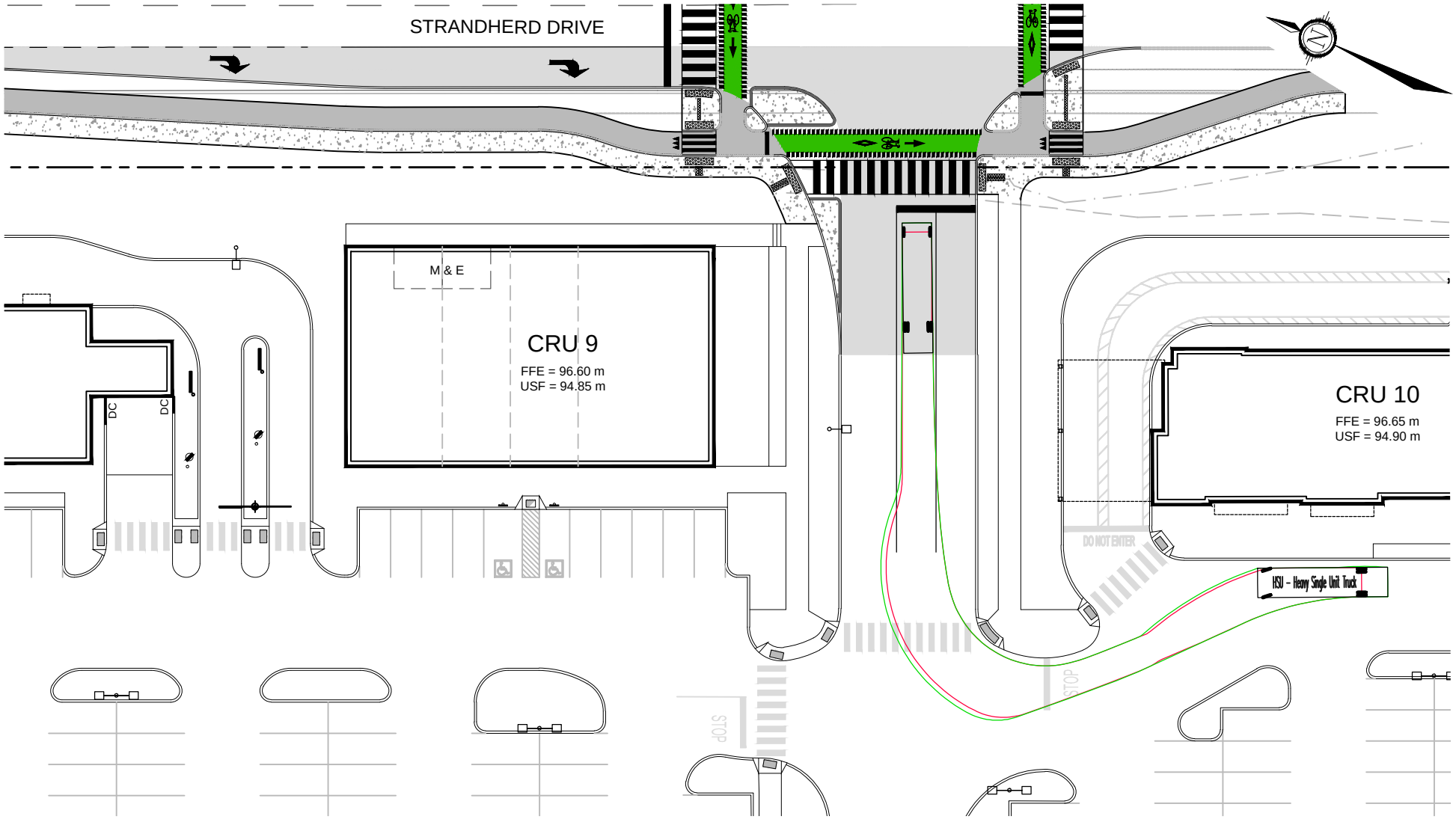
TURNING MOVEMENT (HSU)

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

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 17

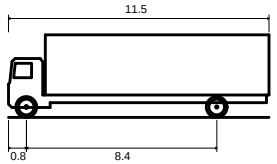
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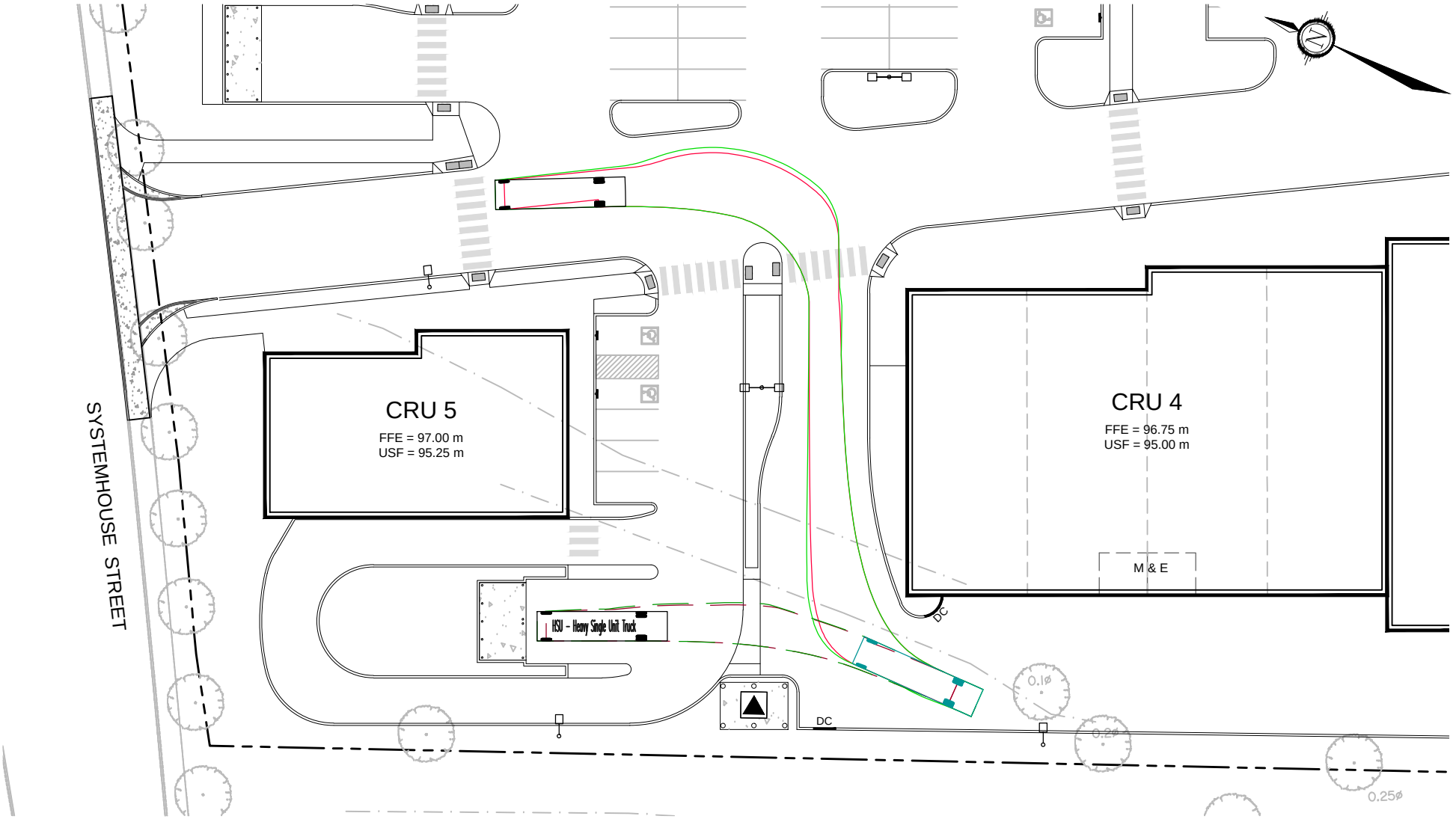
TURNING MOVEMENT (HSU)

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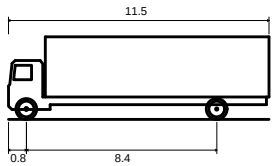
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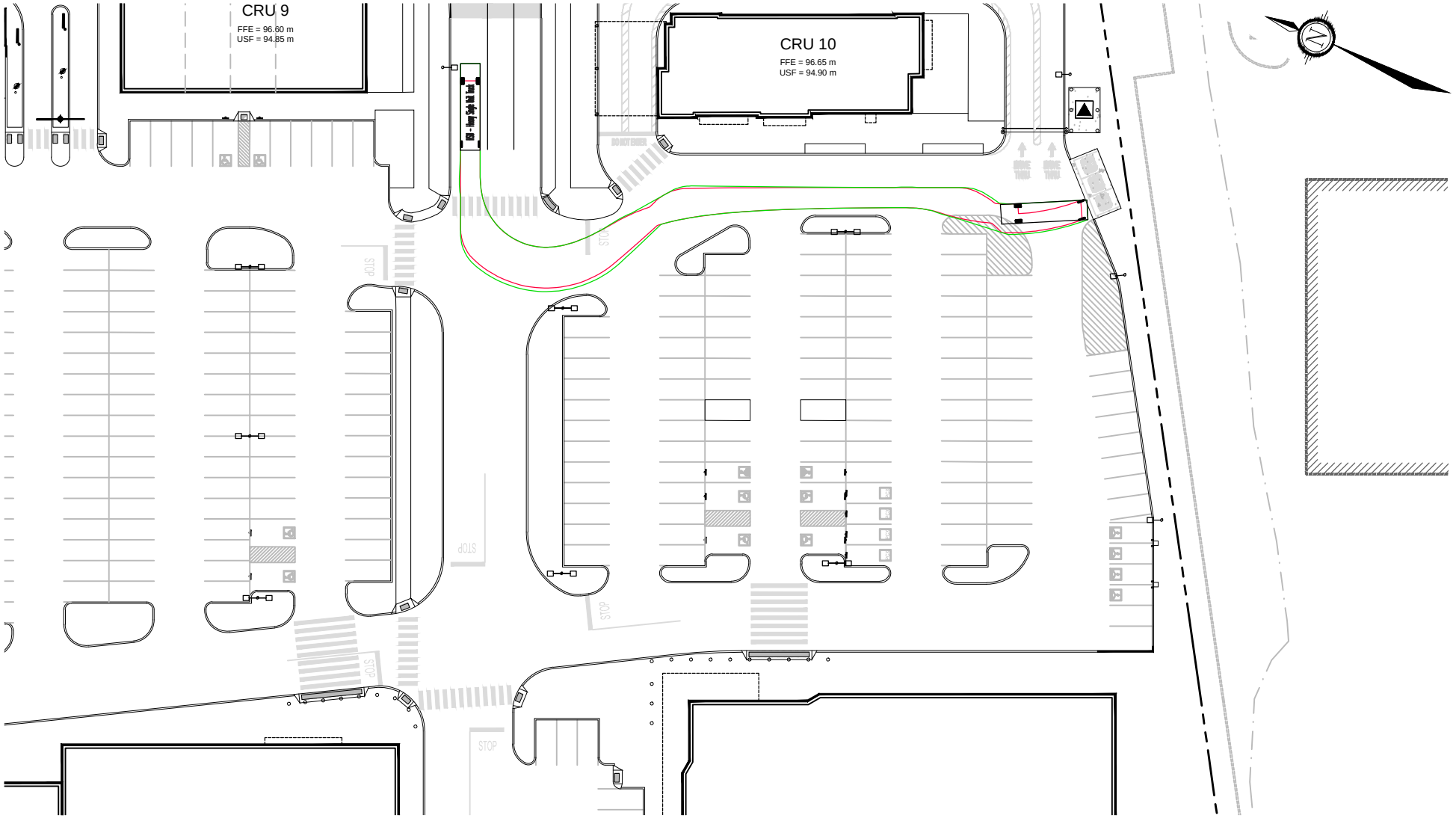
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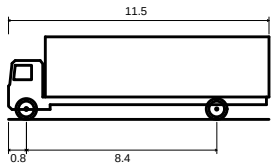
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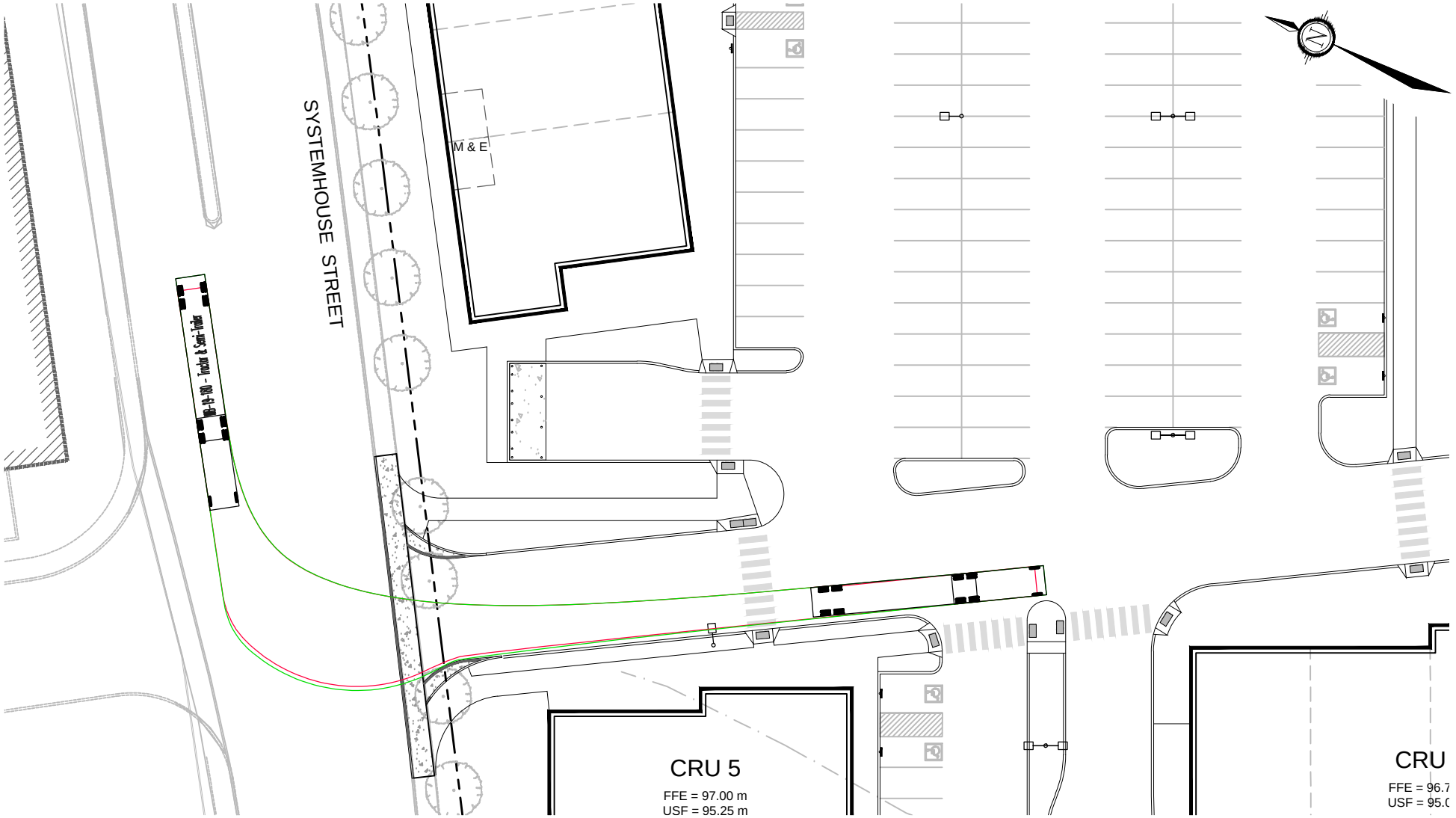
TURNING MOVEMENT (HSU)

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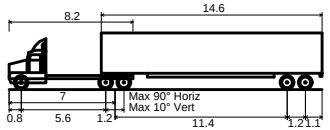
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WB-19 - Tractor & Semi-Trailer

Overall Length	
Overall Width	2.600m
Overall Body Height	3.730m
Min Body Ground Clearance	0.435m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	14.000m

4275 STRANDHERD DRIVE

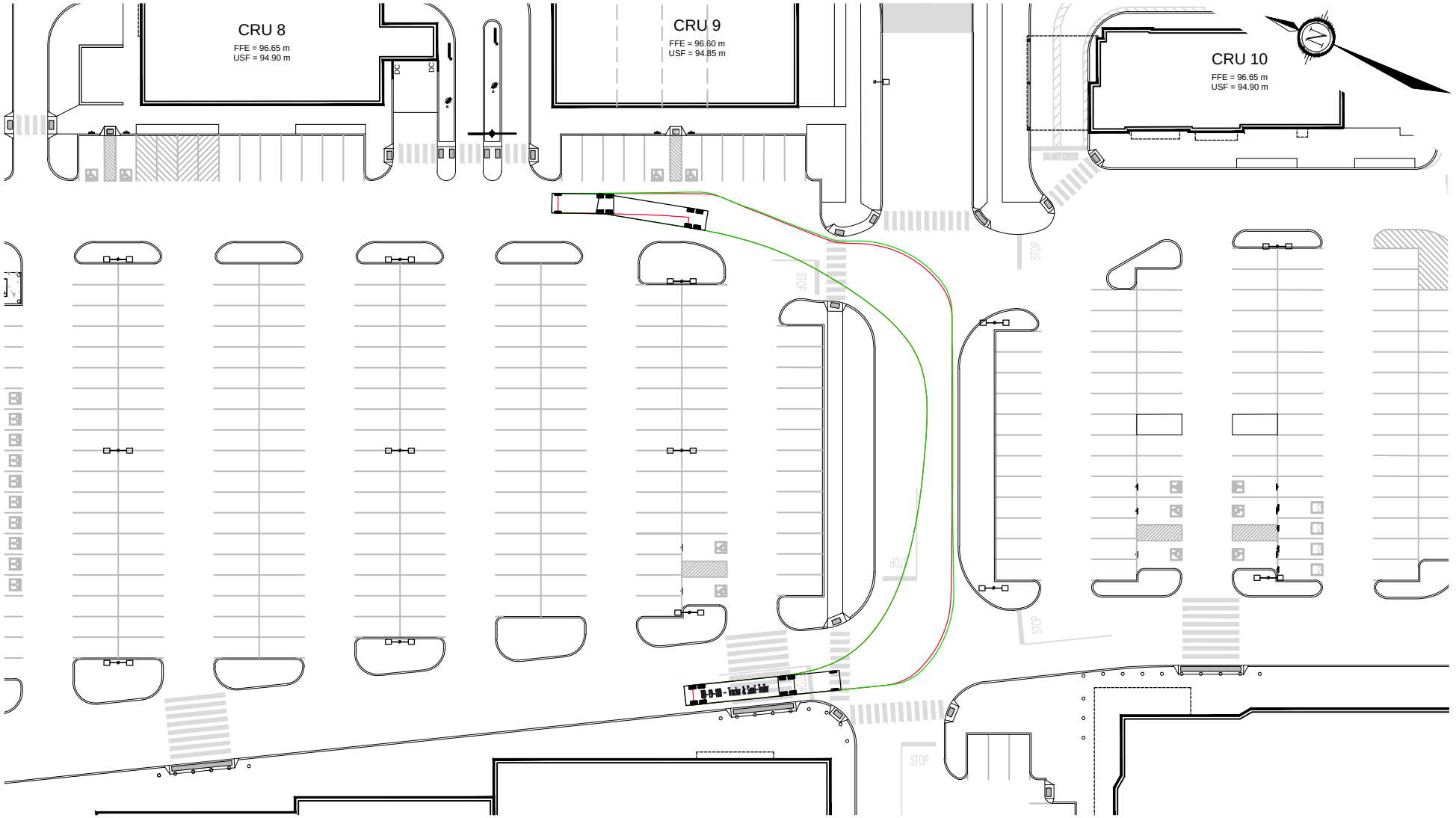
TURNING MOVEMENT (WB-19)

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

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 21

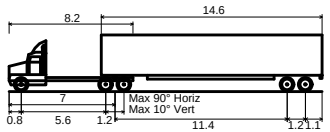
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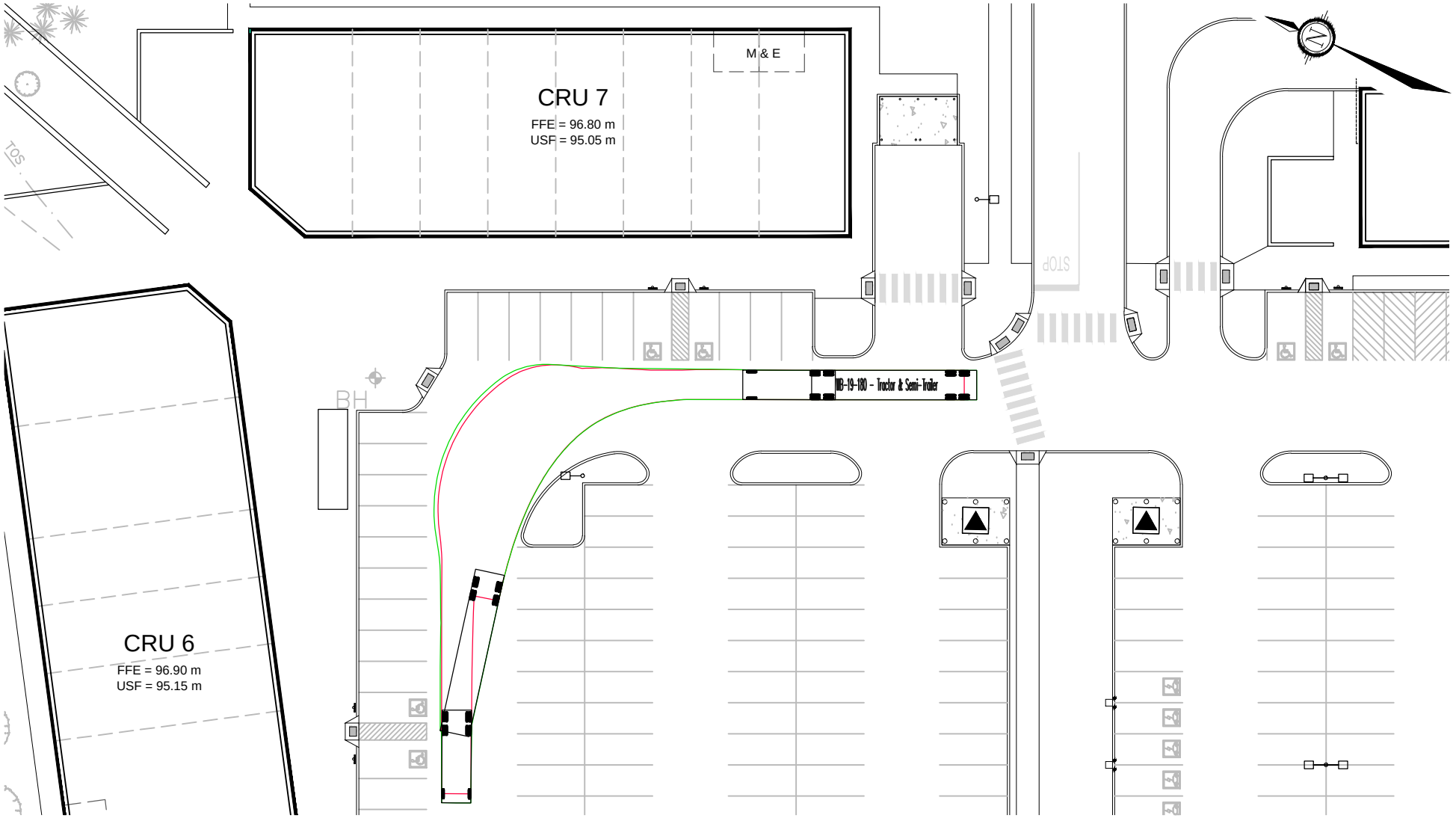
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SCALE 1 : 750 (0 10 20 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 22

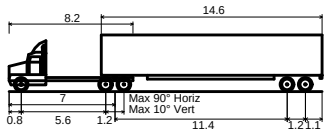
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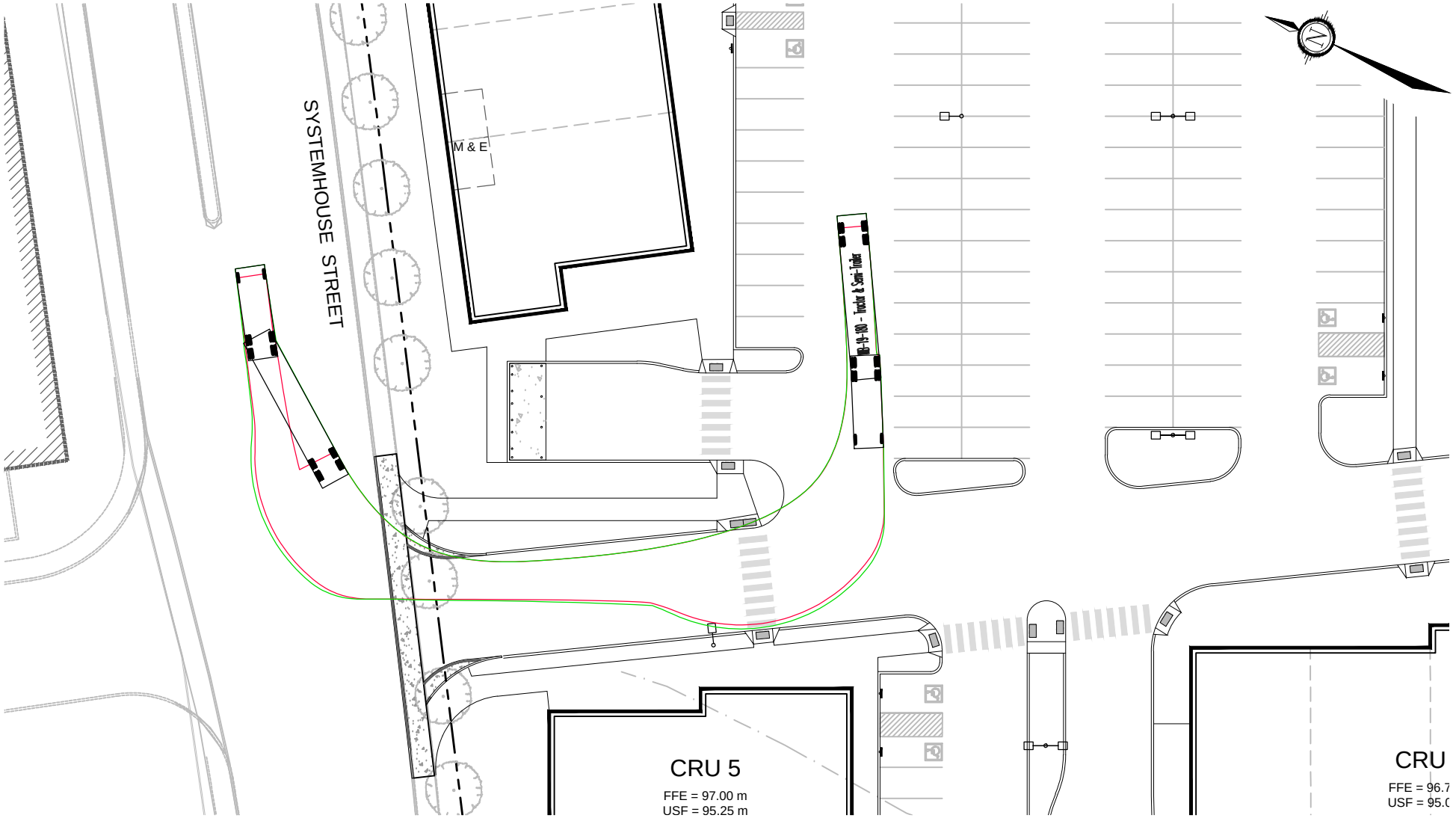
TURNING MOVEMENT (WB-19)

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

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 23

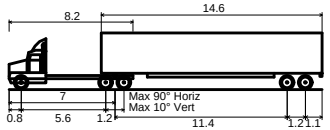
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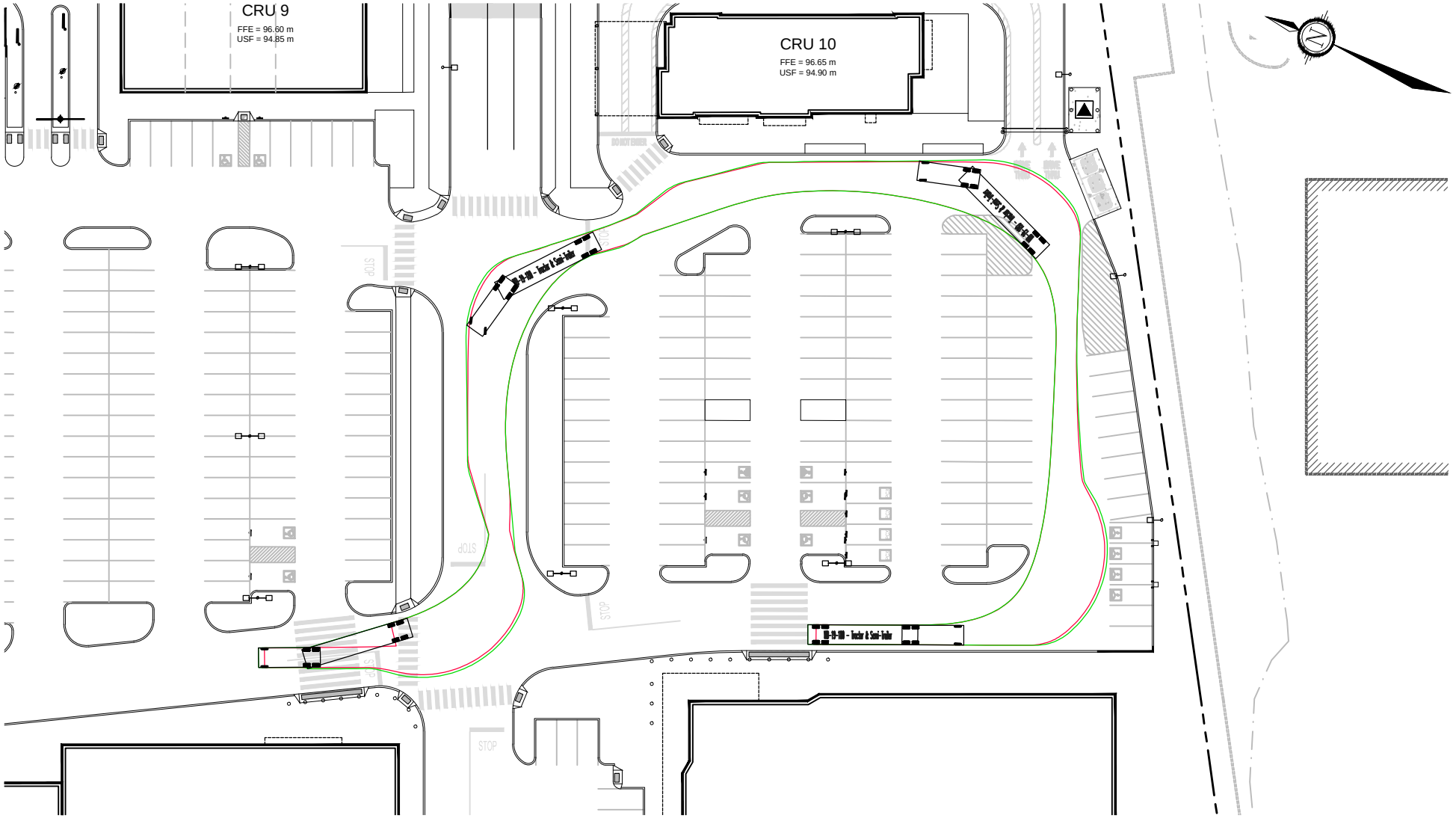
TURNING MOVEMENT (WB-19)

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

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 24

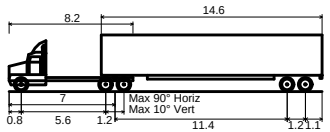
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4275 STRANDHERD DRIVE

TURNING MOVEMENT (WB-19)

SCALE 1 : 750 (0 10 20 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 25

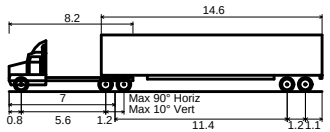
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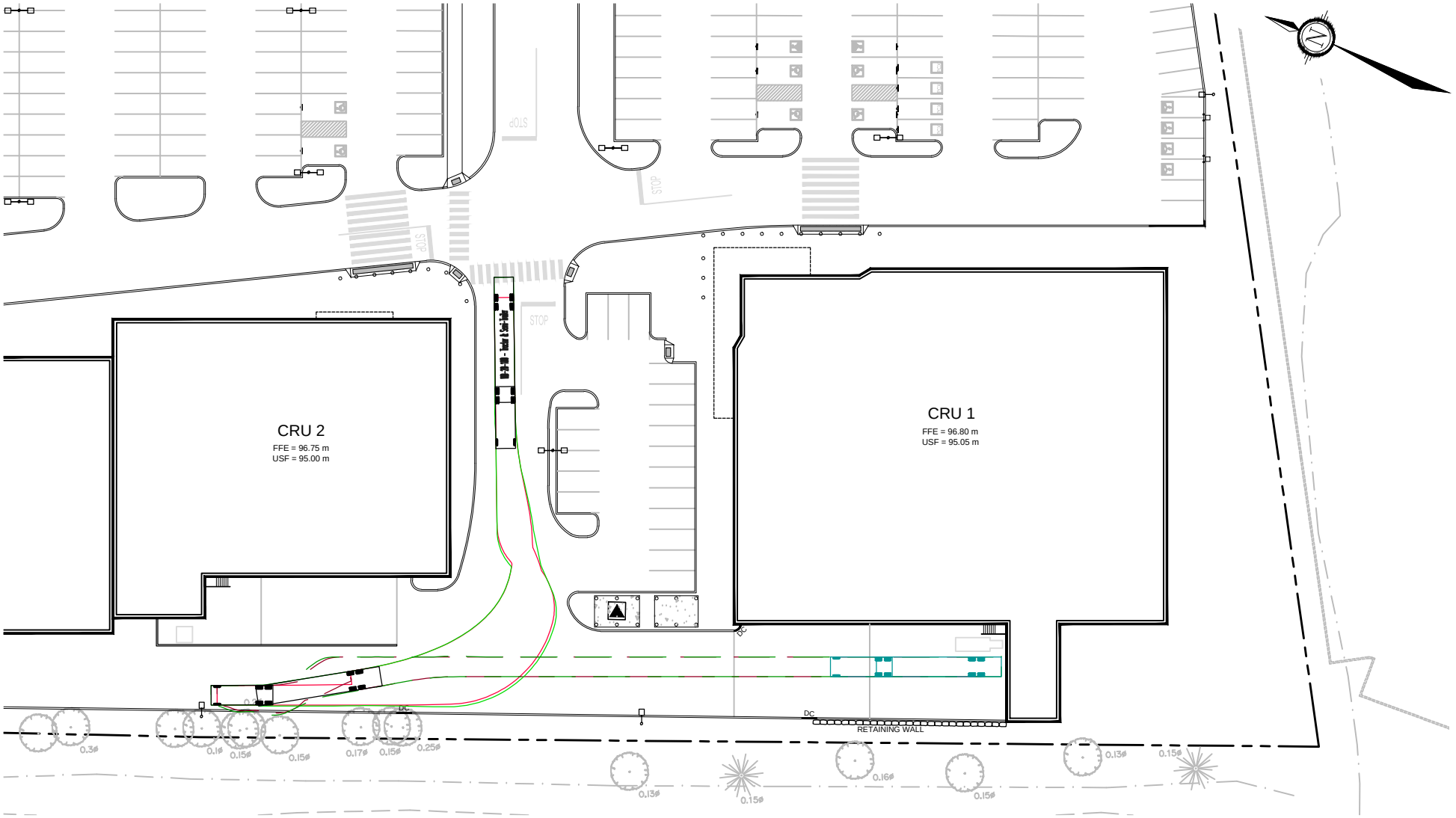
TURNING MOVEMENT (WB-19)

SCALE 1 : 750 (0, 10, 20, 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 26

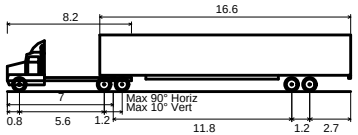
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WB-20 - Tractor & Semi-Trailer

Overall Length	22.700m
Overall Width	2.600m
Overall Body Height	3.730m
Min Body Ground Clearance	0.435m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	14.300m

4275 STRANDHERD DRIVE

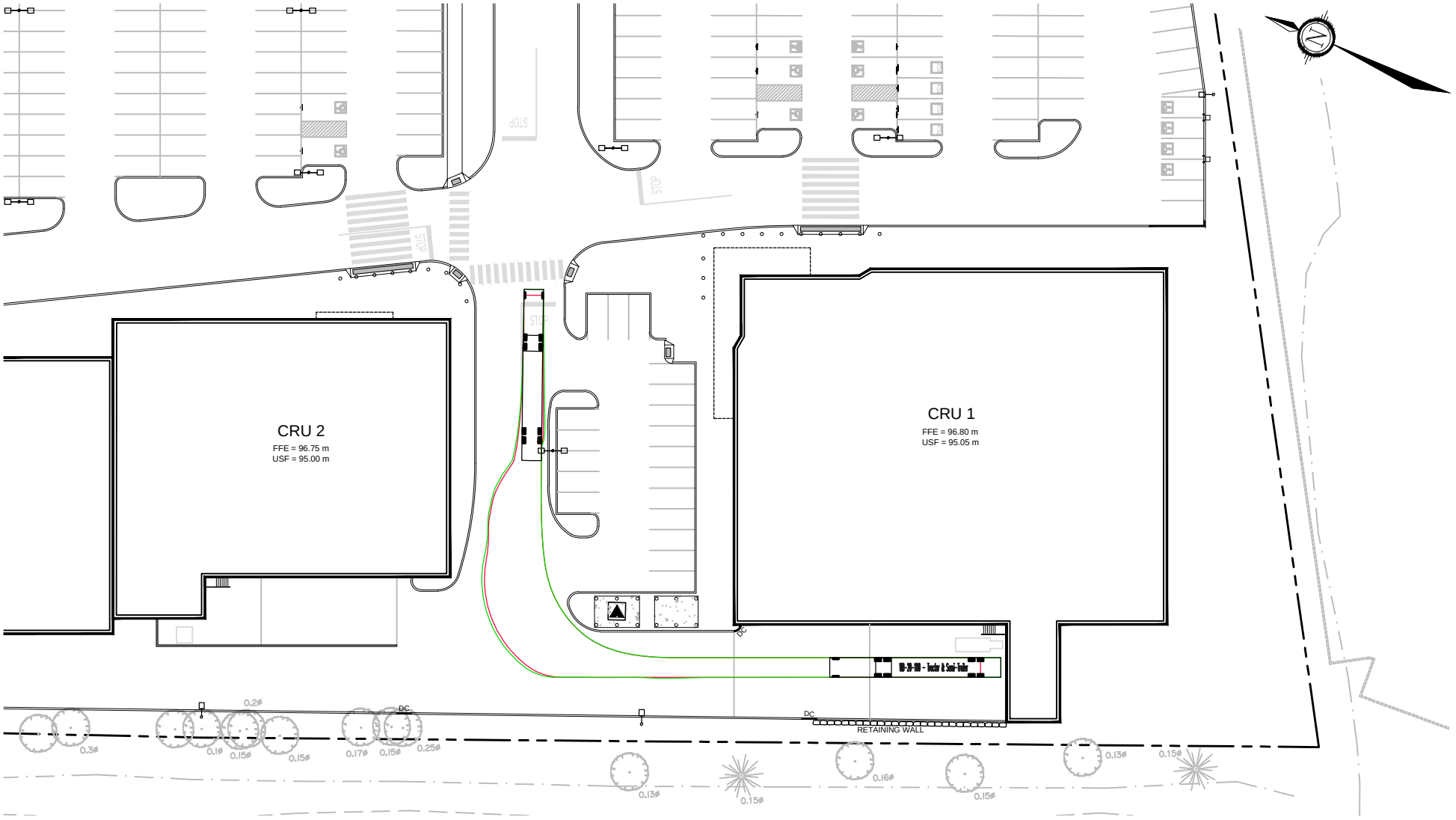
TURNING MOVEMENT (WB-20)

SCALE 1 : 750 (0 10 20 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 27

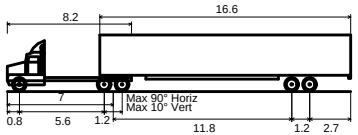
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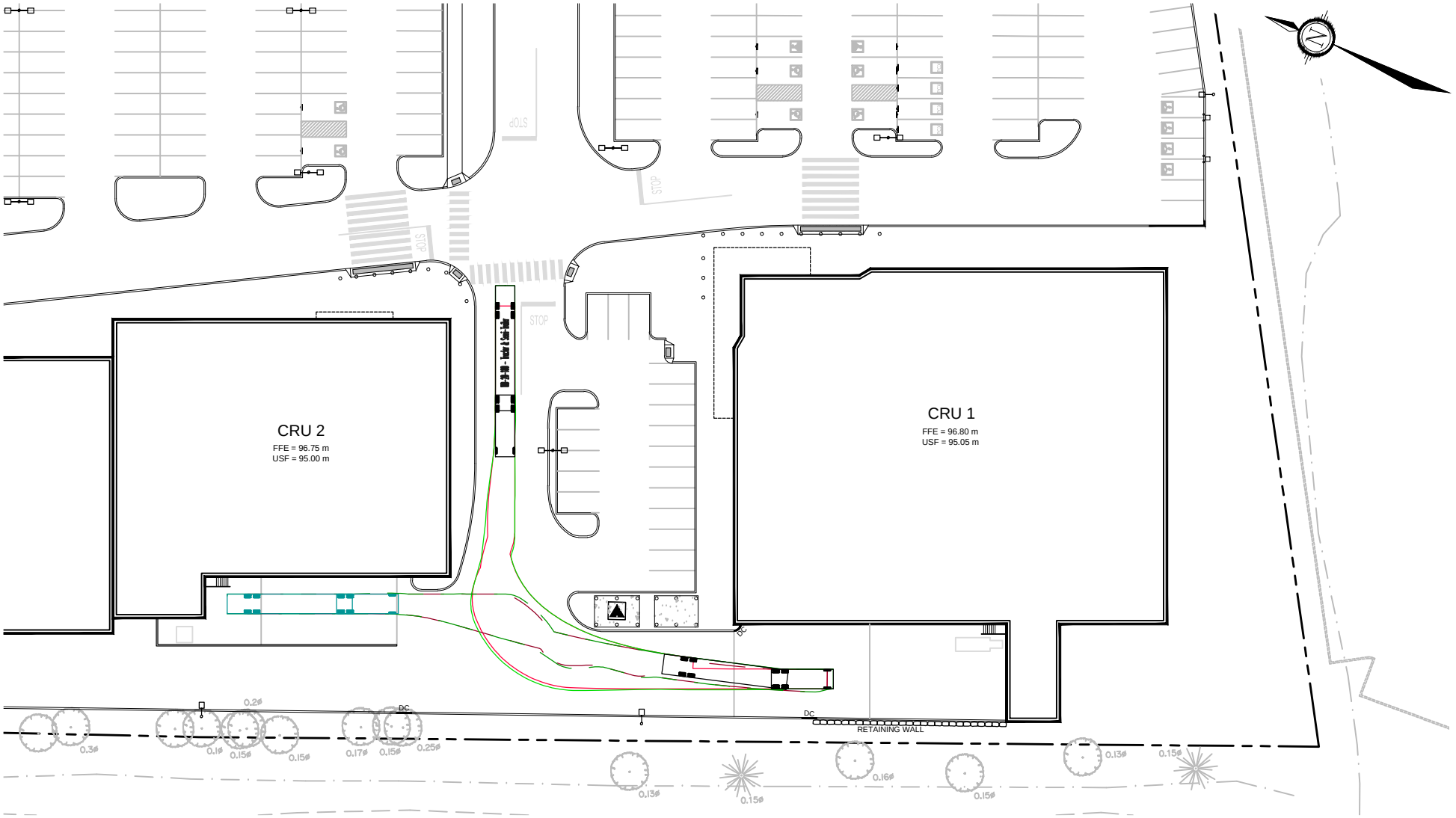
TURNING MOVEMENT (WB-20)

SCALE 1 : 750 (0 10 20 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 28

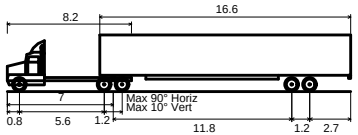
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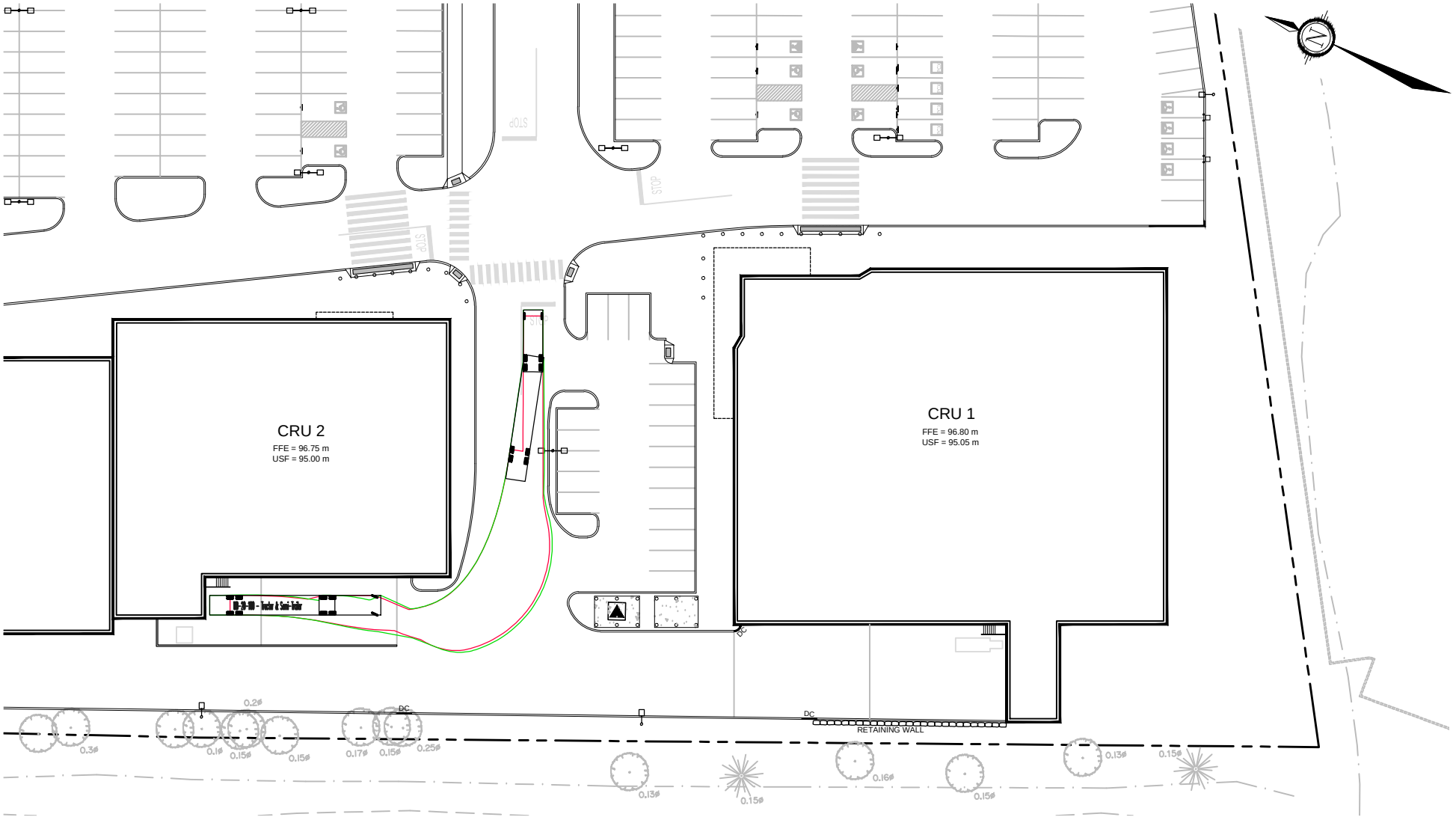
TURNING MOVEMENT (WB-20)

SCALE 1 : 750 (0 10 20 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 29

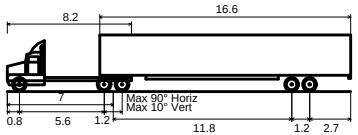
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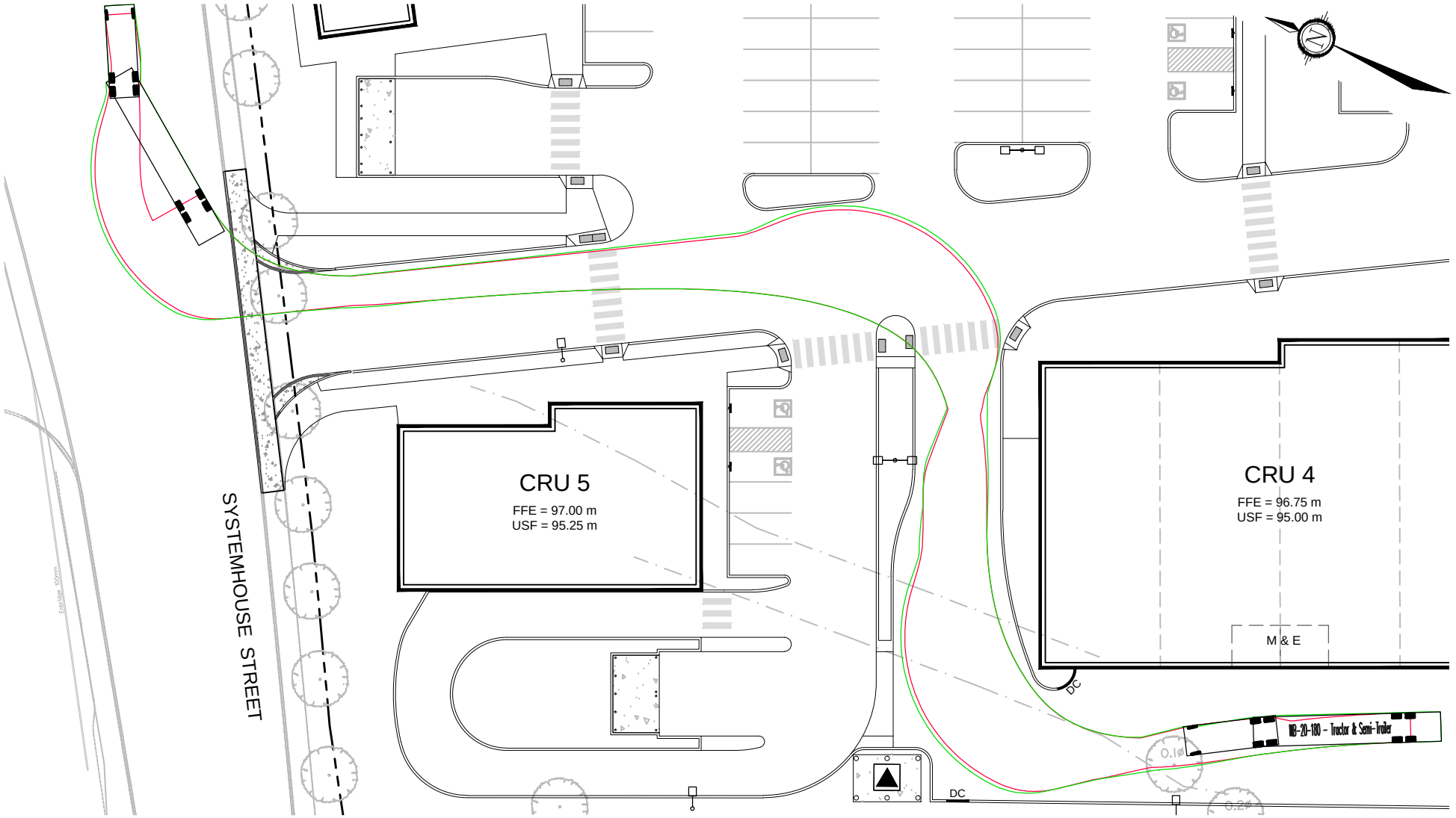
TURNING MOVEMENT (WB-20)

SCALE 1 : 750 (0 10 20 30)

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 30

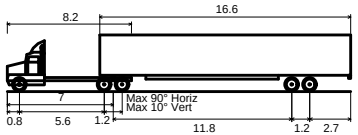
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4275 STRANDHERD DRIVE

TURNING MOVEMENT (WB-20)

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

DATE JAN 2026 | JOB 125050 | FIGURE FIGURE 31

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4.3 Boundary Street MMLOS Review

This section provides a review of the boundary streets Strandherd Drive and Systemhouse Street using complete streets principles. The Multi-Modal Level of Service (MMLOS) Guidelines, produced by IBI Group in October 2015, and the 2017 MMLOS Addendum were used to evaluate the levels of service for each alternative mode of transportation on the boundary streets. The subject site is located within an Employment Area (per Schedule B of the City's previous Official Plan, which is referenced by the MMLOS Guidelines).

A detailed segment MMLOS review of the boundary streets is included in **Appendix L**. A summary of the segment MMLOS analysis is provided in **Table 12**.

Table 12: Segment MMLOS Summary

Segment	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Strandherd Drive	**E**	C	A	B	D	-	A	B
Systemhouse Street	C	C	**F**	E	D	-	B	D

The results of the segment MMLOS analysis can be summarized as follows:

- Strandherd Drive does not meet the target pedestrian level of service (PLOS);
- Systemhouse Street does not meet the target bicycle level of service (BLOS);
- No target transit level of service (TLOS) has been identified for Strandherd Drive or Systemhouse Street and the actual TLOS has been studied as transit routes exist on Strandherd Drive and Systemhouse Street; and
- Strandherd Drive and Systemhouse Street meet the target truck level of service (TkLOS).

Pedestrian Level of Service
Neither side of Strandherd Drive meets the target PLOS C due to high traffic volumes and vehicle speeds.

Bicycle Level of Service
Systemhouse Street does not meet the target BLOS E. Based on the City's MMLOS Guidelines, on Systemhouse Street a BLOS E can be achieved by either reducing the posted speed to 40km/h or painting 1.2m wide bike lanes. This is identified for the City's consideration.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed development will consist of a commercial development that totals 11,530m^2 of GFA and a total of 498 parking spaces.

4.4.2 Need and Opportunity

As first discussed in Section 2.4, the mode share targets for the proposed development are assumed to be generally consistent with the observed mode shares for the South Nepean region, as outlined in the *TRANS Trip Generation Manual*. These target shares include a 60% driver share.

4.4.3 TDM Program

A review of the *TDM Measures Checklist* has been conducted and is included in **Appendix K**. The proposed development itself will include on-site amenities/services to minimize mid-day or mid-commute errands, as the development includes a variety of commercial spaces and a supermarket.

4.5 Transit

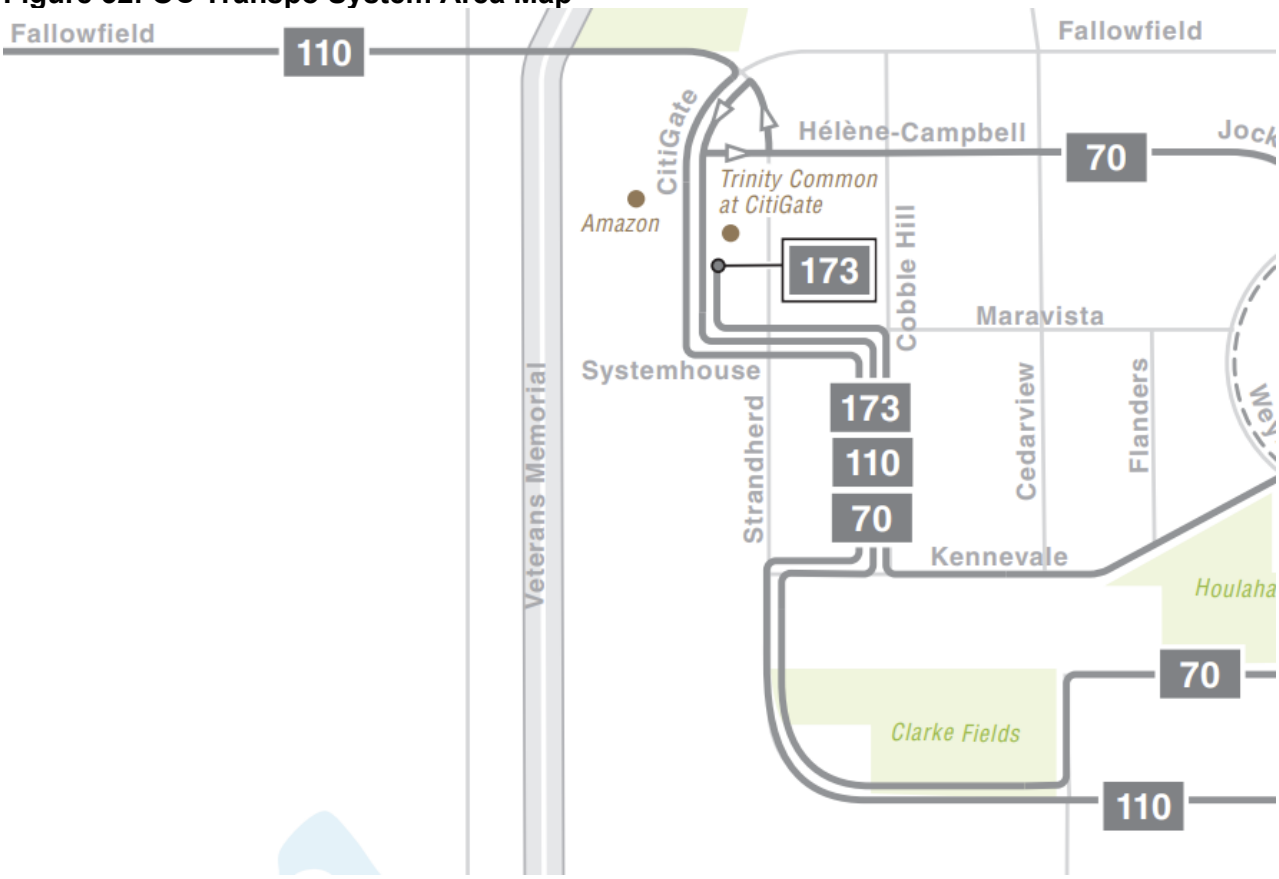
As identified in Section 4.3, Strandherd Drive is not a transit priority corridor and does not have a target TLOS within the study area. As there are limited number of transit routes within the study area, which generally arrive/depart the overall Citigate lands, and since Strandherd Drive does not have a target TLOS, no transit priority measures are identified. Furthermore, it is noteworthy that Strandherd Drive was recently reconstructed and no transit priority measures were incorporated at that time.

Per the OC Transpo System Area Map in the following picture, OC Transpo busses are expected to make the following movements within the study area:

- Strandherd Drive/Citigate Drive/Fallowfield Road
  - Eastbound Left
  - Northbound Left
  - Southbound Right
- Strandherd Drive/CrossKeys Place/Hélène-Campbell Road
  - Eastbound Through
  - Westbound Right
- Strandherd Drive/Sytemhouse Street/Maravista Drive
  - Eastbound Through
  - Westbound Through
- Strandherd Drive/Dealership Drive/Kennevale Drive
  - Northbound Right
  - Westbound Left

Based on a comparison of the results of the synchro analysis of the background and total traffic conditions of the above movements, the site traffic does not have a significant impact to delays of movements that have transit routes.

Figure 32: OC Transpo System Area Map



4.6 Intersection Design

4.6.1 Intersection MMLOS Review

This section provides a review of the signalized study area intersections using complete streets principles. The signalized intersections within the study area have been evaluated for PLOS, BLOS, TLOS, TkLOS, and AutoLOS based on existing conditions. The MMLOS targets considered in this review are associated with those outlined in Exhibit 22 of the *MMLOS Guidelines* for the 'Employment Area' Policy Area.

The full intersection MMLOS analysis is included in **Appendix L**. A summary of the results is shown in **Table 13**.

Table 13: Intersection MMLOS Summary

Intersection	PLOS		BLOS		TLOS		TkLOS		AutoLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Strandherd Drive/Citigate Drive/Fallowfield Road	**F**	C	**F**	B	F	-	**C**	B	**F**	D
Strandherd Drive/CrossKeys Place/Hélène-Campbell Road	**F**	C	**E**	B	F	-	**E**	B	D	D
Strandherd Drive/Systemhouse Street/Maravista Drive	**F**	C	**F**	B	F	-	**C**	B	**F**	D

Intersection	PLOS		BLOS		TLOS		TkLOS		AutoLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Strandherd Drive/Dealership Drive/Kennevale Drive	**F**	C	A	B	F	-	**C**	B	C	D

Strandherd Drive/Citigate Drive/Fallowfield Road
The intersection does not meet the target PLOS, BLOS, TkLOS, or AutoLOS.

There is limited opportunity to improve the PLOS and BLOS at this intersection without reducing the number of lanes crossed and providing two-stage left turning cycling facilities on all approaches. As there is only one westbound lane departing the intersection the southbound right turn movement does not meet the target TkLOS. However, since there is a wide flare in the northwest corner that accommodates large design vehicles, the southbound right turn movement is considered acceptable.

Strandherd Drive/CrossKeys Place/Hélène-Campbell Road
The intersection does not meet the target PLOS, BLOS, or TkLOS.

There is limited opportunity to improve the PLOS and BLOS at this intersection without reducing the number of lanes crossed and providing two-stage left turning cycling facilities on all approaches. The northbound right turn movement does not meet the target TkLOS. As the east leg of the intersection does not form part of the City's truck routes, the northbound right turn movement is considered acceptable.

Strandherd Drive/Systemhouse Street/Maravista Drive
The intersection does not meet the target PLOS, BLOS, TkLOS, or AutoLOS.

There is limited opportunity to improve the PLOS and BLOS at this intersection without reducing the number of lanes crossed and providing two-stage left turning cycling facilities on all approaches. The northbound right turn movement does not meet the target TkLOS. As the east leg of the intersection does not form part of the City's truck routes, the northbound right turn movement is considered acceptable.

Strandherd Drive/Dealership Drive/Kennevale Drive
The intersection does not meet the target PLOS or TkLOS. As protected corners have been implemented on all corners, the BLOS is met.

There is limited opportunity to improve the PLOS at this intersection without reducing the number of lanes crossed. The northbound right turn movement does not meet the target TkLOS. As the east leg of the intersection does not form part of the City's truck routes, the northbound right turn movement is considered acceptable.

4.6.2 2025 Total Intersection Operations

Intersection capacity analysis has been conducted for the 2025 total traffic conditions. The results of the analysis are summarized in **Table 14** for the weekday PM and Saturday peak hours. Detailed reports are included in **Appendix J**.

To determine the lane arrangements at the proposed accesses, a review of TAC and MTO guidelines has been conducted. TAC suggests that right turn lanes should be considered at unsignalized intersections when the volume of accelerating or decelerating vehicles compared with

the through traffic volumes causes undue hazard. In general, Novatech considers right turn lanes when right turning vehicles exceed 60 vehicles during peak hours and equate to 10% or more of the adjacent through traffic. Based on the traffic projections, a right turn lane is not warranted at the Systemhouse Street and Strandherd Drive right-in right-out access. As the southbound right turn volumes at the Strandherd Drive signalized intersection are anticipated to be about 100vph during the PM and Saturday peak hours, a right turn lane is recommended at this intersection.

Based on low left turning volumes at the Systemhouse Street access, a westbound left turn lane is not recommended. As the northbound left turn volumes at the Strandherd Drive signalized intersection are anticipated to be about 180-215vph during the PM and Saturday peak hours, a left turn lane is recommended at this intersection.

A detailed review of the auxiliary lane storage requirements will be provided in the analysis below.

The signal timing plan for the new signalized intersection has been developed in accordance with the City's Protected Intersection Design Guidelines (PIDG) and include a fully protected northbound left turn phase. Based on the traffic projections the southbound and eastbound right turn volumes are considered low and can occur under a permitted phasing.

Table 14: 2025 Total Traffic Operations

Intersection	Mvmt	Storage/ Spacing(1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
Strandherd Dr/Citigate Dr/Fallowfield Rd	EBL	65m	0.40 [A]	16	0.40 [A]	#44	0.33 [A]	24
	EBT/R	240m	0.29 [A]	16	0.56 [A]	36	0.51 [A]	32
	WBL	125m	0.26 [A]	27	0.41 [A]	55	0.40 [A]	42
	WBT	360m	0.21 [A]	17	0.30 [A]	28	0.47 [A]	33
	WBR	100m	0.83 [D]	48	0.89 [D]	68	0.55 [A]	18
	NBL	70m	0.08 [A]	m2	0.12 [A]	m3	0.10 [A]	m3
	NBT	200m	**1.45 [F]**	**#363**	**1.47 [F]**	**#256**	0.97 [E]	**#210**
	NBR	90m	0.10 [A]	m0	0.32 [A]	m4	0.22 [A]	m8
	SBL	120m	0.80 [C]	#102	0.80 [C]	#84	0.57 [A]	32
	SBT	440m	0.48 [A]	#130	0.89 [D]	#264	0.70 [B]	#182
	SBR	80m	0.12 [A]	8	0.21 [A]	18	0.17 [A]	7
Strandherd Dr/CrossKeys Pl/Hélène-Campbell Rd	EBL	60m	0.47 [A]	29	0.79 [C]	**68**	0.81 [D]	**72**
	EBT	110m	0.07 [A]	9	0.30 [A]	36	0.31 [A]	36
	EBR	60m	0.03 [A]	0	0.08 [A]	0	0.17 [A]	6
	WBL	30m	0.12 [A]	10	0.14 [A]	15	0.14 [A]	14
	WBT	160m	0.13 [A]	13	0.29 [A]	35	0.29 [A]	34
	WBR	70m	0.55 [A]	24	0.30 [A]	14	0.28 [A]	12
	NBL	150m	0.08 [A]	5	0.22 [A]	m8	0.38 [A]	m18
	NBT	400m	0.67 [B]	#218	0.72 [C]	163	0.64 [B]	m129
	NBR	90m	0.02 [A]	0	0.03 [A]	m0	0.02 [A]	0
	SBL	80m	0.43 [A]	25	0.54 [A]	m35	0.51 [A]	m24
	SBT	200m	0.40 [A]	86	0.65 [B]	m147	0.61 [B]	79
	SBR	70m	0.07 [A]	11	0.21 [A]	m28	0.29 [A]	m27
Strandherd Dr/Sytemhouse St/Maravista Dr	EBL	80m	0.34 [A]	18	0.55 [A]	#35	0.65 [B]	#38
	EBT	100m	0.10 [A]	11	0.20 [A]	22	0.12 [A]	21
	EBR	100m	0.16 [A]	3	0.48 [A]	35	0.40 [A]	28
	WBL	20m	0.15 [A]	17	0.11 [A]	12	0.20 [A]	12
	WBT/R	90m	0.43 [A]	34	0.34 [A]	28	0.32 [A]	32

Intersection	Mvmt	Storage/ Spacing(1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
	NBL	125m	0.72 [C]	#46	0.67 [B]	#88	0.79 [C]	#106
	NBT/R	220m	0.66 [B]	**#225**	0.73 [C]	#195	0.73 [C]	#161
	SBL	150m	0.46 [A]	28	0.73 [C]	m#59	0.72 [C]	#52
	SBT	400m	0.45 [A]	111	**1.01 [F]**	#249	**1.20 [F]**	#230
	SBR	60m	0.01 [A]	0	0.06 [A]	m0	0.02 [A]	0
Strandherd Dr/Dealership Dr/Kennevale Dr	EBL	70m	0.20 [A]	14	0.52 [A]	37	0.39 [A]	23
	EBT	175m	0.02 [A]	4	0.07 [A]	10	0.03 [A]	5
	EBR	70m	0.07 [A]	3	0.19 [A]	14	0.10 [A]	5
	WBL	60m	0.46 [A]	28	0.70 [B]	49	0.50 [A]	30
	WBT/R	130m	0.34 [A]	16	0.23 [A]	13	0.33 [A]	15
	NBL	70m	0.33 [A]	16	0.24 [A]	12	0.27 [A]	12
	NBT/R	1,000m	0.63 [B]	183	0.68 [B]	184	0.66 [B]	160
	SBL	50m	0.29 [A]	18	0.43 [A]	m16	0.40 [A]	m12
	SBT	480m	0.33 [A]	17	0.76 [C]	m46	0.60 [A]	m11
	SBR	110m	0.07 [A]	0	0.05 [A]	m0	0.03 [A]	m0
Systemhouse St/Citigate Dr	EB	150m	10 sec. [B]	0	11 sec. [B]	1	11 sec. [B]	1
	WB	450m	10 sec. [A]	4	9 sec. [A]	4	10 sec. [A]	5
	SB	330m	7 sec. [A]	1	7 sec. [A]	2	7 sec. [A]	2
Systemhouse St/Costco Access/Commercial Site Access	EB	330m	2 sec [A]	0	1 sec [A]	0	1 sec [A]	0
	WBT/L	110m	1 sec [A]	1	1 sec [A]	0	1 sec [A]	0
	WBR	110m	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
	NB	-	10 sec [B]	1	12 sec [B]	3	12 sec [B]	4
	SB	160m	10 sec [B]	4	17 sec [C]	25	21 sec [C]	**37**
Strandherd Dr/RIRO Access	EBR	40m	9 sec [A]	1	11 sec [B]	3	10 sec [A]	3
	NB	-	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
	SBT/R	100m	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
Strandherd Dr/Signalized Access	EBL	40m	0.24 [A]	19	0.58 [A]	**46**	0.58 [A]	**46**
	EBR	40m	0.21 [A]	16	0.50 [A]	37	0.44 [A]	33
	NBL	100m	0.58 [A]	40	0.69 [B]	m#86	0.69 [B]	#99
	NBT	230m	0.50 [A]	131	0.52 [A]	93	0.49 [A]	107
	SBT	210m	0.35 [A]	131	0.82 [D]	**m#203**	0.86 [D]	m53
	SBR	45m	0.05 [A]	10	0.12 [A]	m19	0.13 [A]	m1

#: volume for the 95th percentile cycle exceeds capacity
m: volume for the 95th percentile queue is metered by an upstream signal

Compared to the 2025 background traffic conditions, site-generated traffic is anticipated to deteriorate the LOS for select movements at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection. The northbound through movement deteriorated to a 1.47 v/c ratio from a 1.15 v/c ratio in the PM peak hour. The northbound through movement deteriorated to a LOS E from a LOS C in the Saturday peak hour. The site traffic does not have a significant impact on traffic operations during the AM peak hour.

Compared to the 2025 background traffic conditions, site-generated traffic is anticipated to deteriorate the LOS at select movements at the Strandherd Drive/Systemhouse Street/Maravista Drive intersection. The southbound through movement deteriorated to a LOS F from a LOS E in the PM peak hour. The southbound through movement deteriorated to a 1.20 v/c ratio from a 1.09 v/c ratio in the Saturday peak hour. The site traffic does not have a significant impact on traffic operations during the AM peak hour.

4.6.3 2030 Total Intersection Operations

Intersection capacity analysis has been conducted for the 2030 total traffic conditions. The results of the analysis are summarized in **Table 15** for the weekday PM and Saturday peak hours. Detailed reports are included in **Appendix J**.

Table 15: 2030 Total Traffic Operations

Intersection	Mvmt	Storage/ Spacing[(1)]	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
Strandherd Dr/Citigate Dr/Fallowfield Rd	EBL	65m	0.44 [A]	19	0.51 [A]	**#75**	0.33 [A]	24
	EBT/R	240m	0.32 [A]	18	0.62 [B]	44	0.51 [A]	32
	WBL	125m	0.32 [A]	34	0.40 [A]	59	0.40 [A]	42
	WBT	360m	0.33 [A]	26	0.31 [A]	29	0.47 [A]	33
	WBR	100m	0.84 [D]	50	0.89 [D]	68	0.55 [A]	18
	NBL	70m	0.08 [A]	m2	0.12 [A]	m3	0.10 [A]	m3
	NBT	200m	**1.72 [F]**	**#425**	**1.96 [F]**	**m#319**	**1.04 [F]**	**#232**
	NBR	90m	0.11 [A]	m0	0.39 [A]	m4	0.22 [A]	m8
	SBL	120m	0.80 [C]	#102	0.85 [D]	#84	0.57 [A]	32
	SBT	440m	0.60 [A]	#191	**1.12 [F]**	#327	0.75 [C]	#205
	SBR	80m	0.24 [A]	13	0.23 [A]	23	0.17 [A]	7
Strandherd Dr/CrossKeys Pl/Hélène-Campbell Rd	EBL	60m	0.49 [A]	30	0.81 [D]	**74**	0.81 [D]	**72**
	EBT	110m	0.10 [A]	11	0.38 [A]	46	0.31 [A]	36
	EBR	60m	0.03 [A]	0	0.07 [A]	0	0.17 [A]	6
	WBL	30m	0.12 [A]	10	0.14 [A]	14	0.14 [A]	14
	WBT	160m	0.15 [A]	15	0.28 [A]	35	0.29 [A]	34
	WBR	70m	0.55 [A]	25	0.28 [A]	13	0.28 [A]	12
	NBL	150m	0.08 [A]	5	0.22 [A]	m6	0.38 [A]	m15
	NBT	400m	0.78 [C]	#277	0.93 [E]	m#183	0.69 [B]	m#145
	NBR	90m	0.02 [A]	0	0.03 [A]	m0	0.02 [A]	m0
	SBL	80m	0.43 [A]	m20	0.57 [A]	m29	0.51 [A]	m22
	SBT	200m	0.51 [A]	111	0.80 [C]	**m#142**	0.67 [B]	#149
	SBR	70m	0.07 [A]	m11	0.23 [A]	m24	0.29 [A]	m25
Strandherd Dr/Sytemhouse St/Maravista Dr	EBL	80m	0.40 [A]	20	0.58 [A]	#59	0.65 [B]	#38
	EBT	100m	0.09 [A]	11	0.18 [A]	25	0.12 [A]	21
	EBR	100m	0.16 [A]	4	0.47 [A]	41	0.40 [A]	28
	WBL	20m	0.15 [A]	17	0.11 [A]	12	0.20 [A]	12
	WBT/R	90m	0.47 [A]	39	0.35 [A]	29	0.32 [A]	32
	NBL	125m	0.78 [C]	#58	0.68 [B]	#89	0.79 [C]	#106
	NBT/R	220m	0.82 [D]	**#286**	**1.03 [F]**	**#262**	0.78 [C]	#179
	SBL	150m	0.46 [A]	28	0.73 [C]	m#42	0.72 [C]	#52
	SBT	400m	0.59 [A]	#148	**1.41 [F]**	#310	**1.30 [F]**	#253
	SBR	60m	0.07 [A]	1	0.03 [A]	m0	0.02 [A]	0
Strandherd Dr/Dealership Dr/Kennevale Dr	EBL	70m	0.27 [A]	17	0.75 [C]	57	0.39 [A]	23
	EBT	175m	0.04 [A]	6	0.13 [A]	17	0.03 [A]	5
	EBR	70m	0.10 [A]	6	0.35 [A]	29	0.10 [A]	5
	WBL	60m	0.46 [A]	28	0.65 [B]	50	0.50 [A]	30
	WBT/R	130m	0.44 [A]	25	0.22 [A]	15	0.33 [A]	15
	NBL	70m	0.51 [A]	27	0.28 [A]	13	0.27 [A]	12
	NBT/R	1,000m	0.74 [C]	#259	0.80 [C]	#247	0.70 [B]	#180
	SBL	50m	0.29 [A]	17	0.43 [A]	m14	0.40 [A]	#25
	SBT	480m	0.41 [A]	91	0.94 [E]	m#50	0.64 [B]	159

Intersection	Mvmt	Storage/ Spacing(1)	AM Peak		PM Peak		SAT Peak	
			v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)	v/c or delay [LOS]	95th % Queue (m)
	SBR	110m	0.14 [A]	11	0.06 [A]	m0	0.03 [A]	0
Systemhouse St/Citigate Dr	EB	150m	10 sec. [B]	0	11 sec. [B]	1	11 sec. [B]	1
	WB	450m	10 sec. [A]	4	9 sec. [A]	4	10 sec. [A]	5
	SB	330m	7 sec. [A]	1	7 sec. [A]	2	7 sec. [A]	2
Systemhouse St/Costco Access/Commercial Site Access	EB	330m	2 sec [A]	0	1 sec [A]	0	1 sec [A]	0
	WBT/L	110m	0 sec [A]	0	1 sec [A]	0	1 sec [A]	0
	WBR	110m	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
	NB	-	11 sec [B]	1	13 sec [B]	4	12 sec [B]	4
	SB	160m	12 sec [B]	4	21 sec [C]	32	21 sec [C]	37
Strandherd Dr/RIRO Access	EBR	40m	9 sec [A]	1	12 sec [B]	4	10 sec [A]	3
	NB	-	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
	SBT/R	100m	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
Strandherd Dr/Signalized Access	EBL	40m	0.24 [A]	19	0.58 [A]	**46**	0.58 [A]	**46**
	EBR	40m	0.21 [A]	16	0.50 [A]	37	0.44 [A]	33
	NBL	100m	0.61 [B]	41	0.59 [A]	m#81	0.69 [B]	#99
	NBT	230m	0.59 [A]	178	0.63 [B]	103	0.53 [A]	121
	SBT	210m	0.42 [A]	159	**1.02 [F]**	m185	0.93 [E]	m52
	SBR	45m	0.05 [A]	m8	0.13 [A]	m15	0.13 [A]	m1

#: volume for the 95th percentile cycle exceeds capacity
m: volume for the 95th percentile queue is metered by an upstream signal

Compared to the 2030 background traffic conditions, site-generated traffic is anticipated to increase critical v/c ratios at the Strandherd Drive/Citigate Drive/Fallowfield Road and Strandherd Drive/Systemhouse Street/Maravista Drive intersections during peak hours. In addition to the previously failing movements, the northbound through movement at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection deteriorates to a LOS F from a LOS D during the Saturday peak.

The approximate required reduction in volumes to meet the target Auto LOS for each over-capacity movement is included below.

AM Peak Hour

- Strandherd Drive/Citigate Drive/Fallowfield Road (Assumed increased cycle length of 150 seconds)
    - Northbound through (v/c: 1.72): reduction of 670 vehicles required.

PM Peak Hour

- Strandherd Drive/Citigate Drive/Fallowfield Road (Assumed increased cycle length of 150 seconds)
    - Northbound through (v/c: 1.96): reduction of 480 vehicles required.
- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Southbound through (v/c: 1.41): reduction of 430 vehicles required.
    - Northbound through (v/c: 1.03): reduction of 30 vehicles.
- Strandherd Drive/Signalized Access
    - Southbound through (v/c: 1.02): reduction of 30 vehicles required.

Saturday Peak Hour

- Strandherd Drive/Citigate Drive/Fallowfield Road
    - Northbound through (v/c: 1.04): reduction of 50 vehicles required.

- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Southbound through (v/c: 1.30): reduction of 280 vehicles required.

As discussed above, congestion concerns along Strandherd Drive are attributable to background traffic volumes. For the purposes of this report, background traffic projections conservatively include a 1% growth rate along Strandherd Drive, as well as several other area developments. Based on the analysis above, a reduction of approximately 670 northbound vehicles during the AM peak hour, 480 northbound and 430 southbound vehicles during the PM peak hour and 50 northbound and 280 southbound vehicles are required during the Saturday peak hour to eliminate all capacity and queueing issues through the previously identified intersections.

As Strandherd Drive approaches capacity, traffic can be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate time to travel for drivers to make use of off-peak capacity, and alternate routes of travel. This can be achieved through City and Province investment into the below roadway and transit infrastructure projects within the Barrhaven/South Nepean area:

- O-Train Line 1 Extension from Algonquin Station to Barrhaven Town Centre Station
- South Transitway from Longfields Drive to Greenbank Road
- Southwest Transitway from Barrhaven Centre Station to Kilbirnie Station
- Greenbank Road Realignment from Marketplace Avenue to Barnsdale Road
- Highway 416 Interchange at Barnsdale Road

It is realistic to assume that with the implementation of new or improved transportation infrastructure to the Barrhaven/Nepean South area, the necessary reductions in background traffic along Strandherd Drive, necessary to reach LOS targets, can be achieved.

A signalization warrant has been completed based on volumes from the 2030 Total Traffic Scenario. The signalization warrant can be found in **Appendix M**. Based on projected volumes of the future intersection the signal is 166% justified based on Justification 2 – Delay to Cross Traffic using the projected AM and PM peak hour volumes shown in **Figure 16**. Based on the July 2024 Ontario Traffic Manual Book 12, as the signal is 166% justified it falls into the Case 2 category and a signal might be warranted. Regardless of signalization warrants, all movement access to Strandherd Drive is recommended to be signalized at the time of development due to operational and safety concerns.

The proposed intersection has been designed in accordance with the City's PIDG. The storage requirements for auxiliary lanes at the new intersection have been developed based on the worst case 95th percentile queue length presented in the Synchro analysis and relevant TAC equations. The recommended storage length for auxiliary lanes is summarized in the following table:

Table 16: Recommended Storage at Strandherd Dr/Signalized Access

Movement	AM Peak		PM Peak		Sat Peak		Recommended Storage
	Synchro	TAC	Synchro	TAC	Synchro	TAC	
NBL	40m	40m	80m	75m	**100m**	95m	100m
SBR	10m	15m	15m	**35m**	0m	**35m**	35m

A functional design of the proposed intersection is included in **Appendix N**. A separate Roadway Modification Approval report will be submitted to the City under a separate letter.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Forecasting

- The proposed development is anticipated to generate 564 trips (339 vehicle trips) in the AM peak, 1,380 trips (828 vehicle trips) in the PM peak, and 1,482 trips (889 vehicle trips) during the Saturday peak hour.

Access Design

- The development is expected to meet all PABL requirements.

- The development is expected to be able to meet all TAC Geometric Design Guide standards.

Existing and Background Intersection Operations

- Under existing and background traffic conditions, critical northbound through movements at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection are anticipated to operate with a LOS F during the AM and PM peak hour.

- Under existing and background traffic conditions, the critical southbound through movement at the Strandherd Drive/Systemhouse Street/Maravista Drive intersection are anticipated to operate with a LOS F during the PM and Saturday peak hour.

Development Design

- Sidewalks will be provided throughout the development to encourage internal pedestrian circulation between the various retail blocks.

- Bicycle parking will be provided throughout the site and near the various building entrances.

- The following ‘basic’ and ‘better’ design measures from the City's TDM Infrastructure Checklist will be implemented for the proposed redevelopment:

    - Some building will be located near the street and have no parking areas between the street and building entrances; and
    - Building doors and windows will ensure visibility of pedestrians from the building.

- No pedestrian/cyclist crossing is proposed across the O’Keefe drainage corridor. This is due to the desire to not mix pedestrian/cyclist and truck traffic accessing loading bays along the western frontage of the site, and the lack of a strong desire line for pedestrians and cyclists not already served within the study area. The majority of pedestrians and cyclists entering the site from the residential areas to the north and east are expected to travel along Strandherd Drive. Pedestrians and cyclists trips coming from the various auto dealerships and commercial businesses to the south will have the option of using the existing O’Keefe drain pathway, Strandherd Drive, or the future Citigate Drive extension.

- Consideration should be given by the City to improving the uncontrolled pedestrian crossing at the O’Keefe Drain to provide improved pedestrian permeability along Systemhouse Street. Based on the Pedestrian Crossover Selection Matrix in Ontario Traffic Manual (OTM)

Book 15, a PXO C is recommended at the O'Keefe Drain crossing based on the anticipated traffic volumes, a speed limit of 50km/hr, and a crossing width equivalent to three lanes crossed.

- Garbage and loading area bays are available at the majority of the proposed buildings.

- The fire route will be provided throughout the subject site and a firetruck will be able to access all building accesses without needing to reverse.

Parking

- The development is anticipated to require roughly 415 parking spaces and will provide 498.

- The development is anticipated to require roughly 23 bike parking spaces and will provide 30.

- For parking lots with 451-500 parking spaces the City's Traffic and Parking By-law requires six Type A and six Type B accessible parking spaces. The development provides 24 accessible parking spaces meeting this requirement.

Boundary Streets MMLOS

- Neither side of Strandherd Drive meets the target PLOS C due to high traffic volumes and vehicle speeds.

- Systemhouse Street does not meet the target BLOS E. Based on the City's MMLOS Guidelines, on Systemhouse Street a BLOS E can be achieved by either reducing the posted speed to 40km/h or painting 1.2m wide bike lanes. This is identified for the City's consideration.

- Strandherd Drive and Systemhouse Street meet the target truck level of service (TkLOS).

Transit

- Based on a comparison of the results of the synchro analysis of the background and total traffic conditions of the above movements, the site traffic does not have a significant impact to delays of movements that have transit routes.

Intersection MMLOS

- All study area intersections do not meet the target PLOS. There is limited opportunity to improve the PLOS without reducing the number of lanes crossed at each intersection.

- Two-stage left turning cycling facilities for the side street cycling facilities is required to meet the target BLOS for the Strandherd Drive/Citigate Drive/Fallowfield Road, Strandherd Drive/CrossKeys Place/Hélène-Campbell Road, and Strandherd Drive/Systemhouse Street/Maravista Drive intersections. This is identified for the City's consideration.

- All study area intersections do not meet the target TkLOS. As the side streets do not form part of the City's Truck Route network, no mitigation measures are identified.

2025 Total Traffic Operations

- Compared to the 2025 background traffic conditions, site-generated traffic is anticipated to deteriorate the LOS for select movements at the Strandherd Drive/Citigate Drive/Fallowfield

Road intersection. The northbound through movement deteriorated to a 1.47 v/c ratio from a 1.15 v/c ratio in the PM peak hour. The northbound through movement deteriorated to a LOS E from a LOS C in the Saturday peak hour. The site traffic does not have a significant impact on traffic operations during the AM peak hour.

- Compared to the 2025 background traffic conditions, site-generated traffic is anticipated to deteriorate the LOS at select movements at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection. The southbound through movement deteriorated to a LOS F from a LOS E in the PM peak hour. The southbound through movement deteriorated to a 1.20 v/c ratio from a 1.09 v/c ratio in the Saturday peak hour. Queues within the northbound left turn movement exceed available storage capacity during the PM and Saturday peak hours. The site traffic does not have a significant impact on traffic operations during the AM peak hour.

2030 Total Traffic Operations

- Compared to the 2030 background traffic conditions, site-generated traffic is anticipated to increase critical v/c ratios at the Strandherd Drive/Citigate Drive/Fallowfield Road and Strandherd Drive/Systemhouse Street/Maravista Drive intersections during peak hours. In addition to the previously failing movements, the northbound through movement at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection deteriorates to a LOS F from a LOS D during the Saturday peak.

- Congestion concerns along Strandherd Drive are attributable to background traffic volumes. For the purposes of this report, background traffic projections conservatively include a 1% growth rate along Strandherd Drive, as well as several other area developments. Based on the analysis above, a reduction of approximately 670 northbound vehicles during the AM peak hour, 480 northbound and 430 southbound vehicles during the PM peak hour and 50 northbound and 280 southbound vehicles are required during the Saturday peak hour to eliminate all capacity and queueing issues through the previously identified intersections.

- As Strandherd Drive approaches capacity, traffic can be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate time to travel for drivers to make use of off-peak capacity, and alternate routes of travel. This can be achieved through City and Province investment into the below roadway and transit infrastructure projects within the Barrhaven/South Nepean area:

    - O-Train Line 1 Extension from Algonquin Station to Barrhaven Town Centre Station
    - South Transitway from Longfields Drive to Greenbank Road
    - Southwest Transitway from Barrhaven Centre Station to Kilbirnie Station
    - Greenbank Road Realignment from Marketplace Avenue to Barnsdale Road
    - Highway 416 Interchange at Barnsdale Road

- It is realistic to assume that with the implementation of new or improved transportation infrastructure to the Barrhaven/Nepean South area, the necessary reductions in background traffic along Strandherd Drive, necessary to reach LOS targets, can be achieved.

- A signalization warrant has been completed based on volumes from the 2030 Total Traffic Scenario. Based on projected volumes of the future intersection the signal is 166% justified based on Justification 2 – Delay to Cross Traffic. Based on the July 2024 Ontario Traffic Manual Book 12, as the signal is 166% justified it falls into the Case 2 category and a signal

might be warranted. Regardless of signalization warrants, all movement access to Strandherd Drive is recommended to be signalized at the time of development due to operational and safety concerns.

- The proposed intersection has been designed in accordance with the City's PIDG. The storage requirements for auxiliary lanes at the new intersection have been developed based on the worst case 95th percentile queue length presented in the Synchro analysis and relevant TAC equations.

Based on the foregoing, the proposed development is recommended from a transportation perspective.

NOVATECH

Prepared by:



Trevor Van Wiechen, P.Eng.
Project Engineer | Transportation

Reviewed by:



Brad Byvelds, P.Eng.
Senior Project Manager | Transportation

APPENDIX A

Previous Zoning Report

Saturday Peak Hour

- Strandherd Drive/Citigate Drive/Fallowfield Road
  - Northbound through (v/c: 1.02): reduction of 20 vehicles required.
- Strandherd Drive/Sytemhouse Street/Maravista Drive
  - Southbound through (v/c: 1.55): reduction of 425 vehicles required.
- Systemhouse Street/Costco Access/Commercial Site Access
  - Southbound approach (340 seconds LOS F): reduction of 220 left turning vehicles required.

4.7.4 Alternative Signalized Access to Strandherd Drive

As the southbound through movement at the Strandherd Drive/Systemhouse Street/Maravista Drive intersection and the Costco Access to Systemhouse Street deteriorates to unacceptable LOS under total traffic conditions, alternative solutions were investigated to reduce traffic volumes entering and exiting the subject site at the Sytemhouse Access. A new all movement access to the development from Strandherd Drive has been considered.

By allowing a full movement access to Strandherd Drive additional traffic would be able to travel to and from the development directly from Strandherd Drive without routing through Systemhouse Street. The following figure shows revised site traffic for the alternative solution.

With an unsignalized all-movement access, to Systemhouse Street opposite Costco and right-in right access to Strandherd Drive, significant delays are anticipated at the shared access. As described above, approximately 185-220 vehicles (or 55-60% of vehicles) exiting Costco will need to be displaced to other accesses. Given the location of the gas bar and other retail developments within the Trinity Commons development, this reduction is not anticipated to be achieved. The high delays associated with traffic exiting the shared unsignalized accesses is anticipated to increase the likelihood of drivers performing riskier actions to reach their desired destination. Drivers misjudging available gaps can lead to typically higher severity collisions at higher speeds such as angle or turning movements type collisions. Due to the high traffic volumes along Strandherd Drive, a new signalized intersection along Strandherd Drive may increase the number of rear-end collisions along this roadway. However, these collisions are anticipated to be lower severity in comparison to angle or turning movement impacts at a congested unsignalized access intersection. It is generally preferrable to have a higher number of low severity collisions such as rear end collisions compared to a significant number of typically high severity collisions such as angle and turning movement type collisions. From a traffic safety perspective, a signalized access intersection is preferrable along Strandherd Drive.

A signalization warrant has been completed based on volumes from the revised 2030 Total Traffic Scenario. The signalization warrant can be found in **Appendix L**. Based on projected volumes of the future intersection the signal is 100% justified based on Justification 2 – Delay to Cross Traffic using the projected AM and PM peak hour volumes shown in **Figure 16**. Based on the July 2024 Ontario Traffic Manual Book 12, as the signal is 100% justified it falls into the Case 2 category and a signal might be warranted. Warrants will be re-confirmed during the future site plan application. Regardless of signalization warrants, all movement access to Strandherd Drive is recommended to be signalized at the time of development due to operational and safety concerns.

Figure 15:Revised Site Traffic

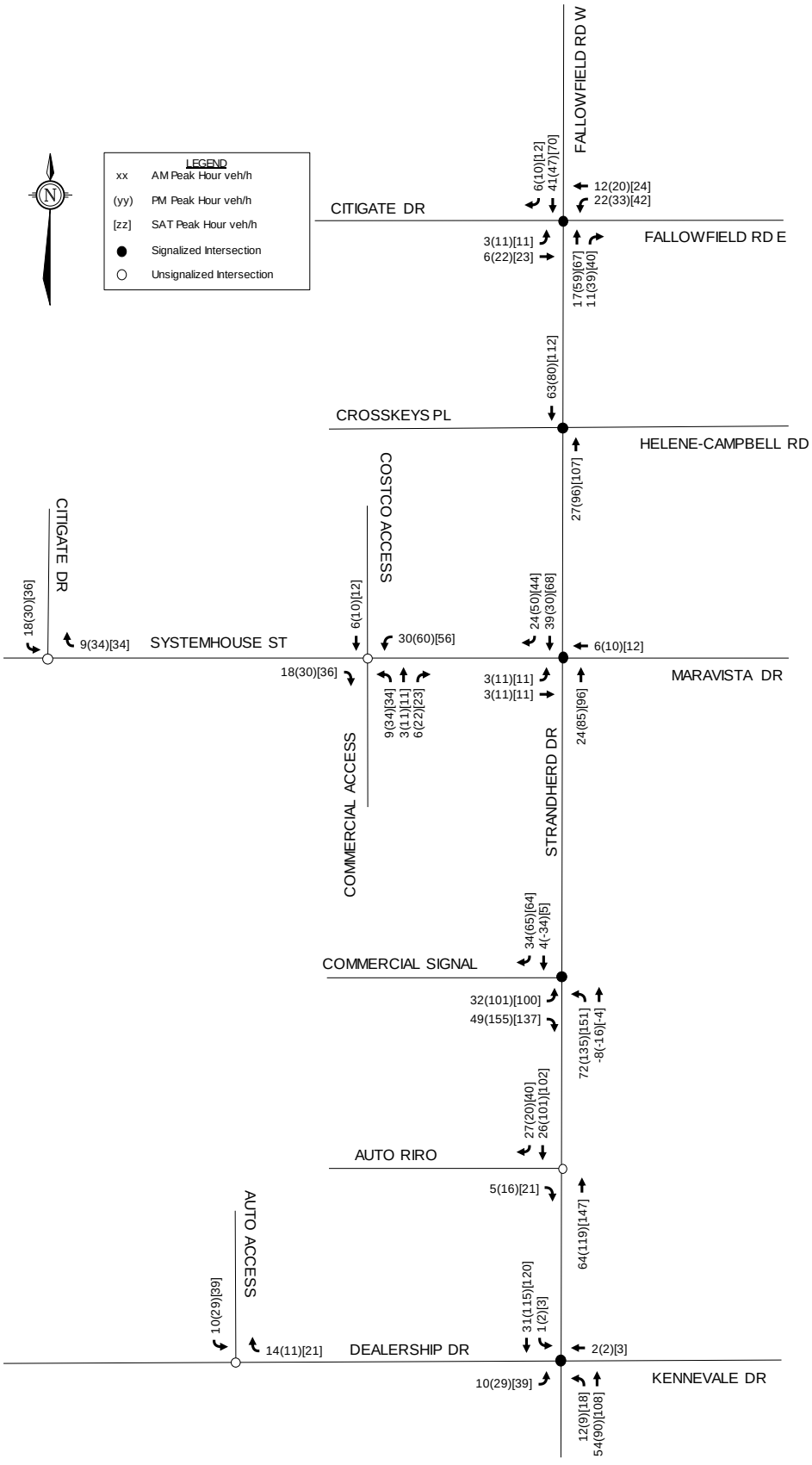
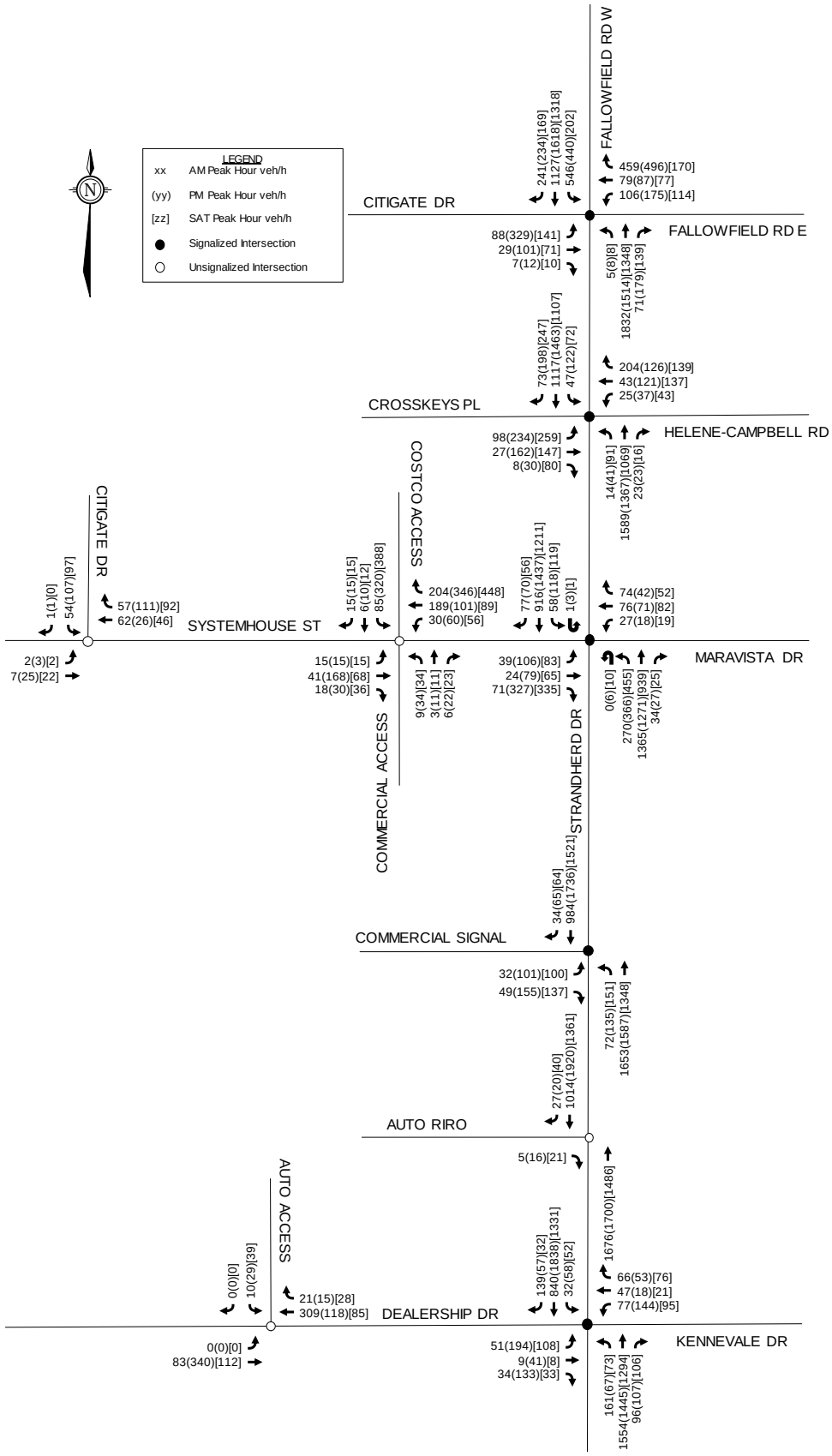


Figure 16:Revised 2030 Total Traffic



As Strandherd Drive is a divided-four lane roadway with high traffic volumes, a full-movement stop control access is not recommended due to operational and safety concerns. A signalized intersection along Strandherd Drive between Maravista Drive/Systemhouse Street and Kennevale Drive/Dealership Drive has therefore been considered.

There is roughly 480m of clear space between the Strandherd Drive/Sytemhouse Street/Maravista Drive and Strandherd Drive/Dealership Drive/Kennevale Drive intersections. From the Transportation Association of Canada's Geometric Design Guide the typical minimum spacing of intersections along an arterial roadway is 200m to allow for back-to-back storage for left turning vehicles at adjacent intersections. A signalized access placed midway between Strandherd Drive/Sytemhouse Street/Maravista Drive and Strandherd Drive/Dealership Drive/Kennevale Drive would have approximately 220m of clear space between successive intersections. Due to the wide median along Strandherd Drive, there is space available to develop back-to-back left turn lanes between the new intersection and the Strandherd Drive/Dealership Drive/Kennevale Drive intersection.

Table 18: Traffic Operations with 2030 Revised Total Traffic Volumes

Intersection	Mvmt	Storage/ Spacing(1)	AM Peak		PM Peak		SAT Peak	
			v/c [LOS]	95th % Queue (m)	v/c [LOS]	95th % Queue (m)	v/c [LOS]	95th % Queue (m)
Strandherd Dr/Sytemhouse St/Maravista Dr	EBL	80m	0.20 [A]	10	0.48 [A]	22	0.41 [A]	17
	EBT/R	100m	0.31 [A]	16	0.79 [C]	79	0.73 [C]	51
	WBL	20m	0.14 [A]	15	0.15 [A]	12	0.13 [A]	12
	WBT/R	90m	0.45 [A]	35	0.35 [A]	29	0.38 [A]	29
	NBL	125m	0.59 [A]	#54	0.70 [B]	#88	0.68 [B]	#103
	NBT/R	220m	0.88 [D]	**#305**	0.93 [E]	#178	0.70 [B]	#161
	SBL	150m	0.45 [A]	m19	0.73 [C]	m34	0.70 [B]	m#45
	SBT	400m	0.68 [B]	#157	**1.20 [F]**	#286	**1.19 [F]**	#228
	SBR	60m	0.11 [A]	m10	0.10 [A]	m2	0.09 [A]	m7
Strandherd Dr/Dealership Dr/Kennevale Dr	EBL	70m	0.33 [A]	20	0.80 [C]	66	0.57 [A]	35
	EBT	175m	0.04 [A]	6	0.12 [A]	17	0.03 [A]	5
	EBR	70m	0.10 [A]	6	0.32 [A]	28	0.09 [A]	5
	WBL	60m	0.46 [A]	28	0.59 [A]	49	0.47 [A]	30
	WBT/R	130m	0.45 [A]	26	0.21 [A]	15	0.32 [A]	16
	NBL	70m	0.53 [A]	29	0.31 [A]	15	0.34 [A]	15
	NBT/R	1,000m	0.73 [C]	#255	0.81 [D]	#243	0.70 [B]	168
	SBL	50m	0.29 [A]	19	0.44 [A]	m17	0.41 [A]	m15
	SBT	220m	0.41 [A]	10	0.96 [E]	**m#287**	0.64 [B]	17
	SBR	110m	0.14 [A]	0	0.06 [A]	m0	0.03 [A]	m0
Systemhouse St/Costco Access/Commercial Site Access	EB	330m	2 sec [A]	0	1 sec [A]	0	1 sec [A]	0
	WBT/L	110m	1 sec [A]	1	3 sec [A]	1	3sec [A]	1
	WBR	110m	0 sec [A]	0	0 sec [A]	0	0 sec [A]	0
	NB	-	11 sec [B]	1	13 sec [B]	3	12 sec [B]	3
	SB	160m	12 sec [B]	5	30 sec [D]	45	33 sec [D]	47
Strandherd Dr/Commercial Access	EBL	-	0.16 [A]	14	0.47 [A]	35	0.44 [A]	31
	EBR	-	0.16 [A]	15	0.30 [A]	35	0.26 [A]	32
	NBL	TBD	0.54 [A]	m26	0.53 [A]	m43	0.64 [B]	m#66
	NBT	220m	0.58 [A]	72	0.62 [B]	109	0.54 [A]	105
	SBT/R	220m	0.41 [A]	151	0.94 [E]	**m#220**	0.84 [D]	m163

#: volume for the 95th percentile cycle exceeds capacity
m: volume for the 95th percentile queue is metered by an upstream signal

Compared to the 2030 Total Traffic scenario, the Revised Total Traffic Scenario shows some improvements for critical movements at the Strandherd Drive/Sytemhouse Street/Maravista Drive intersection. The southbound through movement improves from a v/c ratio of 1.51 and 1.55 during the PM and Saturday peak hours to a v/c ratio of 1.20 and 1.19. The queues in the northbound left turn lane which were approaching and exceeding available storage capacity during the PM and Saturday peak hours under the 2030 traffic scenario have improved by approximately 35m and no longer exceed available storage capacity.

Due to the new signalized intersection being located mid-block between the Strandherd Drive/Sytemhouse Street/Maravista Drive and Strandherd Drive/Dealership Drive/Kennevale Drive intersections, the maximum northbound through queue at the Strandherd Drive/ Sytemhouse Street/Maravista Drive intersection and southbound through queue at the Strandherd Drive/ Dealership Drive/Kennevale Drive intersection may periodically extend through the new signalized intersection during the PM peak hour.

Compared to the 2030 Total Traffic scenario, the Revised Total Traffic Scenario reduces delays at the Costco Access on Systemhouse Street to a LOS D during peak hours, which is considered acceptable.

Restricting access to the site along Strandherd Drive to right-in right-out operations is anticipated to result in congestion and safety issues along Systemhouse Street. A new signalized intersection on Strandherd Drive will improve operations along Systemhouse Street to an acceptable LOS. A new signalized intersection along Strandherd Drive is recommended for the proposed commercial development. Further details of the new signalized intersection can be reviewed as part of a future Site Plan Control application when the site layout and uses are known.

The approximate required reduction in volumes to meet the target Auto LOS for each over-capacity movement is included below.

<u>AM Peak Hour</u>

- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Northbound through (v/c: 0.88): reduction of 315 vehicles required to eliminate queuing through intersections.

<u>PM Peak Hour</u>

- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Southbound through (v/c: 1.20): reduction of 235 vehicles required.
- Strandherd Drive/Dealership Drive/Kennevale Drive
    - Southbound through (v/c: 0.96): reduction of 240 vehicles required to eliminate queuing through intersections.

<u>Saturday Peak Hour</u>

- Strandherd Drive/Sytemhouse Street/Maravista Drive
    - Southbound through (v/c: 1.19): reduction of 190 vehicles required.

As discussed above, congestion concerns along Strandherd Drive are attributable to background traffic volumes. For the purposes of this report, background traffic projections conservatively include a 1% growth rate along Strandherd Drive, as well as several other area developments. Based on the analysis above, a reduction of approximately 590 northbound vehicles during the AM peak hour, 480 northbound and 240 southbound vehicles during the PM peak hour and 20 northbound and

190 southbound vehicles are required during the Saturday peak hour to eliminate all capacity and queueing issues through the previously identified intersections.

As Strandherd Drive approaches capacity, traffic can be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate time to travel for drivers to make use of off-peak capacity, and alternate routes of travel. This can be achieved through City and Province investment into the below roadway and transit infrastructure projects within the Barrhaven/South Nepean area:

- Greenbank Road Realignment at Jock River crossing
- Southwest Transitway Extension and Future LRT
- Highway 416 Interchange at Barnsdale Road

It is realistic to assume that with the implementation of new or improved transportation infrastructure to the Barrhaven/Nepean South area, the necessary reductions in background traffic along Strandherd Drive, necessary to reach LOS targets, can be achieved.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Forecasting

- The proposed development is anticipated to generate 485 trips (314 vehicle trips) in the AM peak, 1,160 trips (726 vehicle trips) in the PM peak, and 1,205 trips (772 vehicle trips) during the Saturday peak hour.

Access Design

- The development is expected to meet all PABL requirements, further review will be provided as part of the Site Plan Application process.

- The development is expected to be able to meet all TAC Geometric Design Guide standards, further review will be provided as part of the Site Plan Application process.

Existing and Background Intersection Operations

- Under existing and background traffic conditions, critical northbound through movements at the Strandherd Drive/Citigate Drive/Fallowfield Road intersection are anticipated to operate with a LOS F during the AM and PM peak hour.

- Under 2030 background traffic conditions, the critical southbound through movement at the Strandherd Drive/Systemhouse Street/Maravista Drive intersection are anticipated to operate with a LOS F during the PM and Saturday peak hour.

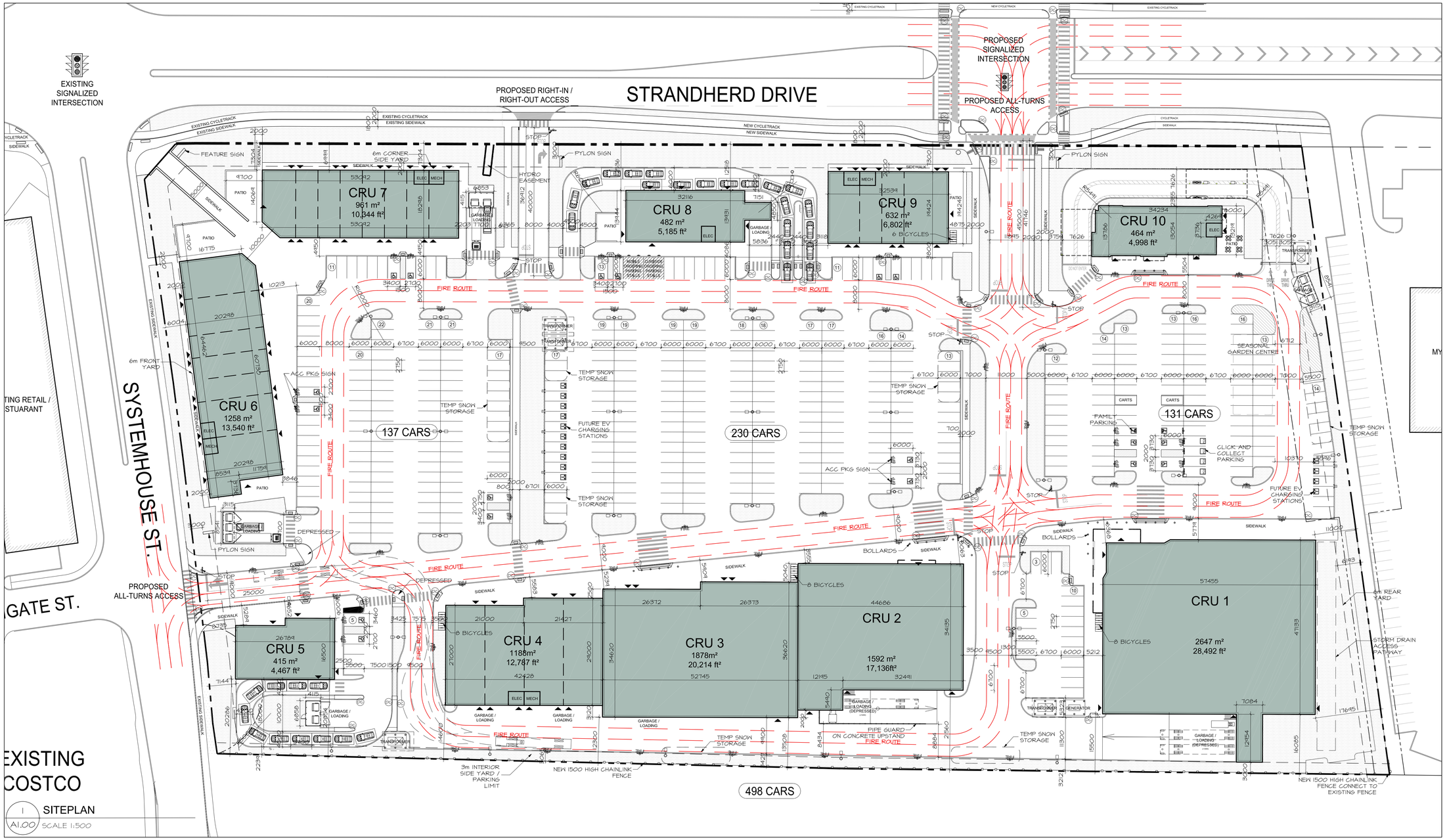
Parking

- The development is anticipated to require roughly 345 parking spaces.

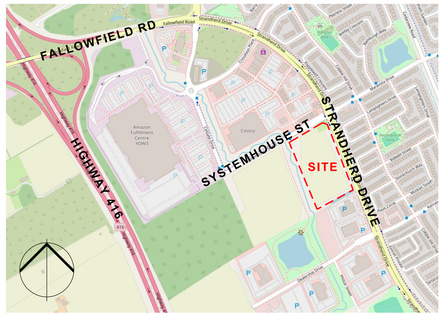
- Based on the preliminary concept plan, the proposed parking for the commercial retail portion of the site is approximately 22 spaces short of the current ZBL requirement. The parking provisions will be further reviewed as the concept plan is refined for the future Site Plan application.

APPENDIX B

Site Plan



LOCATION MAP



SURVEY INFORMATION

LEGAL DESCRIPTION:
Blocks 3 and Part of Block 27
registered Plan 4M-1538
City of Ottawa

PREPARED BY Annis, O'Sullivan, Vollebekk Ltd
FIELD WORK COMPLETED ON February 5, 2015

NOTE:
NOTE: REFER TO LANDSCAPE PLAN FOR EXTERIOR FINISHES, PLANTING & SITE FURNITURE. REFER TO SITE SERVICING AND GRADING PLAN FOR RELEVANT INFO.

PROJECT INFORMATION

CITY OF OTTAWA

OFFICIAL PLAN:	SUBURBAN TRANSECT, MIXED INDUSTRIAL, ARTERIAL RD
ZONING:	IP[3033] H(18) INDUSTRIAL PARK
ADDRESS:	4175 STRANDHEARD DRIVE, OTTAWA
SITE AREA:	52,733 M²

ZONING INFORMATION

ZONING	REQUIRED	PROVIDED
PERMITTED USES:	Retail, Retail Food Store Restaurant, Etc	Retail Retail Food Store Restaurant, Etc
MINIMUM LOT WIDTH	No Minimum	00.0m
MINUMUM LOT AREA	750m²	52,733 m²
MIN FRONT YARD (SYSTEM HOUSE)	6.0m	6.0m
MIN CORNER SIDE YARD (STRANDHERD):	6.0m	7.0m
MIN INTERIOR SIDE YARD (WEST)	3.0m	3.0m
MIN REAR YARD (SOUTH)	6.0m	11.0m
LOT COVERAGE	55% (max)	22%
FLOOR SPACE INDEX (FSI)	FSI 2 (max)	FSI 0.22
MAXIMUM HEIGHT	18.0m	9.6m
PARKING REQUIRED:	3.6 / 100m2 415	 498
BICYCLE PARKING:	1/500m2 23 SPACES	 30 SPACES

BUILDING AREA:

	USE	GFA
CRU 1	GROCERY	2647.0 m²
CRU 2	DRUGSTORE	1592.0 m²
CRU 3	RETAIL / ATHLETIC FACILITY	1878.0 m²
CRU 4	RETAIL	1188.0 m²
CRU 5	DRIVE-THROUGH	415.0 m²
CRU 6	RETAIL / RESTAURANT	1258.0 m²
CRU 7	RETAIL / RESTAURANT	961.0 m²
CRU 8	DRIVE-THROUGH	482.0 m²
CRU 9	RETAIL / RESTAURANT	632.0 m²
CRU 10	DRIVE-THROUGH	464.0 m²
PROJECT TOTAL:		**11,517.0 m²**

DRAWING LEGEND

- PROPERTY LINE
- ACCESIBLE PARKING
- EV CHARGING
- FAMILY PARKING
- DEPRESSED CURB
- ENTRANCE
- FIRE HYDRANT
- UTILITY POLE
- EXISTING SIGN
- LIGHT STANDARD
- WATER VALVE
- MAN HOLE
- CATCH BASIN/CATCH BASIN INLET
- CHAIN LINK FENCE WITH GATE
- SIAMESE CONNECTION
- EXTERIOR HOSE BIB
- PHASING LINE
- FIRE ROUTE SIGN
- BARRIER FREE PARKING SIGN
- BICYCLE PARKING

SCALE BAR - 1 : 500

ft 0 20 40 60 80 100 120 140 160 180 200 220
m 0 10 20 30 40 50 60 70

SITEPLAN
A1.00 SCALE 1:500

2025/09/26
A1.00_4175 Strandherd_ChoiceREIT.dwg

Choice Properties REIT

PROJECT TEAM

OWNER
CHOICE REIT
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Vincent Raso
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Drew Blair
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ENVIRONMENTAL ENGINEERING
FIRM NAME
Contact Person
T 000.000.0000

GEOTECHNICAL ENGINEERING
FIRM NAME
Contact Person
T 000.000.0000

no.	date	revision
7	FEB 02, 2026	ISSUED FOR SITEPLAN APPLICATION
6	DEC 19, 2025	ISSUED FOR COORDINATION
5	DEC 15, 2025	ISSUED FOR CLIENT REVIEW
4	DEC 2, 2025	ISSUED FOR CLIENT REVIEW
3	NOV 26, 2025	ISSUED FOR CLIENT REVIEW
2	NOV 13, 2025	ISSUED FOR CLIENT REVIEW
1	SEPT 26, 2025	ISSUED FOR COORDINATION

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or omissions to the architect.

All contractors must comply with all pertinent codes and by-laws.

Do not scale drawings.

This drawing may not be used for construction until signed.

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DARREN J. HOBIN
LICENCE 3049

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63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7200
F: 613-238-2005
E: mail@hobinarc.com
hobinarc.com

HOBIN ARCHITECTURE

PROJECT/LOCATION:
CHOICE REIT
4175 STRANDHERD RETAIL
4175 STRANDHERD DRIVE, OTTAWA

DRAWING TITLE:
SITE PLAN

DRAWN BY:	DATE:	SCALE:
DV	SEPT 2025	1:500

PROJECT: 2511
DRAWING NO.: A1.00
REVISION NO.:

APPENDIX C

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	4175 Strandherd
Description of Location	Southwest of Strandherd/Systemhouse
Land Use Classification	grocery store, retail & 2 dealerships
Development Size (units)	
Development Size square metre (m^2)	35,000sf grocery; 40,000sf retail; 50,000sf dealership
Number of Accesses and Locations	3 to Strandherd & 1 to Systemhouse
Phase of Development	1 dealership and retail - 2026
Buildout Year	2028

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.

Table notes:

1. Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2. Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	**60 units**
Multi-Use Family (Low-Rise)[1]	**90 units**
Multi-Use Family (High-Rise)[1]	**150 units**
Office[2]	**1,400 m^2**
Industrial[2]	**7,000 m^2**
Fast-food restaurant or coffee shop[2]	**110 m^2**
Destination retail[2]	**1,800 m^2**
Gas station or convenience market[2]	**90 m^2**

If the proposed development size is equal to or 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 Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?	☐	☑
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)?[2]	☐	☑

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 are 80 kilometers per hour (km/h) or greater?	☐	☑
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	☐	☑
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	☑	☐
Is the proposed driveway within auxiliary lanes of an intersection?	☑	☐
Does the proposed driveway make use of an existing median break that serves an existing site?	☐	☑

[2] Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in Schedule C1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

	Yes	No
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	☐	☑
Does the development include a drive-thru facility?	☑	☐

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

5. Summary

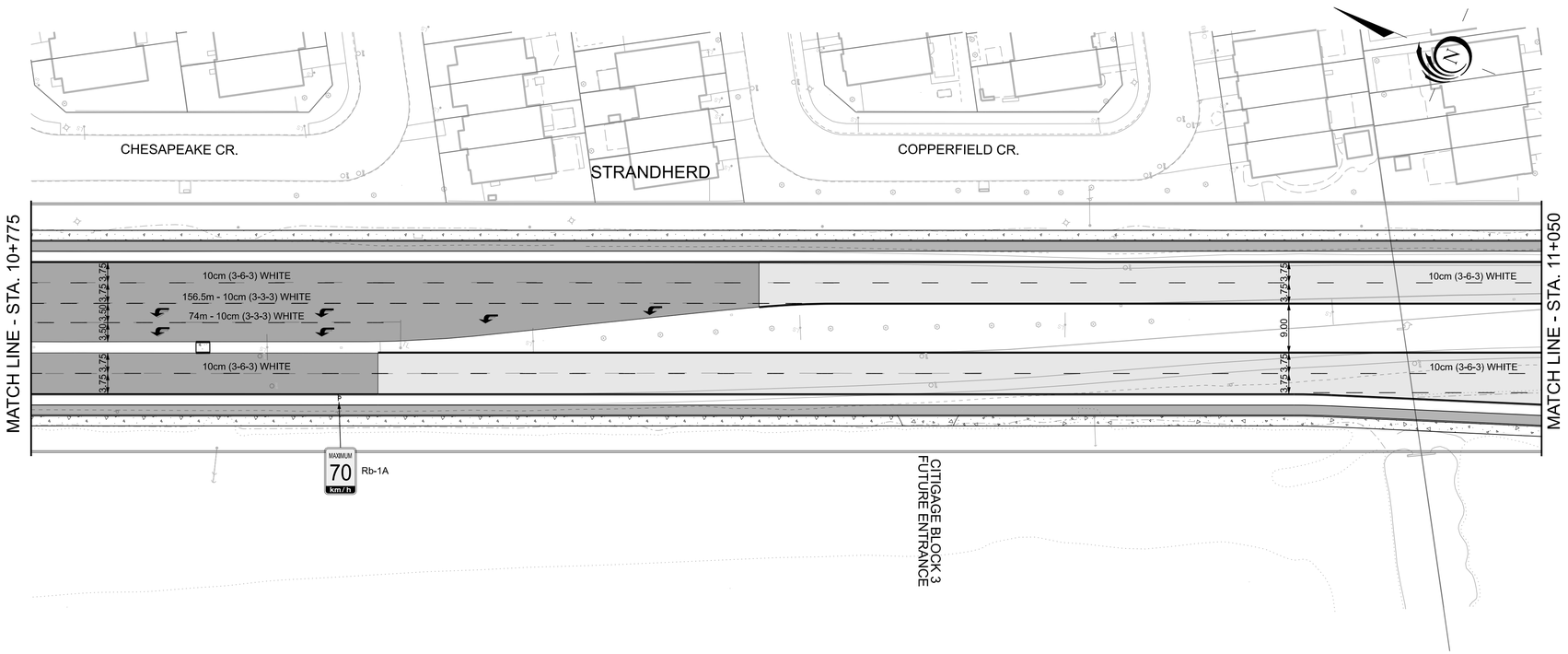
Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?	☑	☐
Does the development satisfy the Location Trigger?	☐	☑
Does the development satisfy the Safety Trigger?	☑	☐

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 D

Strandherd Drive Pavement Makings and Signage Drawings





STRANDHERD DRIVE WIDENING
MARAVISTA DRIVE TO JOCKVALE ROAD

STRANDHERD DRIVE
PAVEMENT MARKINGS & SIGNAGE 1
LIMIT OF CONTRACT TO STA. 11+050

C. Duclos, P.Eng. *Director*	J. Vallee, P.Eng. *Project Manager*

PARSONS

Contract No. CP000217 | Dwg. No. 1

Sheet 1 of _

Asset No. --------

Asset Group ---

Des. MDM	Chk'd. DSG
Dwn. MDM	Chk'd. DSG

Utility Circ. No. ____ | Index No. 17676

Const. Inspector .....

Scale: HORIZONTAL 0m 5 10 20

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned, The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

REVISIONS

No.	Description	By	Date (dd/mm/yy)
1	SCM NT-VP008761 - FINAL PAVEMENT MARKING & SIGNAGE	DSG	16/08/23

TRAFFIC MANAGEMENT PAVEMENT MARKING REVIEW

☐ Reviewed/Submit for Changes

☒ Reviewed and Accepted

By: Adrianna Lawlor 16-Aug-2023

TITLE FRAME: 790mm x 534mm City of Ottawa 2008

Plot Date: $DATE$ $TIME$

Last Saved: 8/16/2023 9:21:00 AM

Consultant's Information: C:\ISO\477226\110\10\DWGS\01-Change Order\ISD17-5124-21-PVMK-SIGN-01.Dgn

TITLE FRAME: 790mm x 534mm City of Ottawa 2008
Plot Date: $DATE$ $TIME$
Last Saved: 10/25/2022 10:34:51 AM
Consultant's Information: C:\ISO\477226\110\0\DWGS\01-Change Order\ISD17-5124-21-PVMK-SIGN-02.Dgn

STRANDHERD DRIVE WIDENING
MARAVISTA DRIVE TO JOCKVALE ROAD

STRANDHERD DRIVE
PAVEMENT MARKINGS & SIGNAGE 2
STA. 11+050 TO STA. 11+625

C. Duclos, P.Eng.	J. Vallee, P.Eng.
Director	*Project Manager*

PARSONS

Ottawa

Contract No.	Dwg. No.
CP000217	2

Sheet 2 of

Asset No.

Asset Group

Des.	Chk'd.
MDM	DSG
Dwn.	Chk'd.
MDM	DSG
Utility Circ. No.	Index No.
	17676

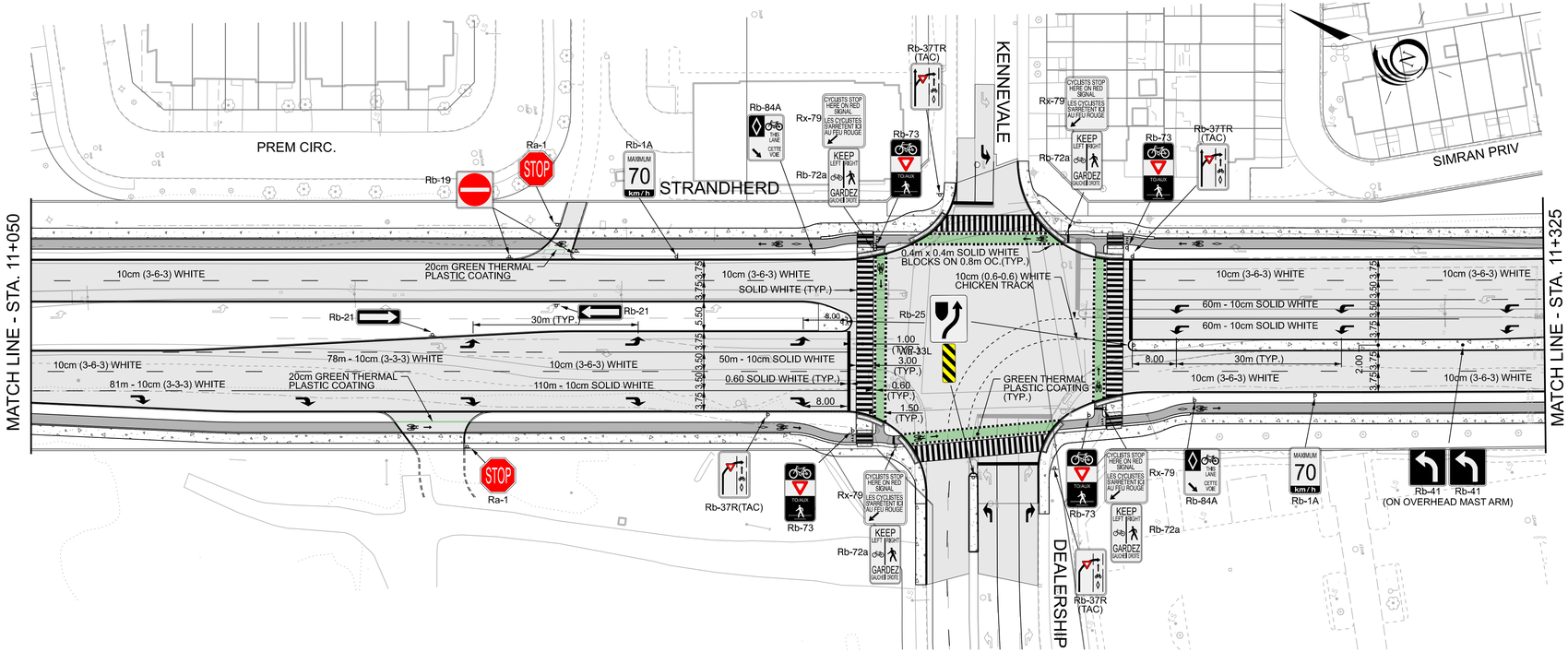
Const. Inspector

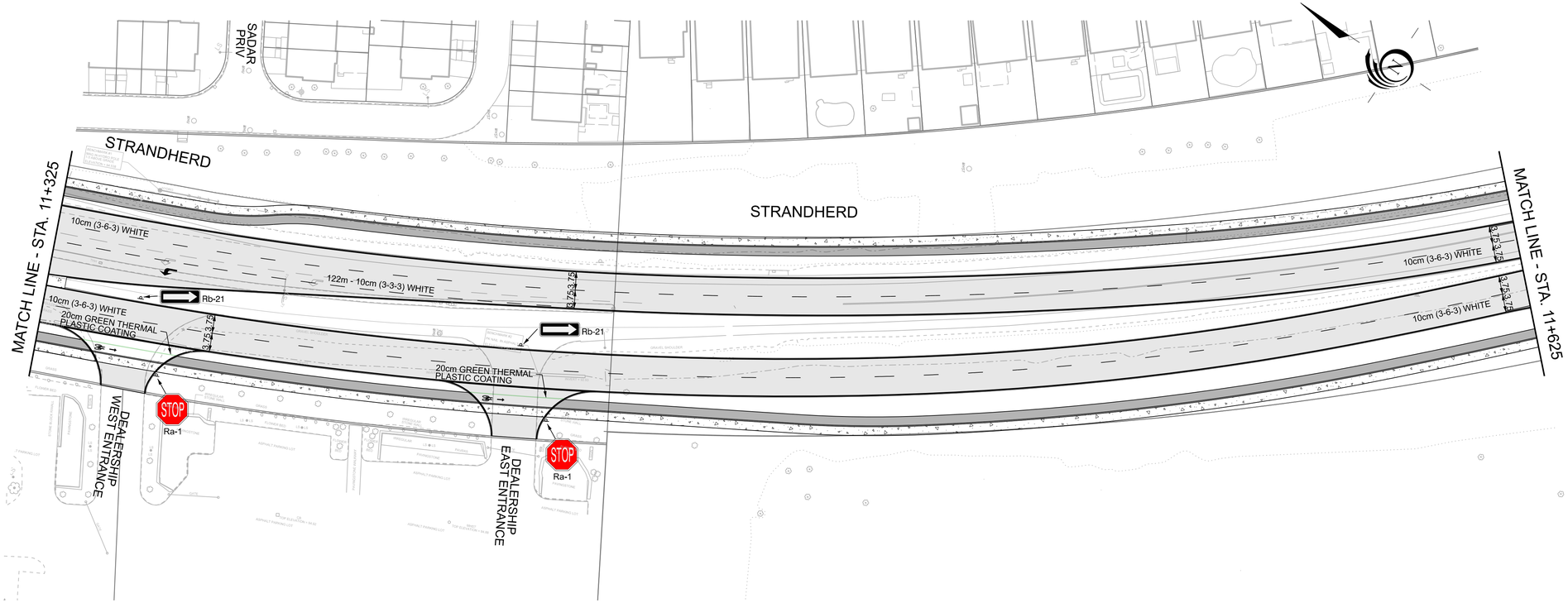
Scale: HORIZONTAL
0m 5 10 20

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned, The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

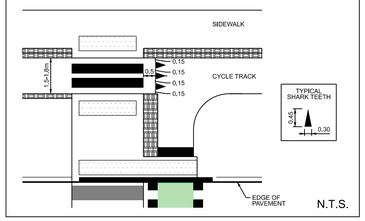
REVISIONS

No.	Description	By	Date (dd/mm/yy)
1	SCM NT-VP07819 - PAVEMENT MARKING & SIGNAGE MODIFICATIONS	DSG	17/10/22
2	SCM NT-VP008761 - FINAL PAVEMENT MARKING & SIGNAGE	DSG	16/08/23





TYPICAL SHARK TEETH MARKINGS
CYCLE TRACK



Ottawa

TRAFFIC MANAGEMENT PAVEMENT MARKING REVIEW

☐ Reviewed/Submit for Changes

☒ Reviewed and Accepted

By: Adrianna Lawlor 16-Aug-2023

APPENDIX E

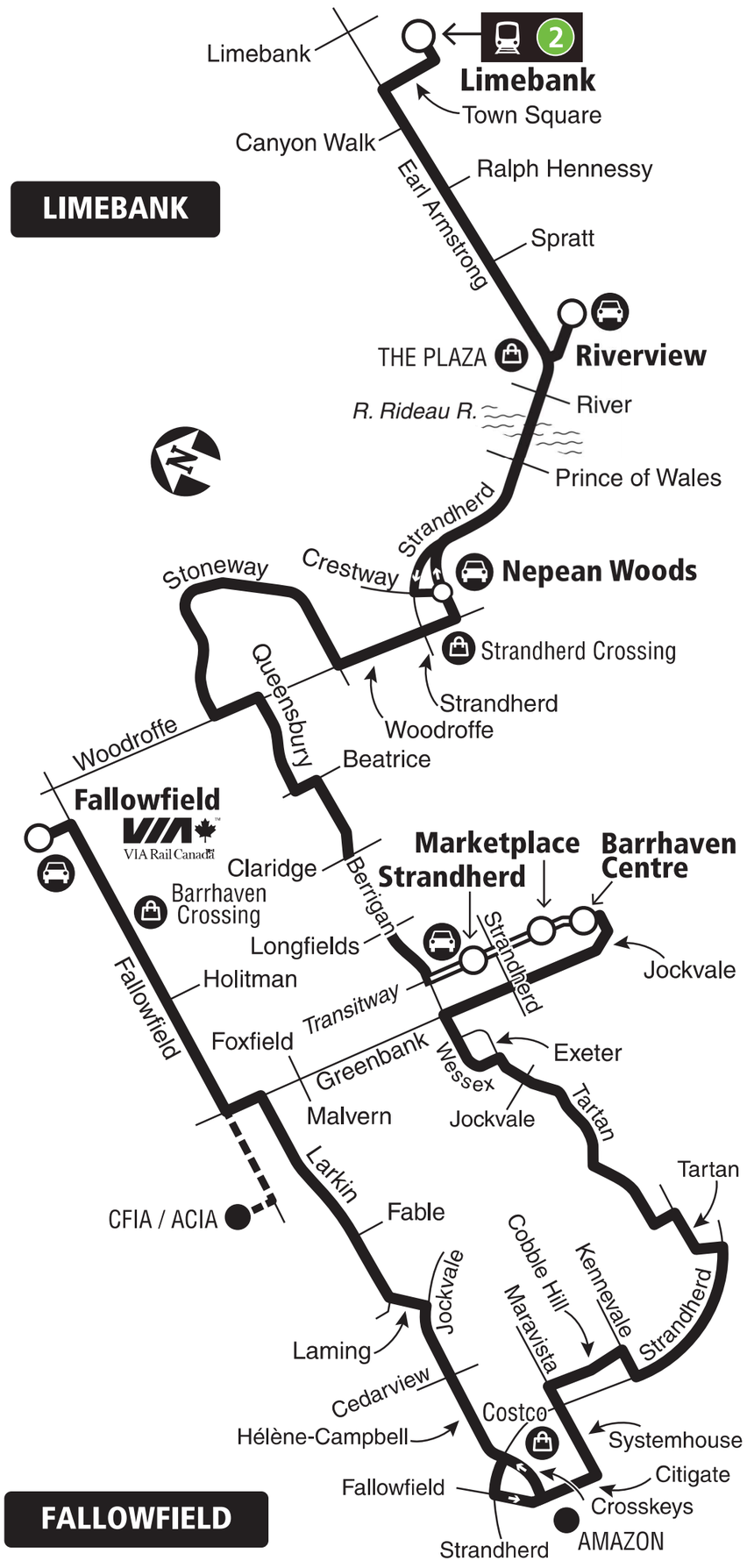
OC Transpo Routes

70

LIMEBANK
FALLOWFIELD

Local

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



05.2025

Transitway & Station

Some trips / Quelques trajets

Park & Ride / Parc relais

Shopping Centre / Centre commercial

2025.05

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.

Customer Service / Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**

OC Transpo **octranspo.com**

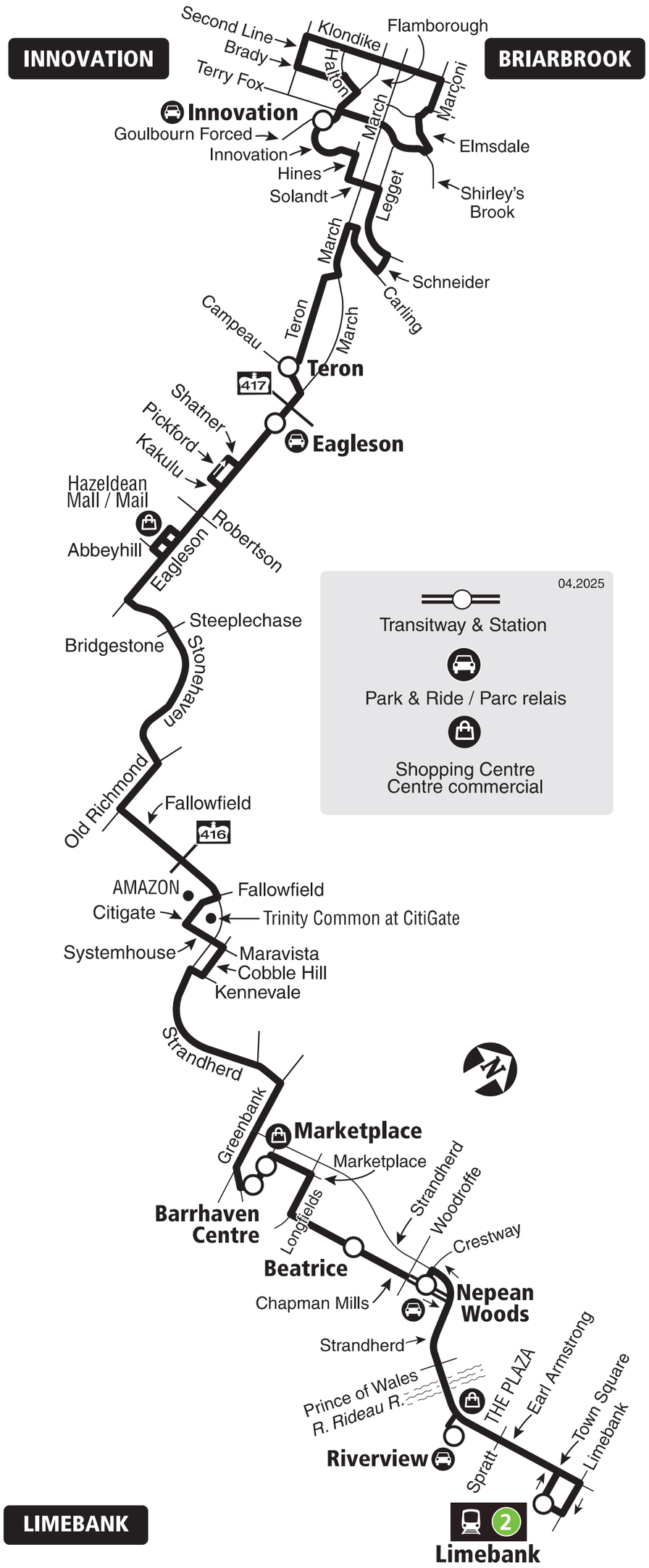
110 LIMEBANK
INNOVATION BRIARBROOK

Local

7 days a week / 7 jours par semaine

All day service

Service toute la journée



2025.05

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.

Customer Service / Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**

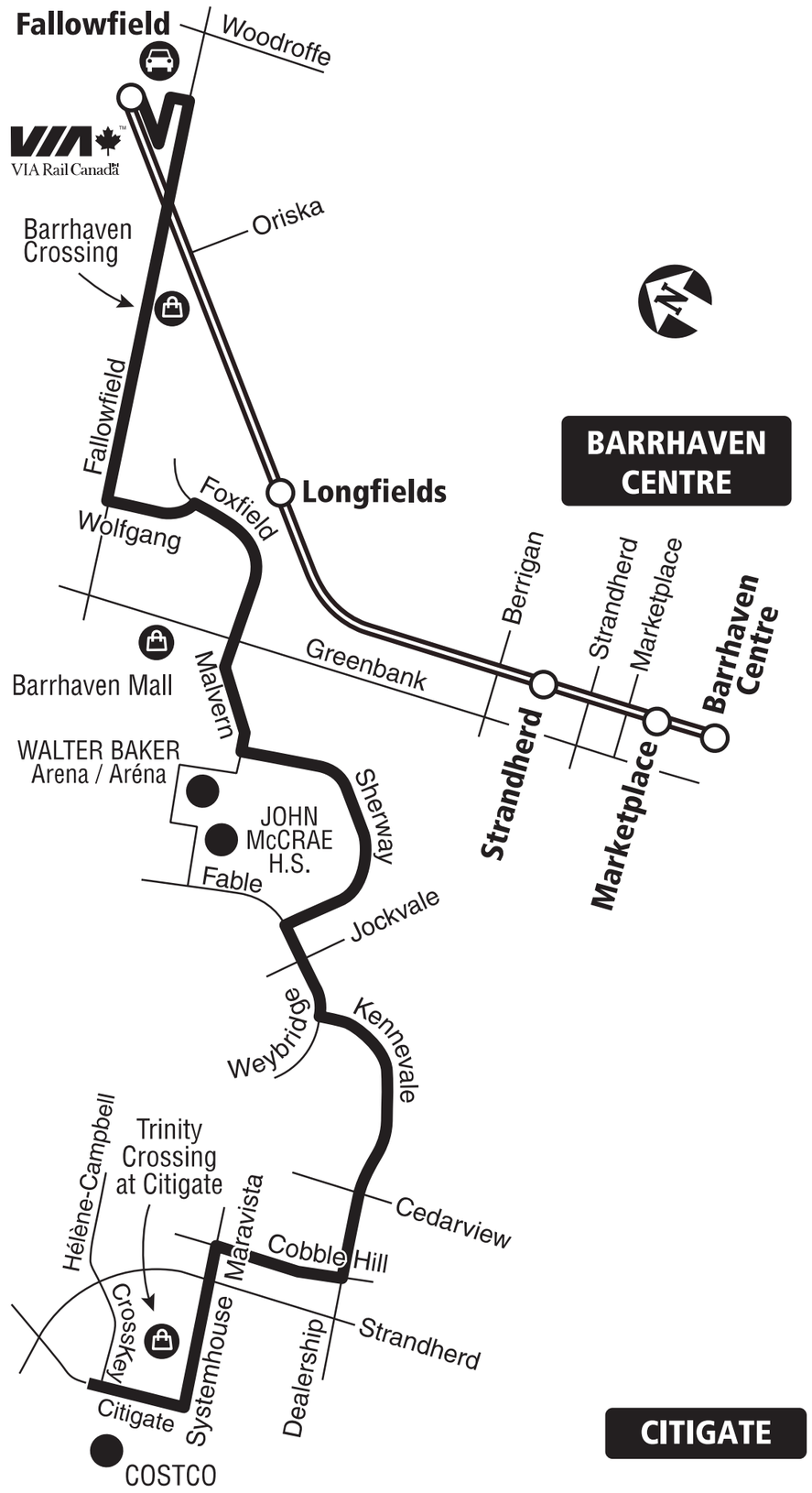
OC Transpo **octranspo.com**

173 BARRHAVEN CENTRE / CITIGATE

Local

7 days a week / 7 jours par semaine

All day service
Service toute la journée



04.2025

- Station
- Park & Ride / Parc relais
- Shopping Centre / Centre commercial

2025.04

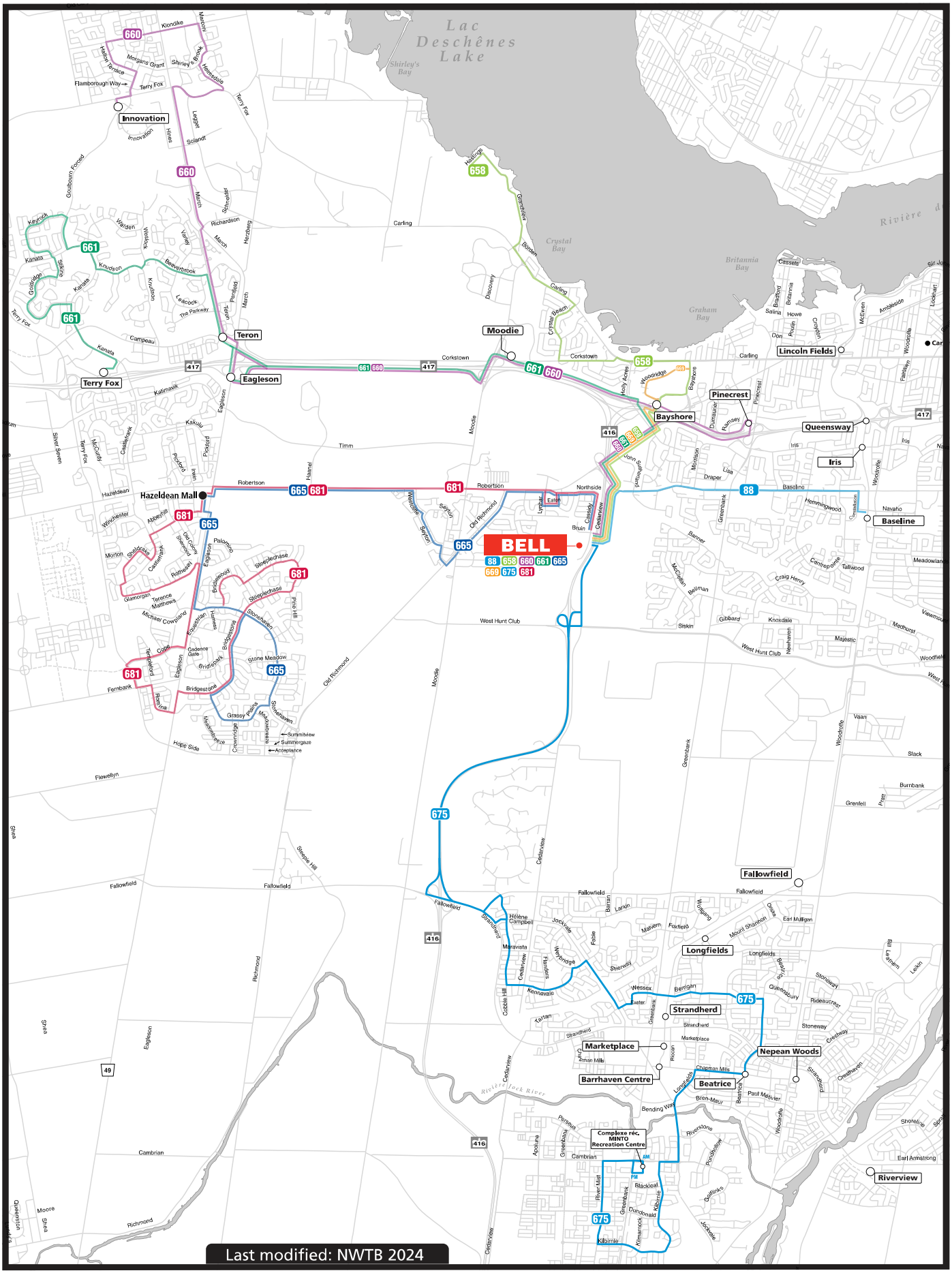
This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

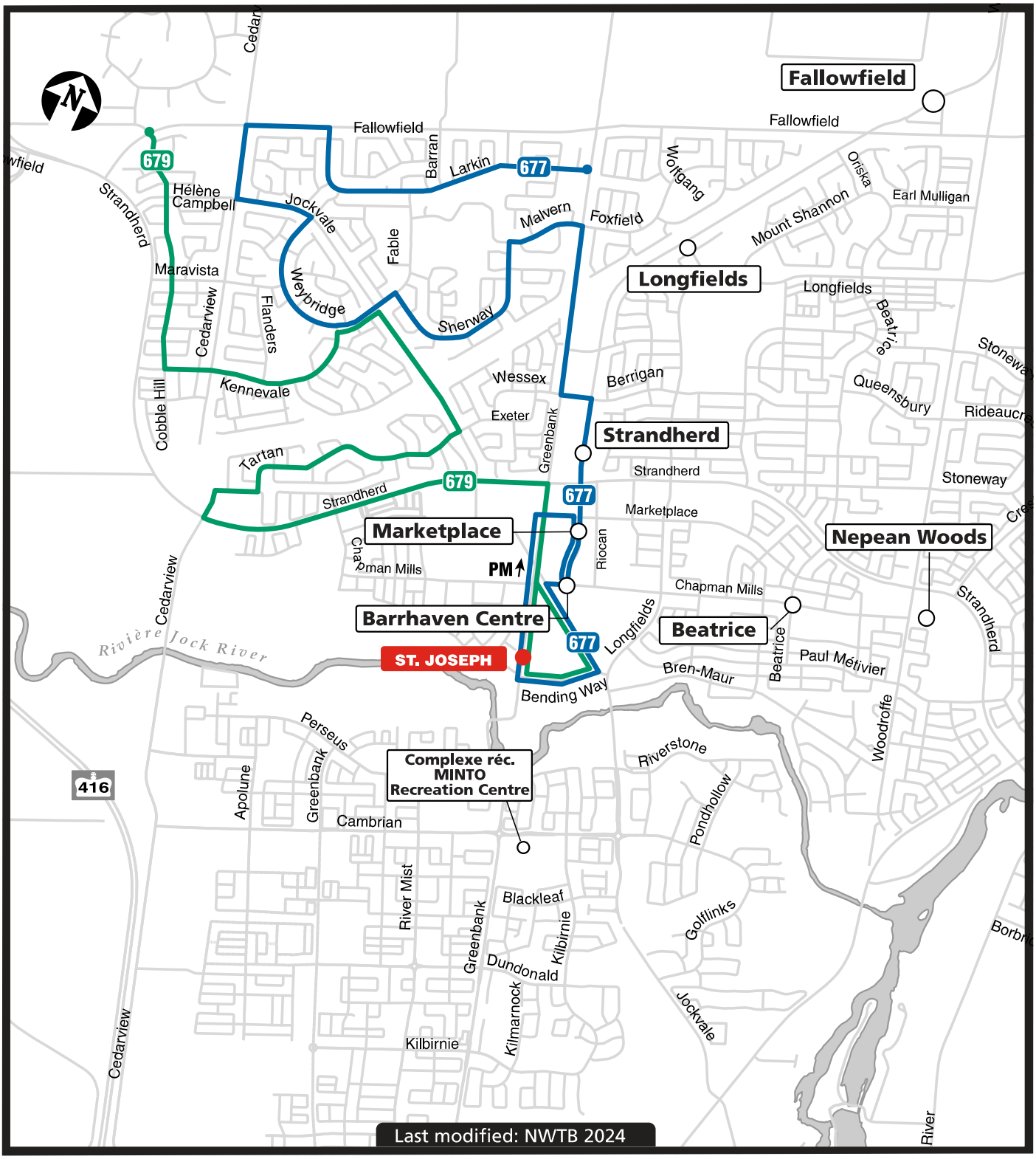
Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.

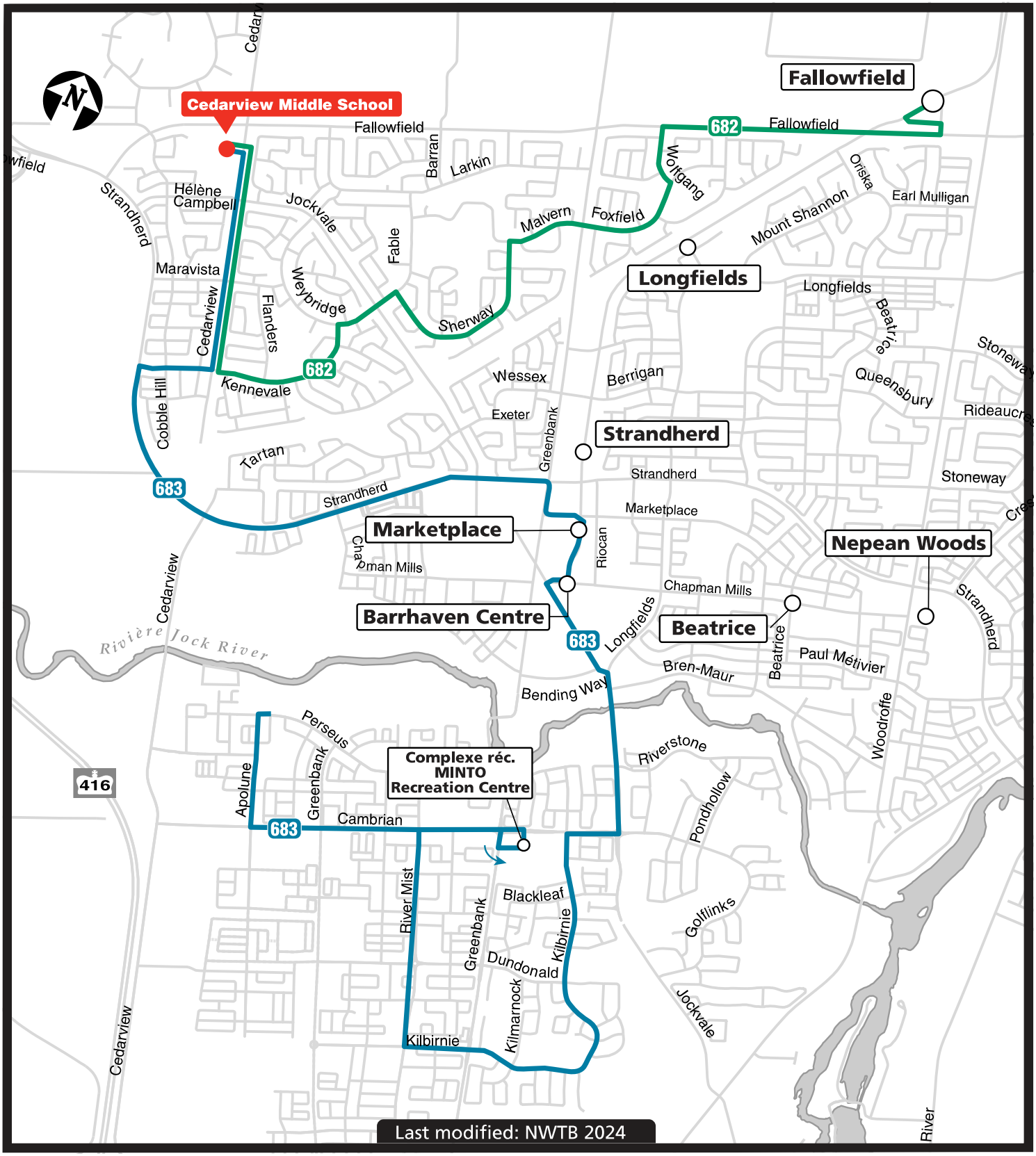
Customer Service / Service à la clientèle **613-560-5000**

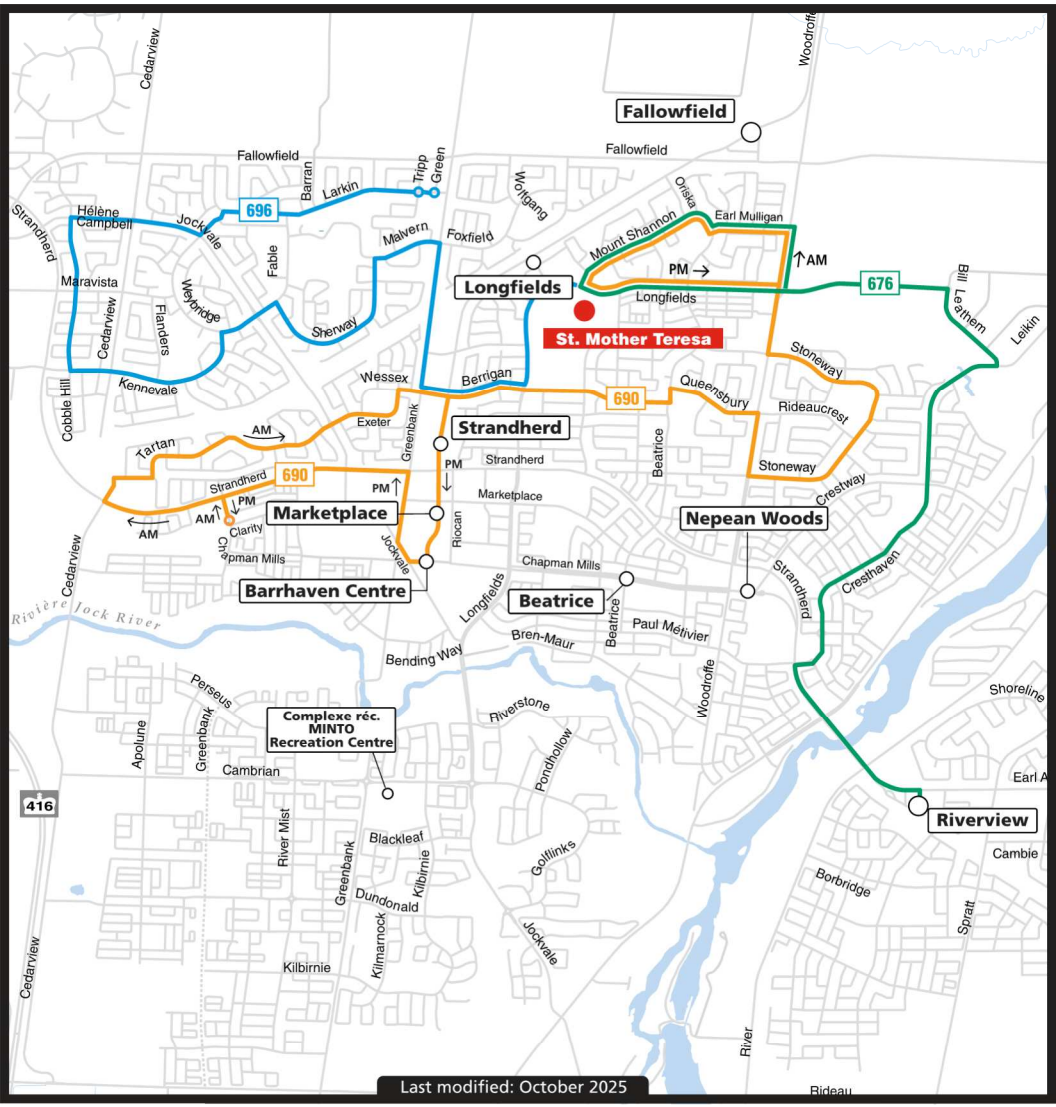
Security / Sécurité **613-741-2478**

OC Transpo **octranspo.com**


Lac Deschênes Lake
Innovation
Teron
Terry Fox
Eagleson
Moodie
Bayshore
Pinecrest
Lincoln Fields
Queensway
Iris
Baseline
Hazeldean Mall
BELL
Fallowfield
Longfields
Strandherd
Marketplace
Barrhaven Centre
Nepean Woods
Beatrice
Riverview
Complexe réc. MINTO Recreation Centre
660
658
661
681
665
675
88
669
Last modified: NWTB 2024


Fallowfield
Fallowfield
Fallowfield
679
677
Barran
Larkin
Wolfgang
Oriska
Earl Mulligan
Mount Shannon
Hélène Campbell
Strandherd
Jockvale
Malvern
Foxfield
Fable
Maravista
Weybridge
Longfields
Longfields
Beatrice
Flanders
Cedarview
Sherway
Wessex
Berrigan
Queensbury
Kennevale
Cobble Hill
Exeter
Greenbank
Strandherd
Tartan
Strandherd
679
677
Strandherd
Stoneway
Marketplace
Marketplace
Nepean Woods
Chapman Mills
PM
Riocan
Cedarview
Chapman Mills
Barrhaven Centre
Beatrice
Longfields
Strandherd
Rivière Jock River
ST. JOSEPH
677
Bren-Maur
Paul Métivier
Beatrice
Bending Way
Perseus
Riverstone
Woodroffe
Complexe réc. MINTO Recreation Centre
416
Apolune
Greenbank
Cambrian
Pondhollow
River Mist
Blackleaf
Golflinks
Greenbank
Kilbirnie
Dundonald
Kilmarnock
Jockvale
Cedarview
Kilbirnie
River
Last modified: NWTB 2024


Cedarview Middle School
Fallowfield
Longfields
Strandherd
Marketplace
Barrhaven Centre
Nepean Woods
Beatrice
Complexe réc. MINTO Recreation Centre
682
683
416
Rivière Jock River
Last modified: NWTB 2024


Fallowfield
Fallowfield
Fallowfield
Longfields
Longfields
St. Mother Teresa
Strandherd
Strandherd
Marketplace
Marketplace
Barrhaven Centre
Nepean Woods
Beatrice
Riverview
Complexe réc. MINTO Recreation Centre
696
690
690
676
416
Cedarview
Woodroffe
Hélène Campbell
Jockvale
Barran
Larkin
Tripp
Green
Malvern
Foxfield
Wolfgang
Orléans
Mount Shannon
Earl Mulligan
PM
AM
Maravista
Fable
Weybridge
Flanders
Sherway
Kennevale
Cobble Hill
Wessex
Berrigan
Exeter
Greenbank
Queensbury
Rideaucrest
Stoneway
Beatrice
Crestway
Tartan
Clarity
Riocan
Chapman Mills
Longfields
Paul Métivier
Bren-Maur
Bending Way
Rivière Jock River
Perseus
Apolune
Greenbank
Cambrian
Riverstone
Pondhollow
Woodroffe
Shoreline
Cresthaven
Earl A
Cambie
Borbridge
Spratt
River Mist
Blackleaf
Dundonald
Kilbirnie
Kilmarnock
Golflinks
Jockvale
Bell Leathem
Leikin
Rideau
River
Last modified: October 2025

APPENDIX F

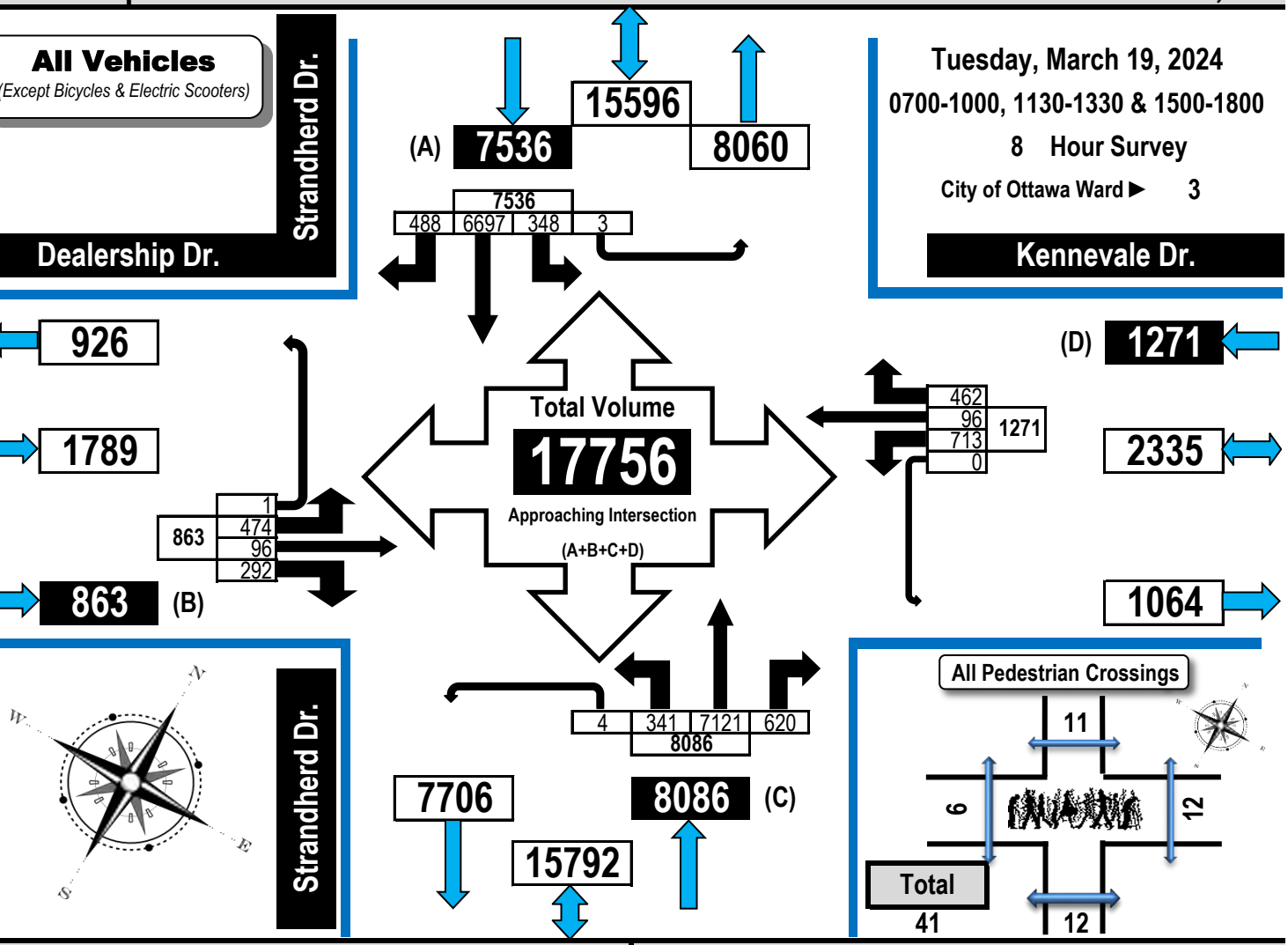
Traffic Count Data

Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

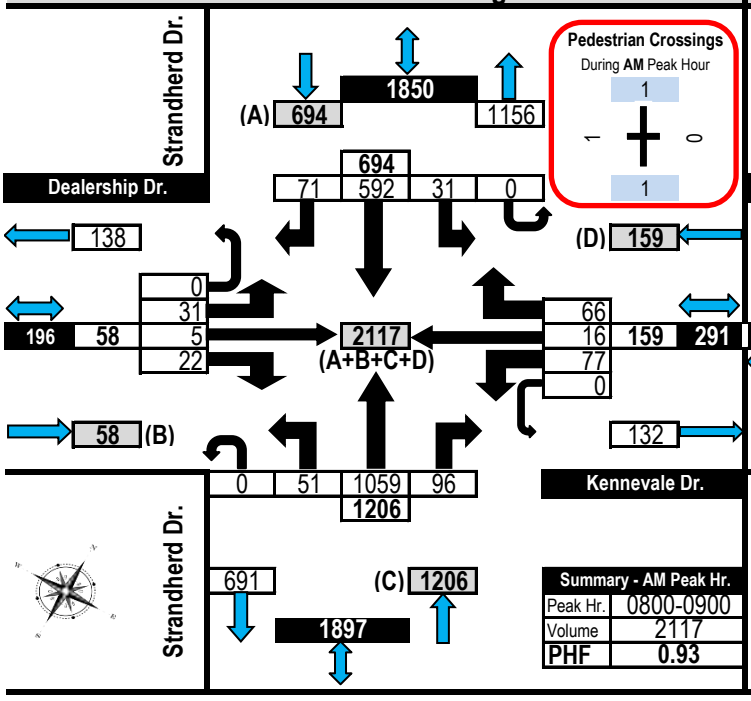
Dealership Drive/Kennevale Drive & Strandherd Drive — Barrhaven West, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, March 19, 2024
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ▶ 3

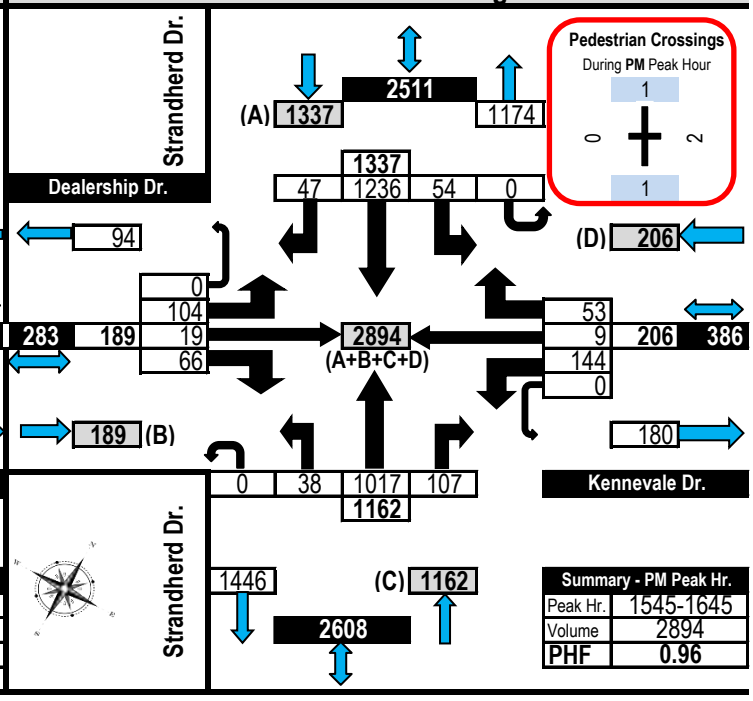


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	2117
PHF	0.93

PM Peak Hour Flow Diagram



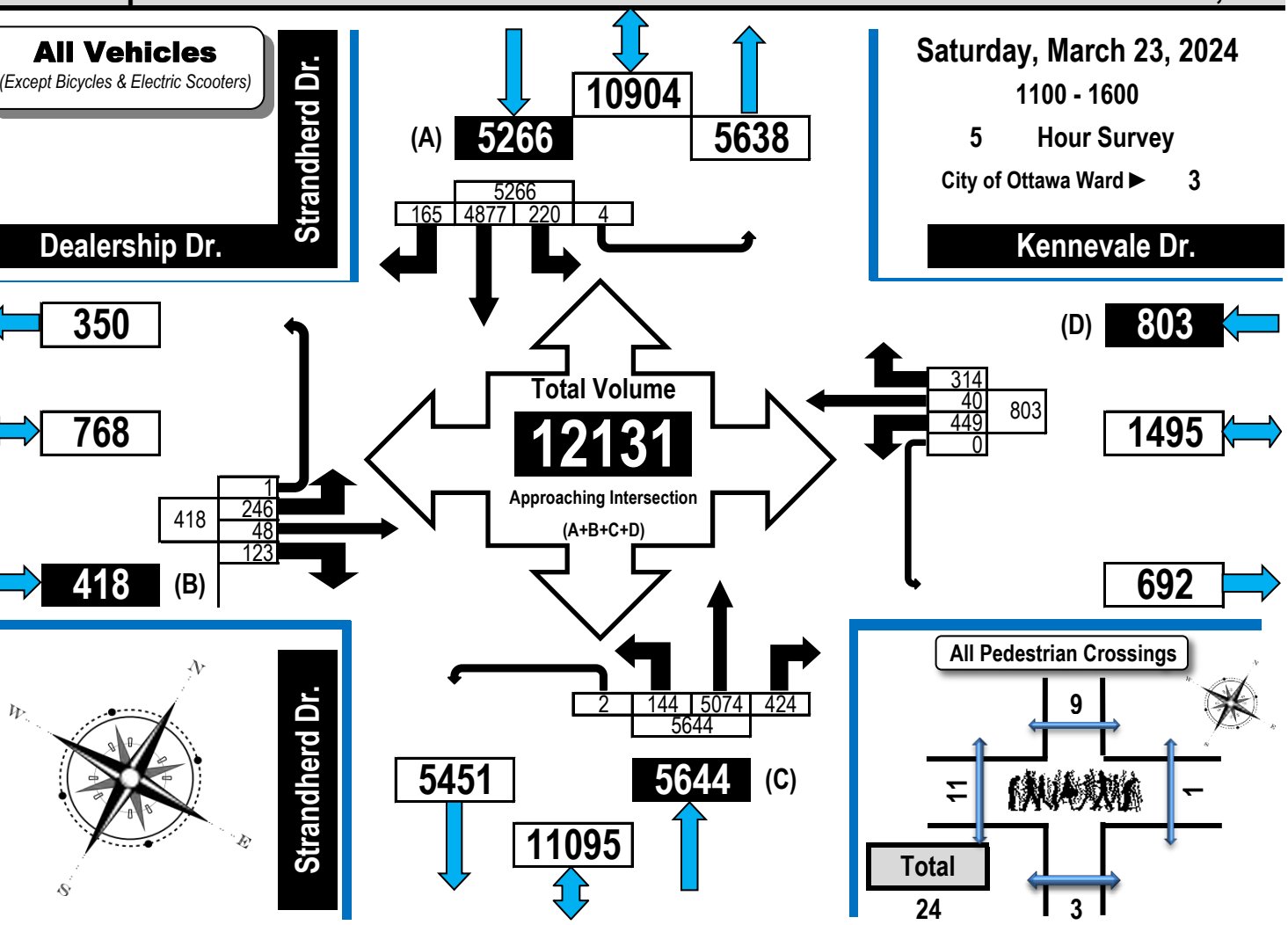
Summary - PM Peak Hr.	
Peak Hr.	1545-1645
Volume	2894
PHF	0.96

Turning Movement Count
Summary, OFF and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

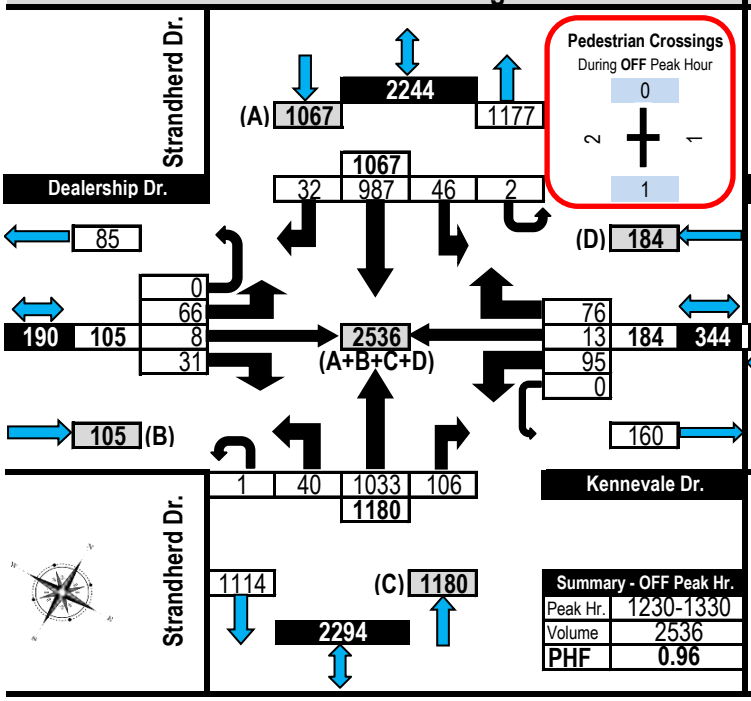
Dealership Drive/Kennevale Drive & Strandherd Drive — Barrhaven West, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Saturday, March 23, 2024
1100 - 1600
5 Hour Survey
City of Ottawa Ward ▶ 3

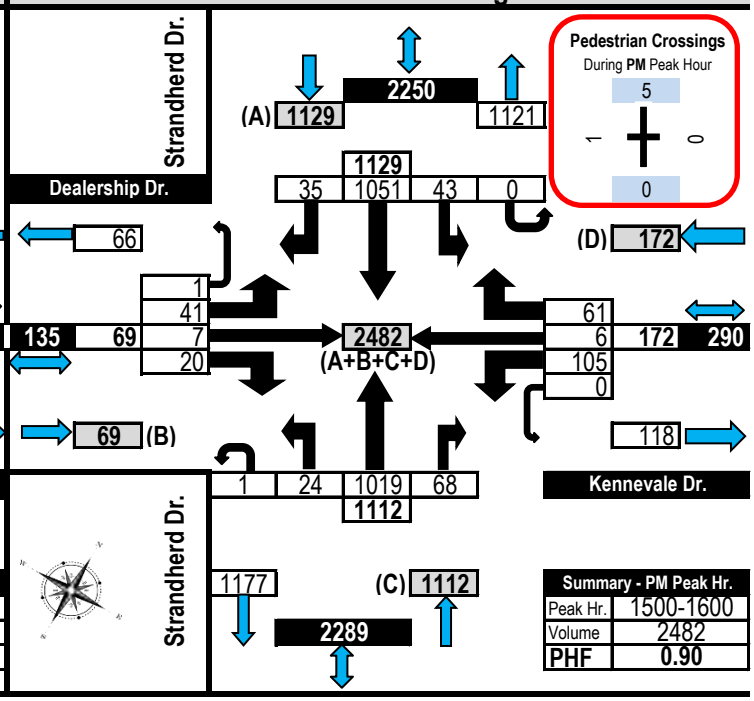


Off Peak Hour Flow Diagram



Summary - OFF Peak Hr.	
Peak Hr.	1230-1330
Volume	2536
PHF	0.96

PM Peak Hour Flow Diagram



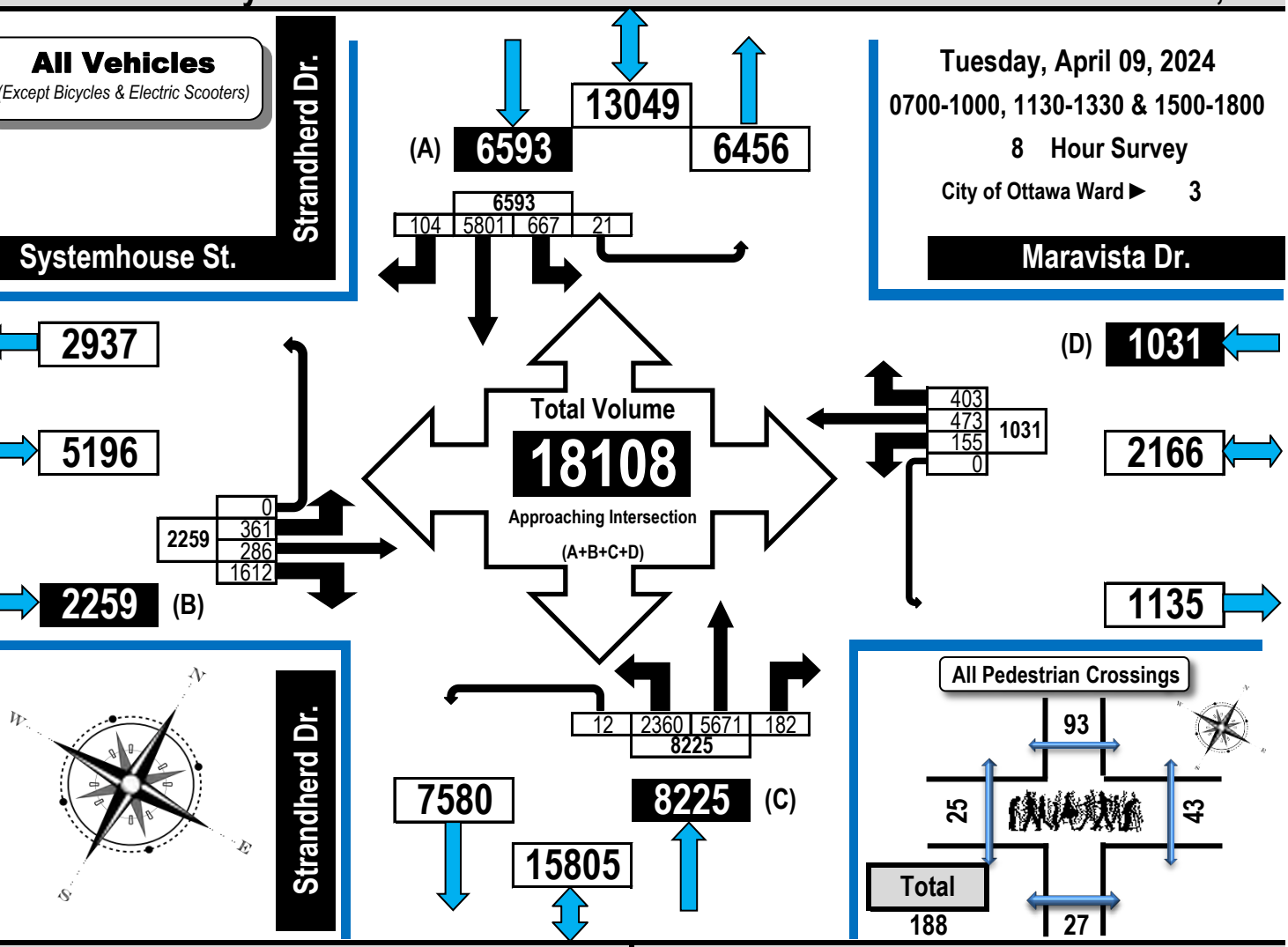
Summary - PM Peak Hr.	
Peak Hr.	1500-1600
Volume	2482
PHF	0.90

Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

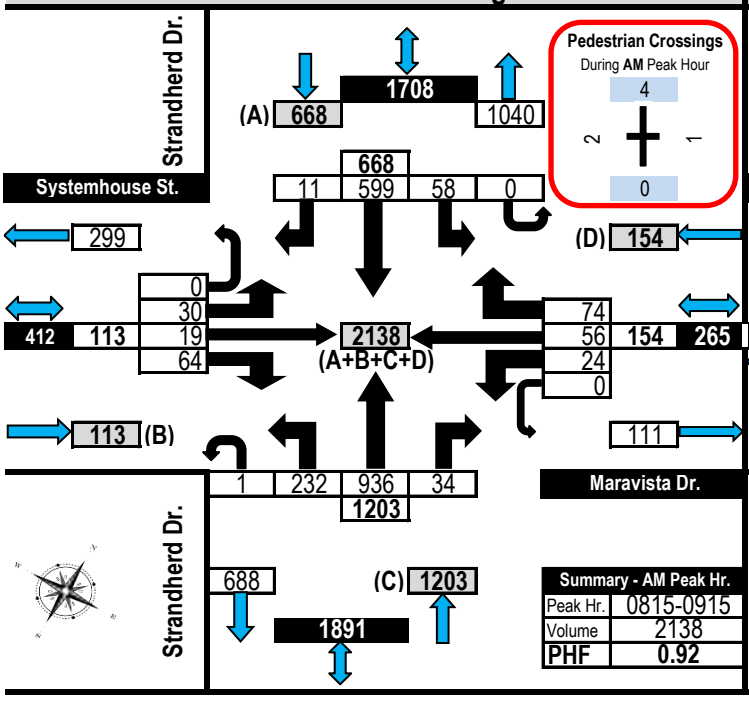
Maravista Drive/Systemhouse Street & Strandherd Drive — Barrhaven West, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, April 09, 2024
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ► 3

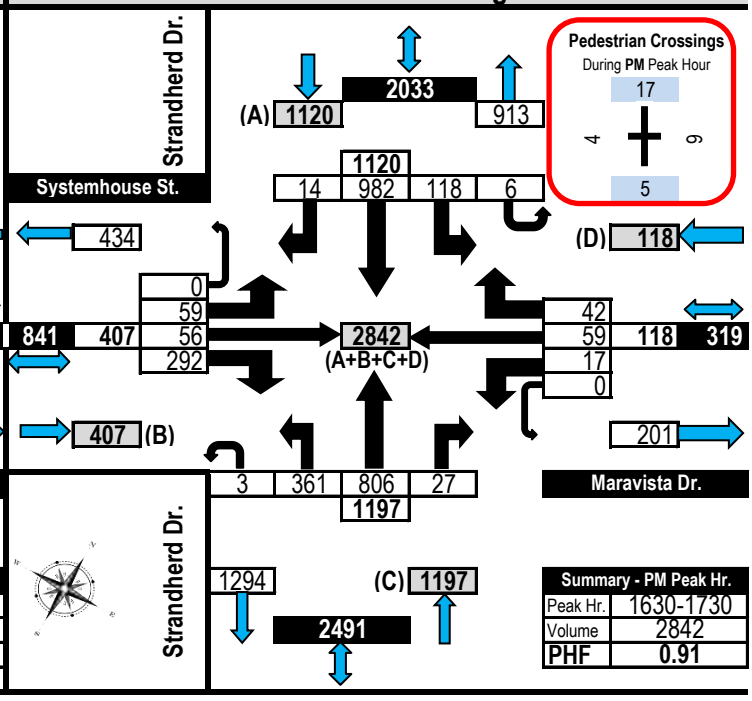


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0815-0915
Volume	2138
PHF	0.92

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1630-1730
Volume	2842
PHF	0.91

Turning Movement Count
Summary, OFF and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles



Maravista Drive/Systemhouse Street & Strandherd Drive — Barrhaven West, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Saturday, April 06, 2024
1100 - 1600
5 Hour Survey
City of Ottawa Ward ▶ 3

Total Volume **13881**
Approaching Intersection (A+B+C+D)

(A) Strandherd Dr.	4879	9148	4269	
Systemhouse St.	2880	5009	2129	(B)
Maravista Dr.	(D) 743	1632	889	
Strandherd Dr.	5843	11973	6130	(C)

All Pedestrian Crossings: 97 / 18 / 23 / Total 170 / 32

Off Peak Hour Flow Diagram

Pedestrian Crossings During OFF Peak Hour: 20 (8 + 0 + 5)

(A) Strandherd Dr.	965	1866	901	
Systemhouse St.	607	1037	430	(B)
Maravista Dr.	(D) 160	177	337	
Strandherd Dr.	1163	2456	1293	(C)

(A+B+C+D) = 2848

Summary - OFF Peak Hr.	
Peak Hr.	1300-1400
Volume	2848
PHF	0.92

PM Peak Hour Flow Diagram

Pedestrian Crossings During PM Peak Hour: 29 (4 + 9 + 8)

(A) Strandherd Dr.	1102	1944	842	
Systemhouse St.	537	993	456	(B)
Maravista Dr.	(D) 139	198	337	
Strandherd Dr.	1309	2498	1189	(C)

(A+B+C+D) = 2886

Summary - PM Peak Hr.	
Peak Hr.	1500-1600
Volume	2886
PHF	0.90

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period
From: 07:00:00
To: 10:00:00

One Hour Peak
From: 07:45:00
To: 08:45:00

Intersection: Strandherd Dr & Citigate Dr - Fallowfield Rd
Site Code: 2436800001
Count Date: Sep 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Strandherd Dr runs E/W

North Approach

	Out	In	Total
Cars	514	556	1070
Trucks	19	33	52
Bicycles	0	0	0
	533	**589**	**1122**

Fallowfield Rd

Bicycles	0	0	0	0
Trucks	9	7	3	0
Cars	440	26	48	0
Totals	**449**	**33**	**51**	**0**

Peds: 1

East Approach

	Out	In	Total
Cars	1369	778	2147
Trucks	69	65	134
Bicycles	0	0	0
	1438	**843**	**2281**

Strandherd Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	27	503	**530**
0	59	728	**787**
0	12	79	**91**

Peds: 1



Peds: 0

Strandherd Dr

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	42	41	1	0
	1394	1327	67	0
	2	1	1	0

Peds: 0

West Approach

	Out	In	Total
Cars	1310	1812	3122
Trucks	98	84	182
Bicycles	0	0	0
	1408	**1896**	**3304**

Totals	**53**	**17**	**5**	**0**
Cars	45	12	2	0
Trucks	8	5	3	0
Bicycles	0	0	0	0

Citigate Dr

South Approach

	Out	In	Total
Cars	59	106	165
Trucks	16	20	36
Bicycles	0	0	0
	75	**126**	**201**

Cars - Trucks - Bicycles

Comments

Peak Hour Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:15:00
To: 17:15:00

Intersection: Strandherd Dr & Citigate Dr - Fallowfield Rd
Site Code: 2436800001
Count Date: Sep 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Strandherd Dr runs E/W

North Approach

	Out	In	Total
Cars	639	557	1196
Trucks	22	11	33
Bicycles	0	0	0
	661	**568**	**1229**

Fallowfield Rd

Bicycles	0	0	0	0
Trucks	18	4	0	0
Cars	461	56	122	0
Totals	**479**	**60**	**122**	**0**

Peds: 0

East Approach

	Out	In	Total
Cars	1091	1256	2347
Trucks	58	25	83
Bicycles	0	0	0
	1149	**1281**	**2430**

Strandherd Dr

Bicycles	Trucks	Cars	Totals
0	0	1	**1**
0	7	413	**420**
0	24	1126	**1150**
0	7	179	**186**

Peds: 0



Peds: 2

Strandherd Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
98	97	1	0
1046	991	55	0
5	3	2	0

Peds: 0

West Approach

	Out	In	Total
Cars	1719	1636	3355
Trucks	38	82	120
Bicycles	0	0	0
	1757	**1718**	**3475**

Citigate Dr

Totals	**192**	**50**	**9**	**0**
Cars	183	47	8	0
Trucks	9	3	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	238	238	476
Trucks	13	13	26
Bicycles	0	0	0
	251	**251**	**502**

Cars - Trucks - Bicycles

Comments

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period
From: 11:00:00
To: 16:00:00

One Hour Peak
From: 12:00:00
To: 13:00:00

Intersection: Strandherd Dr & Citigate Dr - Fallowfield Rd
Site Code: 2436800001
Count Date: Sep 14, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Strandherd Dr runs E/W

North Approach

	Out	In	Total
Cars	235	284	519
Trucks	14	15	29
Bicycles	0	0	0
	249	**299**	**548**

Fallowfield Rd

Bicycles	0	0	0	0
Trucks	9	3	2	0
Cars	139	46	50	0
Totals	**148**	**49**	**52**	**0**

Peds: 0

East Approach

	Out	In	Total
Cars	1217	1085	2302
Trucks	11	58	69
Bicycles	0	0	0
	1228	**1143**	**2371**

Strandherd Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	7	171	**178**
0	53	1031	**1084**
0	9	116	**125**

Peds: 6



Peds: 0

Strandherd Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
76	72	4	0
1148	1142	6	0
4	3	1	0

Peds: 4

West Approach

	Out	In	Total
Cars	1318	1365	2683
Trucks	69	35	104
Bicycles	0	0	0
	1387	**1400**	**2787**

Citigate Dr

Totals	**104**	**45**	**7**	**0**
Cars	84	41	4	0
Trucks	20	4	3	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	129	165	294
Trucks	27	13	40
Bicycles	0	0	0
	156	**178**	**334**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	07:45:00
To:	10:00:00	To:	08:45:00

Intersection: Strandherd Dr & CrossKeys Place - Helene-Campbell Rd
Site Code: 2436800001
Count Date: Sep 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Strandherd Dr runs E/W

North Approach

	Out	In	Total
Cars	262	87	349
Trucks	3	3	6
Bicycles	0	0	0
	265	**90**	**355**

Helene

Bicycles	0	0	0	0
Trucks	3	0	0	0
Cars	201	36	25	0
Totals	**204**	**36**	**25**	**0**

East Approach

	Out	In	Total
Cars	1115	700	1815
Trucks	61	59	120
Bicycles	0	0	0
	1176	**759**	**1935**

Strandherd Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	3	44	**47**
0	59	668	**727**
0	3	66	**69**

Peds: 1

Peds: 1



Peds: 1

Strandherd Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
23	23	0	0
1140	1079	61	0
13	13	0	0

Peds: 1

West Approach

	Out	In	Total
Cars	778	1369	2147
Trucks	65	69	134
Bicycles	0	0	0
	843	**1438**	**2281**

Totals	**94**	**20**	**7**	**0**
Cars	89	20	7	0
Trucks	5	0	0	0
Bicycles	0	0	0	0

CrossKeys Place

South Approach

	Out	In	Total
Cars	116	115	231
Trucks	5	3	8
Bicycles	0	0	0
	121	**118**	**239**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	15:00:00	From:	16:00:00
To:	18:00:00	To:	17:00:00

Intersection: Strandherd Dr & CrossKeys Place - Helene-Campbell Rd
Site Code: 2436800001
Count Date: Sep 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Strandherd Dr runs E/W

North Approach

	Out	In	Total
Cars	273	259	532
Trucks	4	2	6
Bicycles	0	0	0
	277	**261**	**538**

Helene

Bicycles	0	0	0	0
Trucks	3	0	1	0
Cars	123	114	36	0
Totals	**126**	**114**	**37**	**0**

East Approach

	Out	In	Total
Cars	852	991	1843
Trucks	64	31	95
Bicycles	0	0	0
	916	**1022**	**1938**

Strandherd Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	2	120	**122**
0	29	926	**955**
0	0	194	**194**

Peds: 2

Peds: 3

N
W
E
S

Peds: 12

Peds: 2

Strandherd Dr

Totals	Cars	Trucks	Bicycles
1	1	0	0
22	22	0	0
853	789	64	0
40	40	0	0

West Approach

	Out	In	Total
Cars	1240	1122	2362
Trucks	31	67	98
Bicycles	0	0	0
	1271	**1189**	**2460**

Totals	**210**	**117**	**29**	**0**
Cars	210	117	28	0
Trucks	0	0	1	0
Bicycles	0	0	0	0

CrossKeys Place

South Approach

	Out	In	Total
Cars	355	348	703
Trucks	1	0	1
Bicycles	0	0	0
	356	**348**	**704**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	12:00:00
To:	16:00:00	To:	13:00:00

Intersection: Strandherd Dr & CrossKeys Place - Helene-Campbell Rd
Site Code: 2436800001
Count Date: Sep 14, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Strandherd Dr runs E/W

North Approach

	Out	In	Total
Cars	319	233	552
Trucks	0	0	0
Bicycles	0	2	2
	319	**235**	**554**

Helene

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	139	137	43	0
Totals	**139**	**137**	**43**	**0**

East Approach

	Out	In	Total
Cars	917	892	1809
Trucks	10	57	67
Bicycles	0	0	0
	927	**949**	**1876**

Peds: 7

Strandherd Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	72	**72**
0	57	767	**824**
0	1	246	**247**

Peds: 1



Peds: 7

Strandherd Dr

Totals	Cars	Trucks	Bicycles
4	4	0	0
16	16	0	0
822	813	9	0
85	84	1	0

Peds: 1

West Approach

	Out	In	Total
Cars	1085	1209	2294
Trucks	58	11	69
Bicycles	0	0	0
	1143	**1220**	**2363**

Totals	**259**	**147**	**78**	**0**
Cars	257	145	78	0
Trucks	2	0	0	0
Bicycles	0	2	0	0

CrossKeys Place

South Approach

	Out	In	Total
Cars	480	467	947
Trucks	2	2	4
Bicycles	2	0	2
	484	**469**	**953**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	07:00:00
To:	10:00:00	To:	08:00:00

Intersection: Citigate Dr & Systemhouse St
Site Code: 2436800007
Count Date: Oct 03, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Systemhouse St runs E/W

North Approach

	Out	In	Total
Cars	32	45	77
Trucks	5	5	10
Bicycles	0	0	0
	37	**50**	**87**

Citigate Dr

Bicycles	0	0	0
Trucks	0	5	0
Cars	1	31	0
Totals	**1**	**36**	**0**

East Approach

	Out	In	Total
Cars	104	38	142
Trucks	6	5	11
Bicycles	0	0	0
	110	**43**	**153**

Commercial Access

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	1	**2**
0	0	7	**7**

Peds: 0 (Commercial Access)
Peds: 0 (Citigate Dr)
Peds: 0 (Systemhouse St)
Peds: 0



Systemhouse St

Totals	Cars	Trucks	Bicycles
0	0	0	0
48	44	4	0
62	60	2	0

West Approach

	Out	In	Total
Cars	8	61	69
Trucks	1	2	3
Bicycles	0	0	0
	9	**63**	**72**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	15:00:00	From:	17:00:00
To:	18:00:00	To:	18:00:00

Intersection: Citigate Dr & Systemhouse St
Site Code: 2436800007
Count Date: Oct 03, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Systemhouse St runs E/W

North Approach

	Out	In	Total
Cars	70	76	146
Trucks	8	4	12
Bicycles	0	0	0
	78	**80**	**158**

Citigate Dr

Bicycles	0	0	0
Trucks	0	8	0
Cars	1	69	0
Totals	**1**	**77**	**0**

East Approach

	Out	In	Total
Cars	99	94	193
Trucks	4	8	12
Bicycles	0	0	0
	103	**102**	**205**

Commercial Access

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	3	**3**
0	0	25	**25**

Peds: 1

Peds: 0



Peds: 1

Peds: 0

Systemhouse St

Totals	Cars	Trucks	Bicycles
0	0	0	0
77	73	4	0
26	26	0	0

West Approach

	Out	In	Total
Cars	28	27	55
Trucks	0	0	0
Bicycles	0	0	0
	28	**27**	**55**

- Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	14:00:00	From:	17:00:00
To:	18:00:00	To:	18:00:00

Intersection: Citigate Dr & Systemhouse St
Site Code: 2436800008
Count Date: Oct 05, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Systemhouse St runs E/W

North Approach

	Out	In	Total
Cars	54	56	110
Trucks	6	4	10
Bicycles	1	0	1
	61	**60**	**121**

Citigate Dr

Bicycles	0	1	0
Trucks	0	6	0
Cars	0	54	0
Totals	**0**	**61**	**0**

East Approach

	Out	In	Total
Cars	100	76	176
Trucks	4	6	10
Bicycles	0	1	1
	104	**83**	**187**

Peds: 3

Commercial Access

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	2	**2**
0	0	22	**22**

Peds: 2



Peds: 0

Systemhouse St

Totals	Cars	Trucks	Bicycles
0	0	0	0
58	54	4	0
46	46	0	0

Peds: 0

West Approach

	Out	In	Total
Cars	24	46	70
Trucks	0	0	0
Bicycles	0	0	0
	24	**46**	**70**

Cars - Trucks - Bicycles

Comments

APPENDIX G

Collision Records

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: KENNEVALE DR @ STRANDHERD DR

Traffic Control: Traffic signal **Total Collisions:** 41

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-28, Sat,15:55	Clear	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					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	0
					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	0
					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)	0
					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	0
					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	0
					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	0
					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	0
					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	0
					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	0
					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	0
2018-Mar-17, Sat,13:00	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: KENNEVALE DR @ STRANDHERD DR

Traffic Control: Traffic signal **Total Collisions:** 41

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Apr-02, Mon,12:57	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					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	0
					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	0
					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	0
					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	0
					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	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-09, Sat,11:44	Clear	Angle	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2019-Apr-07, Sun,20:13	Clear	Turning movement	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Making "U" turn	Police vehicle	Other motor vehicle	
2019-Apr-24, Wed,15:45	Clear	Sideswipe	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-May-11, Sat,09:17	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-18, Tue,10:01	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: KENNEVALE DR @ STRANDHERD DR

Traffic Control: Traffic signal **Total Collisions:** 41

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Jul-10, Wed,09:03	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
2019-Aug-23, Fri,10:58	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-28, Wed,18:32	Clear	Rear end	Non-fatal injury	Dry	East	Stopped	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-18, Mon,18:40	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-20, Wed,17:12	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-01, Sun,12:51	Clear	Angle	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Making "U" turn	Automobile, station wagon	Other motor vehicle	
2019-Dec-12, Thu,15:47	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jan-02, Thu,17:43	Clear	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Feb-27, Thu,16:00	Snow	Rear end	P.D. only	Slush	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jun-11, Thu,16:30	Clear	Other	P.D. only	Dry	East	Reversing	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Aug-07, Fri,08:38	Clear	Other	P.D. only	Dry	West	Going ahead	Passenger van	Debris falling off vehicle	0
					West	Unknown	Unknown	Other	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: KENNEVALE DR @ STRANDHERD DR

Traffic Control: Traffic signal **Total Collisions:** 41

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Feb-07, Sun,14:00	Clear	Rear end	P.D. only	Slush	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Feb-18, Thu,13:45	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
2021-Sep-12, Sun,09:50	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2021-Sep-17, Fri,18:13	Clear	Rear end	P.D. only	Loose sand or gravel	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Oct-18, Mon,14:40	Rain	Rear end	P.D. only	Wet	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2021-Nov-05, Fri,11:54	Clear	Angle	P.D. only	Loose sand or gravel	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2021-Nov-14, Sun,12:08	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: MARAVISTA DR/SYSTEMHOUSE ST @ STRANDHERD 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
2017-Mar-13, Mon,15:20	Clear	Rear end	P.D. only	Dry	East	Stopped	Automobile, station wagon	Other motor vehicle	0
					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	0
2017-May-18, Thu,17:23	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					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	0
					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	0
					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	0
					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	0
					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	0
					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	0
					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	0
					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	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: MARAVISTA DR/SYSTEMHOUSE ST @ STRANDHERD 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
2018-Nov-16, Fri,16:00	Snow	SMV other	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Skidding/sliding	0
2018-Dec-10, Mon,19:00	Clear	Sideswipe	P.D. only	Dry	West	Overtaking	Automobile, station wagon	Other motor vehicle	0
					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	0
					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	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-27, Sun,14:04	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Delivery van	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-29, Tue,16:41	Clear	Angle	Non-fatal injury	Packed snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-08, Fri,14:10	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Passenger van	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2019-Apr-12, Fri,17:05	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-24, Mon,11:27	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-27, Thu,18:30	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-24, Wed,18:28	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jul-31, Wed,16:00	Clear	Other	P.D. only	Dry	North	Reversing	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: MARAVISTA DR/SYSTEMHOUSE ST @ STRANDHERD 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
2019-Oct-06, Sun,14:20	Clear	Rear end	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Dec-20, Fri,10:36	Clear	Sideswipe	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Jan-18, Sat,10:30	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Jan-25, Sat,14:20	Snow	Rear end	P.D. only	Slush	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2020-Feb-01, Sat,18:41	Clear	Turning movement	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2020-Feb-13, Thu,14:56	Snow	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Mar-13, Fri,18:20	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2020-Jul-31, Fri,20:10	Clear	Rear end	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2020-Aug-19, Wed,20:43	Clear	Rear end	P.D. only	Dry	East	Stopped	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Aug-28, Fri,14:30	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Sep-03, Thu,13:51	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2020-Nov-13, Fri,20:00	Clear	Rear end	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: MARAVISTA DR/SYSTEMHOUSE ST @ STRANDHERD 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
2021-Jan-25, Mon,17:15	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Passenger van	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2021-Mar-06, Sat,08:34	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-May-27, Thu,10:35	Clear	Rear end	P.D. only	Dry	North	Turning right	Pick-up truck	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	
2021-Aug-05, Thu,17:04	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Unknown	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2021-Aug-07, Sat,12:18	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2021-Sep-17, Fri,10:40	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Passenger van	Other motor vehicle	
2021-Sep-27, Mon,16:28	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Oct-08, Fri,12:45	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Truck - dump	Other motor vehicle	
2021-Nov-04, Thu,20:40	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2021-Dec-05, Sun,19:16	Clear	Rear end	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Unknown	Other motor vehicle	
2021-Dec-13, Mon,15:30	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: STRANDHERD DR btwn MARAVISTA DR & KENNEVALE DR

Traffic Control: No control **Total Collisions:** 12

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Aug-18, Fri,09:50	Rain	SMV other	P.D. only	Wet	North	Going ahead	Passenger van	Ran off road	0
2017-Sep-28, Thu,18:07	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Apr-11, Wed,14:59	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-02, Tue,15:09	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-01, Thu,16:25	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Passenger van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Sep-20, Fri,17:39	Clear	Rear end	P.D. only	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
2019-Oct-01, Tue,17:56	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Passenger van	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Dec-22, Sun,12:30	Clear	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Apr-04, Sat,16:30	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jul-27, Mon,14:30	Clear	Rear end	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jun-28, Mon,09:54	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Passenger van	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

Location: STRANDHERD DR btwn MARAVISTA DR & KENNEVALE DR

Traffic Control: No control **Total Collisions:** 12

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Oct-21, Thu,17:00	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Unknown	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2021

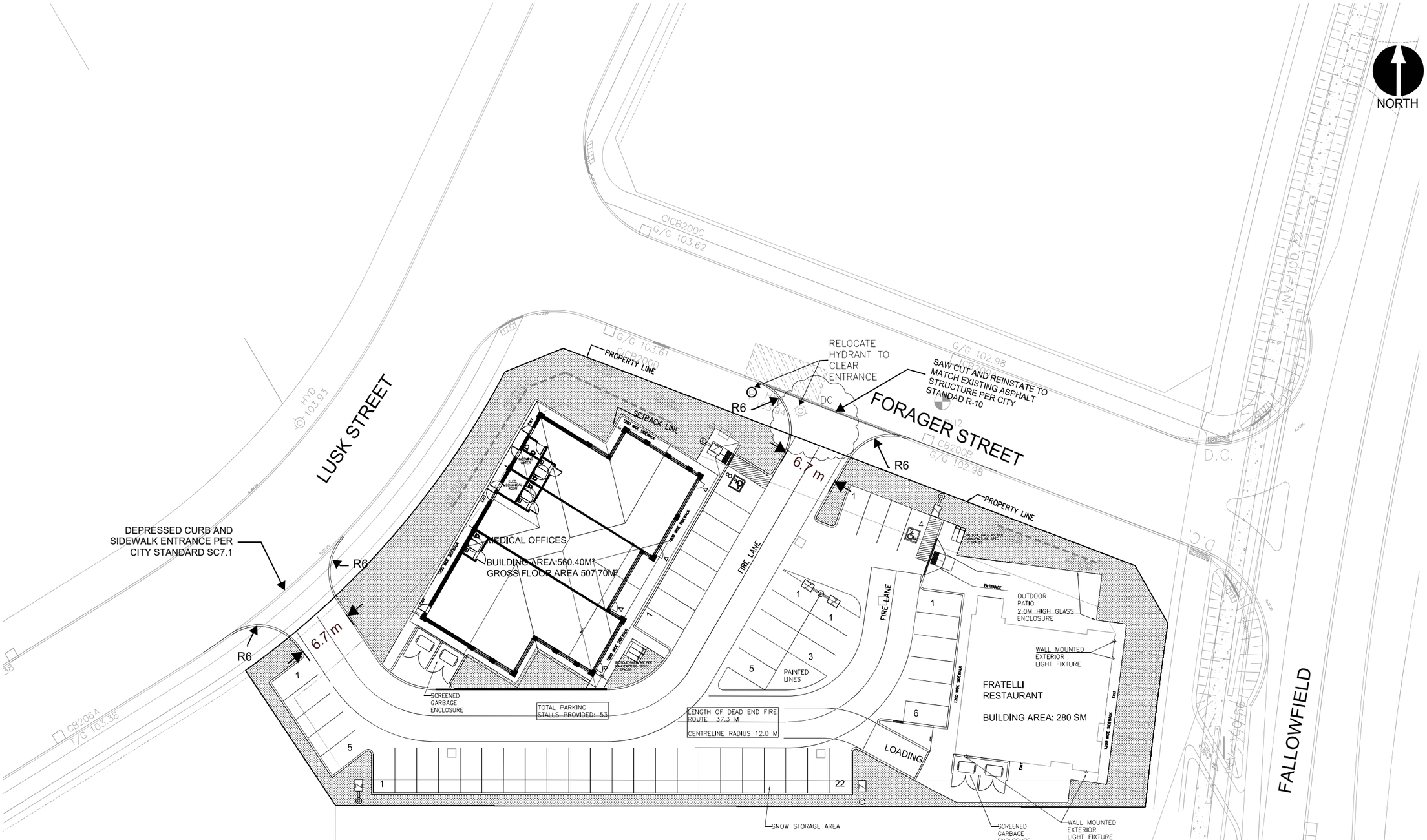
Location: SYSTEMHOUSE ST btwn CITIGATE DR & STRANDHERD DR

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Apr-11, Sat,15:56	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Municipal transit bus	Other motor vehicle	

APPENDIX H

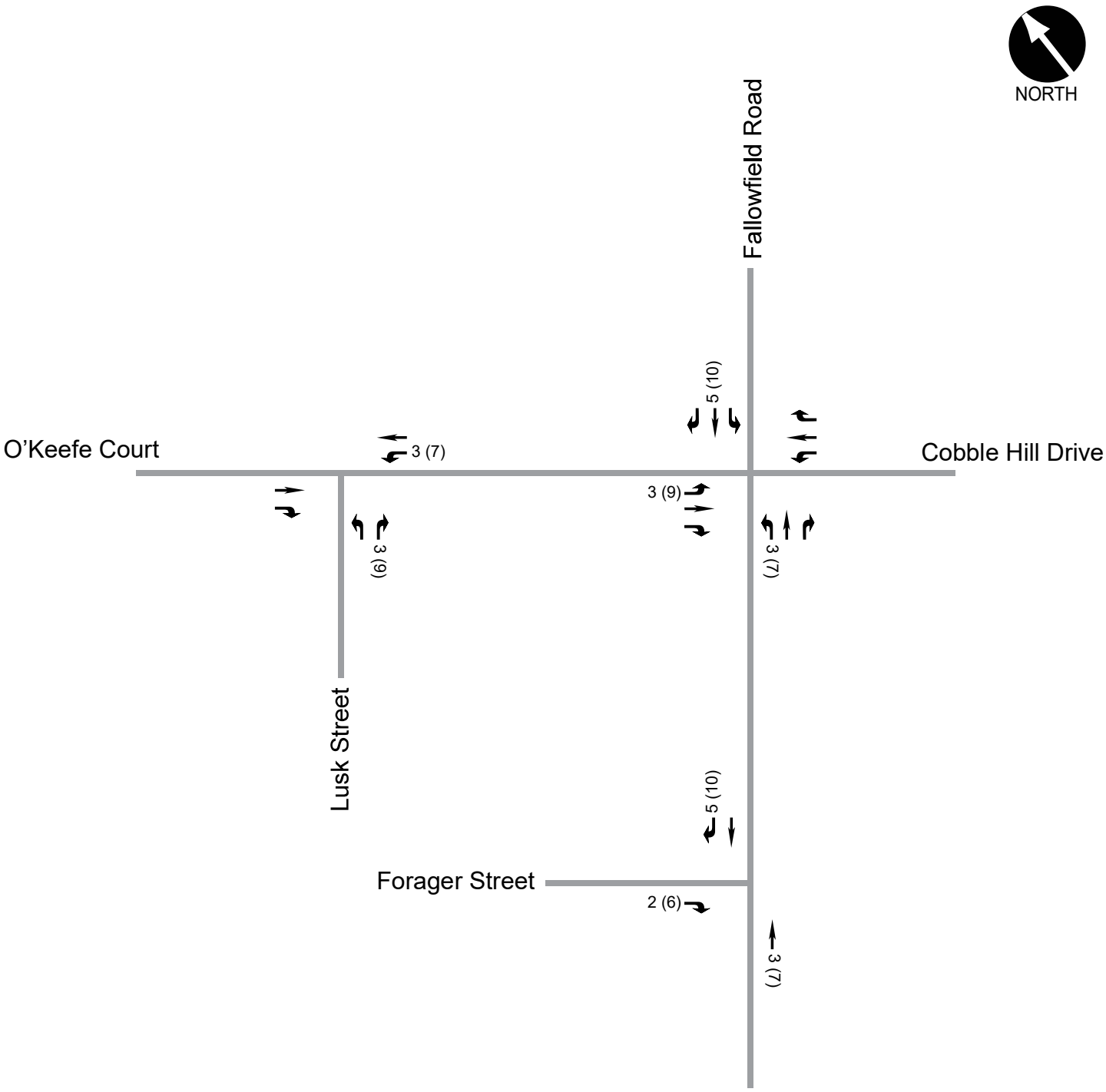
Other Area Developments



115 Lusk Street
Transportation Impact Assessment

Exhibit 2: Proposed Development

PROJECT No. 122508
DATE: January 2021
SCALE: 0m 5m 10m



115 Lusk Street
Transportation Impact Assessment

Exhibit 4:
Site-Generated
AM & PM Peak Hour
Traffic

PROJECT No. 122508
DATE: January 2021
SCALE: N.T.S.

NORTH

Lusk Street

2.0m Proposed Sidewalk

EXISTING HAMPTON INN & SUITES HOTEL
6 STOREY (102 ROOMS)
(102 ROOMS)

EXISTING CONCRETE SIDEWALK TO REMAIN

36 EXISTING PARKING TO REMAIN

EXISTING 3 PARKING SPACES TO BE RELOCATED

134.12m [440'-0"]

Proposed Site Access

PROPOSED 2 STOREY HOTEL (99 ROOMS)
GFA 5895.5 SM (~63457.7 SF) approx.

HOME 2
PROPOSED 5 STOREY

46.35m [152'-1"]

22.80m [75'-0"]

STAIR

ELEVATOR

MECH./ELECT.

57.65m [189'-2"]

DROP-OFF AREA

FIRE ROUTE

27500 NEW PARKING STALLS

49500 NEW PARKING STALLS

11000 NEW PARKING STALLS

35250 NEW PARKING STALLS

TO BE OF RETAIL PARKING DESIGNATED AS COMPACT STALLS (FULL SIZE) PER OTAWA BY-LAW SECTION 59

LOADING SPACE 7m (23'-0") x 3.4m (11'-2")

3.0m Proposed Pathway

top of slope

91.70m [300'-10"]

58.89m [193'-3"]

LEGEND

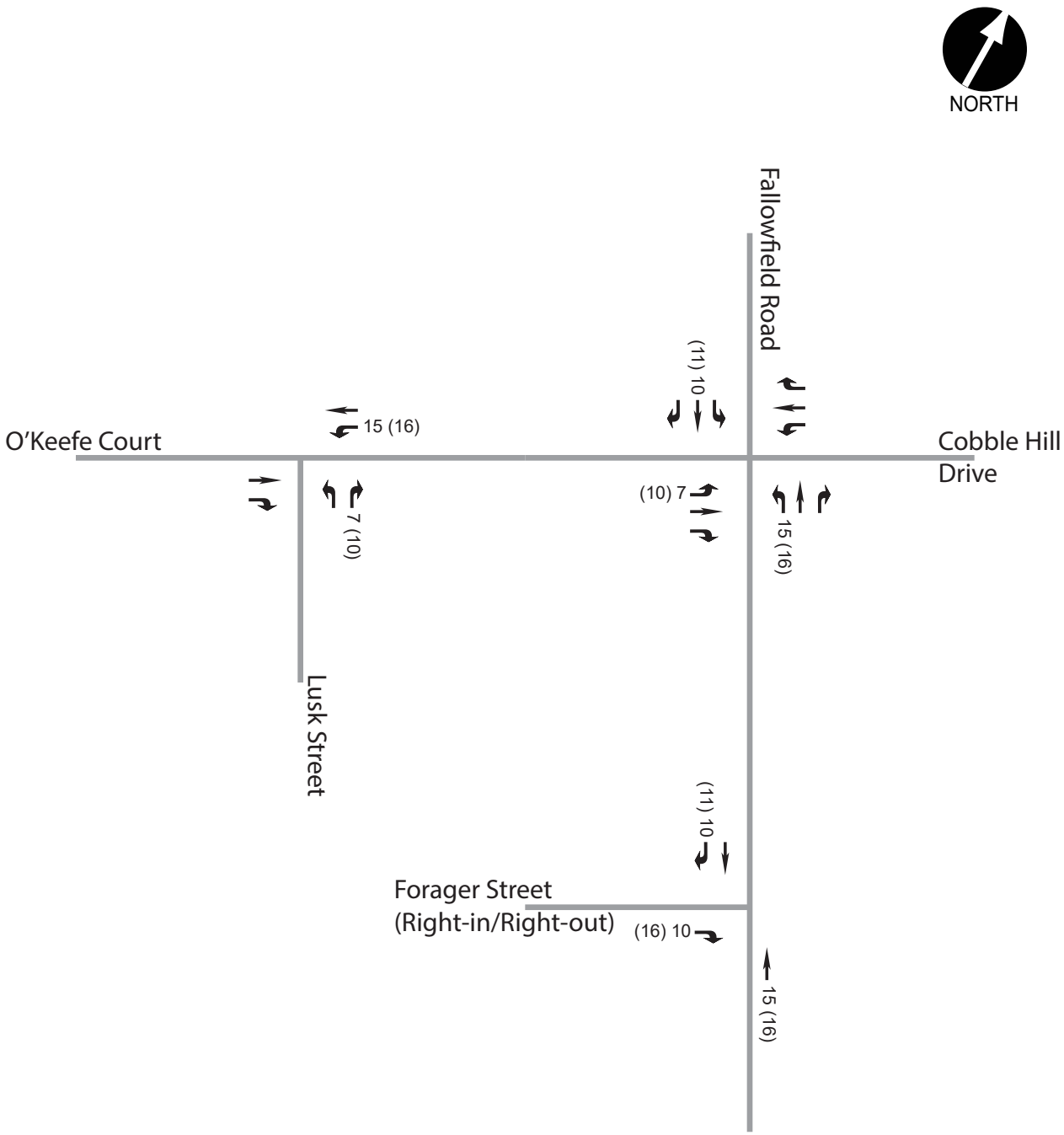
Site Limits

135 Lusk Street
Transportation Impact Assessment

Exhibit 2: Proposed Development

PROJECT No. 135639

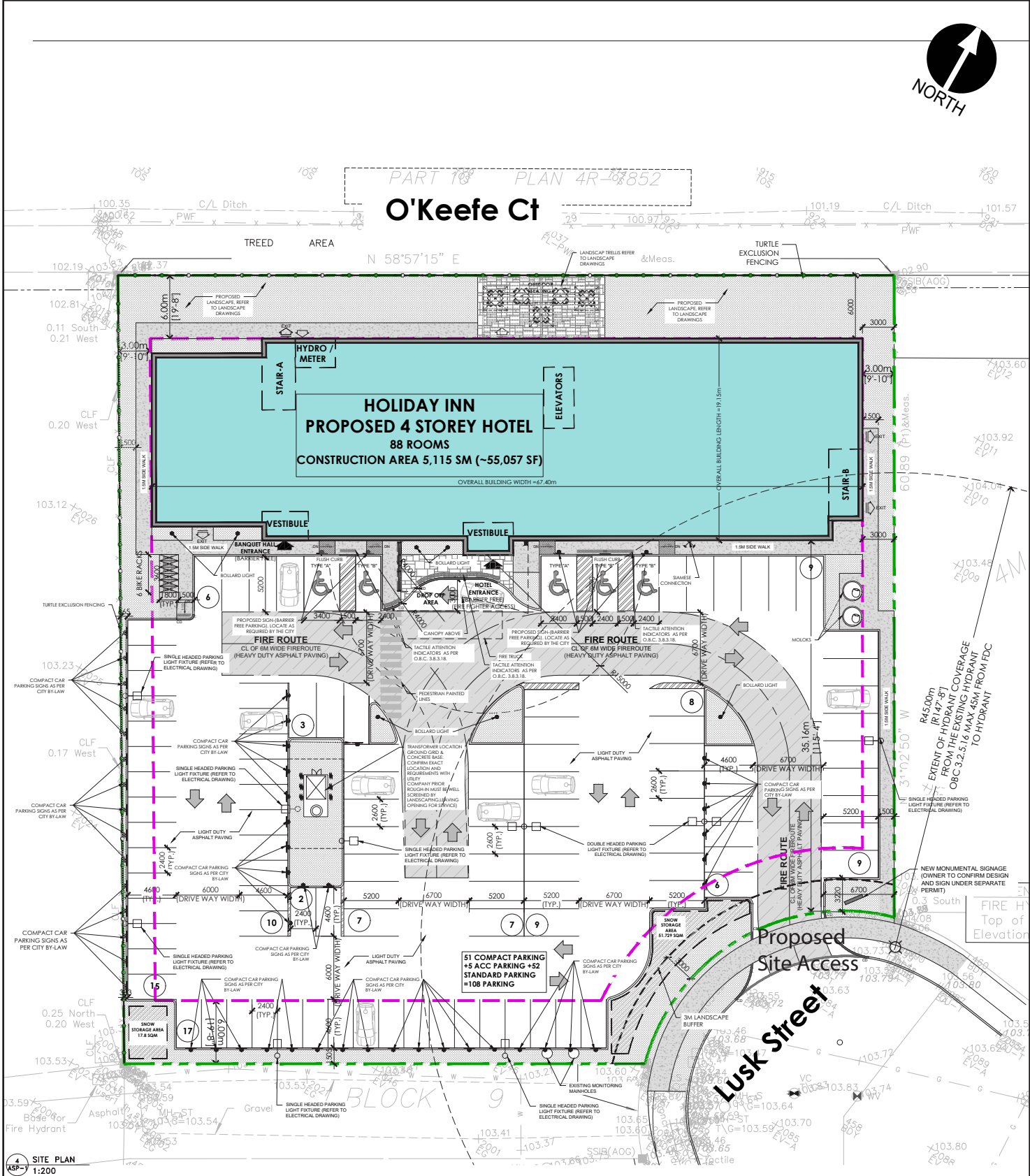
SCALE: 0m 5m 10m



LEGEND

Permitted Movements

xxx (xx) — Weekday AM (PM) Peak Hour Vehicular Volume



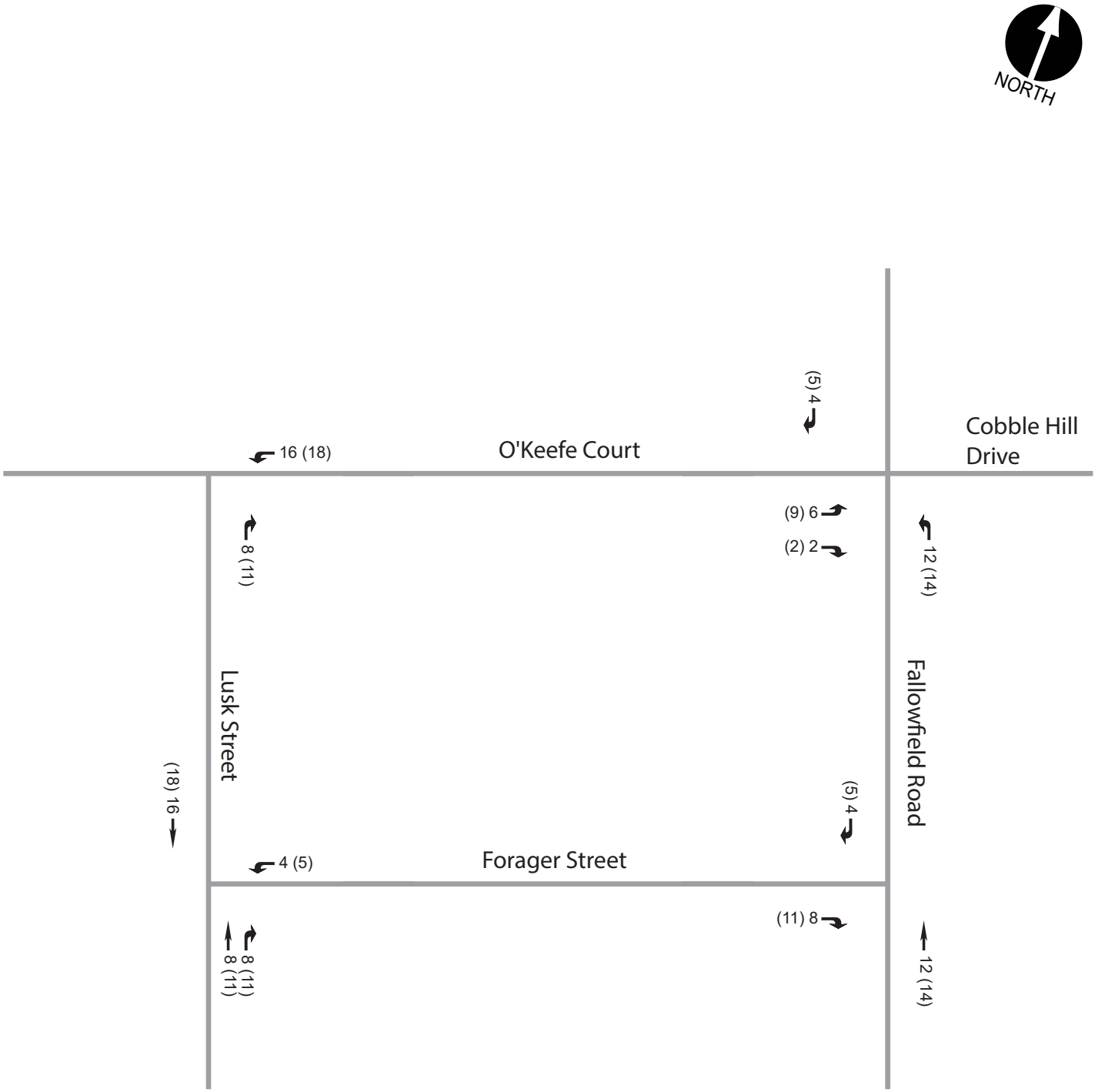
ARCADIS
IBI GROUP

140 Lusk Street
Transportation Impact Assessment

Exhibit 2:
Proposed Development

PROJECT No. 140895

SCALE: N.T.S.



LEGEND

Permitted Movements

xxx (xxx) xxx (xxx) xxx (xxx)

Weekday AM (PM) Peak Hour Vehicular Volume

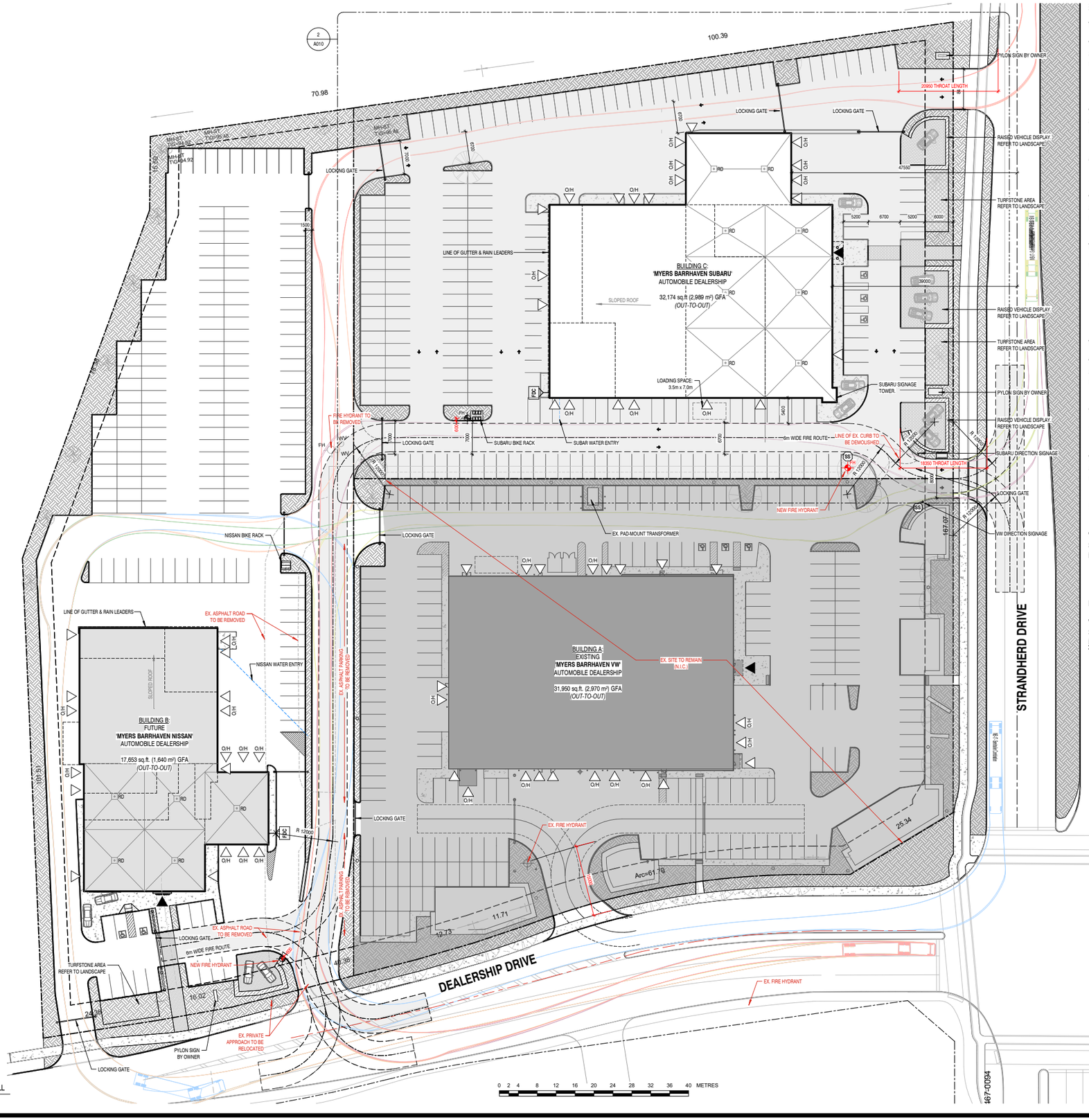
ARCADIS IBI GROUP

140 Lusk Street
Transportation Impact Assessment

Exhibit 6:
Site-Generated Traffic

PROJECT No. 140895

SCALE: N.T.S.



1 / A010A SITE PLAN OVERALL
1 : 400

SITE / BUILDING / PARKING SUMMARY:

TOTAL SITE AREA = 33,784 m² (8.35 acres)

VW SITE	= 11,259 m² (2.78 acres)
SUBARU SITE	= 11,071 m² (2.74 acres)
NISSAN SITE	= 11,453 m² (2.83 acres)
	= 33,784 m² (8.35 acres)

BUILDING AREAS: *(OUT-TO-OUT)*

VW SITE	= 2,970 m²
SUBARU SITE	= 2,989 m²
NISSAN SITE	= 1,640 m²
	= 7,599 m²

OVERALL FLOOR SPACE INDEX = 0.25

LOT COVERAGE:

VW SITE	= 2,448 m²
SUBARU SITE	= 2,781 m²
NISSAN SITE	= 1,525 m²
	= 6,754 m²

TOTAL LOT COVERAGE = 20.0%

MINIMUM WIDTH OF LANDSCAPING:

ABUTTING STRANDHERD DR.	= 6.0m
ABUTTING STREET	= 3.2m
ABUTTING O'KEEFE DRAINAGE CORRIDOR	= 3.0m
OTHER CASES	= 0.0m

TOTAL LANDSCAPE AREA:

VW SITE	= 9,105 m²
SUBARU SITE	= 1,128 m²
NISSAN SITE	= 1,743 m²
	= 11,976 m²

% LANDSCAPE AREA = 35.4%

PARKING ON SITE:

	REQ'D	PROV'D
VW SITE	59 spaces	183 spaces
SUBARU SITE	xx	203 spaces
NISSAN SITE	37 spaces	170 spaces
	= xx	**558 spaces**

BARRIER-FREE PARKING:

	REQ'D	PROV'D
VW SITE	1x 'A', 2x 'B'	3x 'A'
SUBARU SITE	xx	2x 'A', 1x 'B'
NISSAN SITE	1x 'A', 1x 'B'	1x 'A', 1x 'B'

'A' = 3.4m x 5.2m
'B' = 2.6m x 5.2m

BICYCLE PARKING:

	REQ'D	PROV'D
VW SITE	2	2
SUBARU SITE	3	3
NISSAN SITE	2	2
TOTAL	**7**	**7**

SITE PLAN SYMBOLS

ICON	DESCRIPTION
	Existing Buildings
	Proposed Buildings
	Property Lines
	Setback Lines
	Fence
	Road Lanes
	Existing Concrete Curb
	Proposed Concrete Curb
	Depressed Concrete Curb
	Concrete Sidewalk
	Proposed Concrete Pavers
	Sawcut Asphalt
	Existing Landscape Area
	Proposed Landscape Area
	Proposed Turfstone Area
	Barrier Free Parking Space
	Exterior Bicycle Parking Spot with Bollard Style Bike Rack
	Two Way Vehicle Circulation
	Principal Entrance Door
	Exterior Door ('O/H' indicates Overhead Door)
	Exterior 6m Wide Fire Route (12m centerline radius on all turns, TYP.)
FDC	Fire Department Connection
FH	Fire Hydrant
SS	Stop Sign

TOPOGRAPHICAL SKETCH OF ELEVATIONS OVER PART OF
BLOCK 4
REGISTERED PLAN 4M-1538
CITY OF OTTAWA
ANNIS, O'SULLIVAN, VOLLEBEKK Ltd.
E.H. Herweyer O.L.S.
Field Work Completed: Sept. 2019

REVISIONS

No.	DATE	DESCRIPTION
0	11 Jan 2022	Issued for Coordination
1	22 Apr 2022	Issued for Coordination
2	20 July 2022	Progress for Review
3	09 Aug 2022	Revised per SPA City Comments 1
4	18 Aug 2022	Issued for Consultant Coordination

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and / or omissions to the Architect.
All contractors must comply with all pertinent codes and by-laws.
Do not scale drawings.
This drawing may not be used for construction until signed by KWC Architects Inc. and shall not be used without the Architect's consent.

north

architect's seal

KWC ARCHITECTS INC.
383 Parkdale Avenue, Suite 201
Ottawa, Ontario, Canada, K1Y 4R4
Phone: 613 238-2217
Fax: 613 238-6595
E-Mail: kwc@kwc-arch.com

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www.bbsconstruction.ca

owner
ZENA INVESTMENT CORPORATION

project
MYERS BARRHAVEN SUBARU AUTOMOBILE DEALSHIP
4149 Strandherd Drive

drawing title
SITE PLAN - OVERALL COMPOSITE PLAN

project no.	kwc 2174
scale	As indicated
drawn by	CM / AK
date	11 JANUARY 2022

drawing no.
A010A

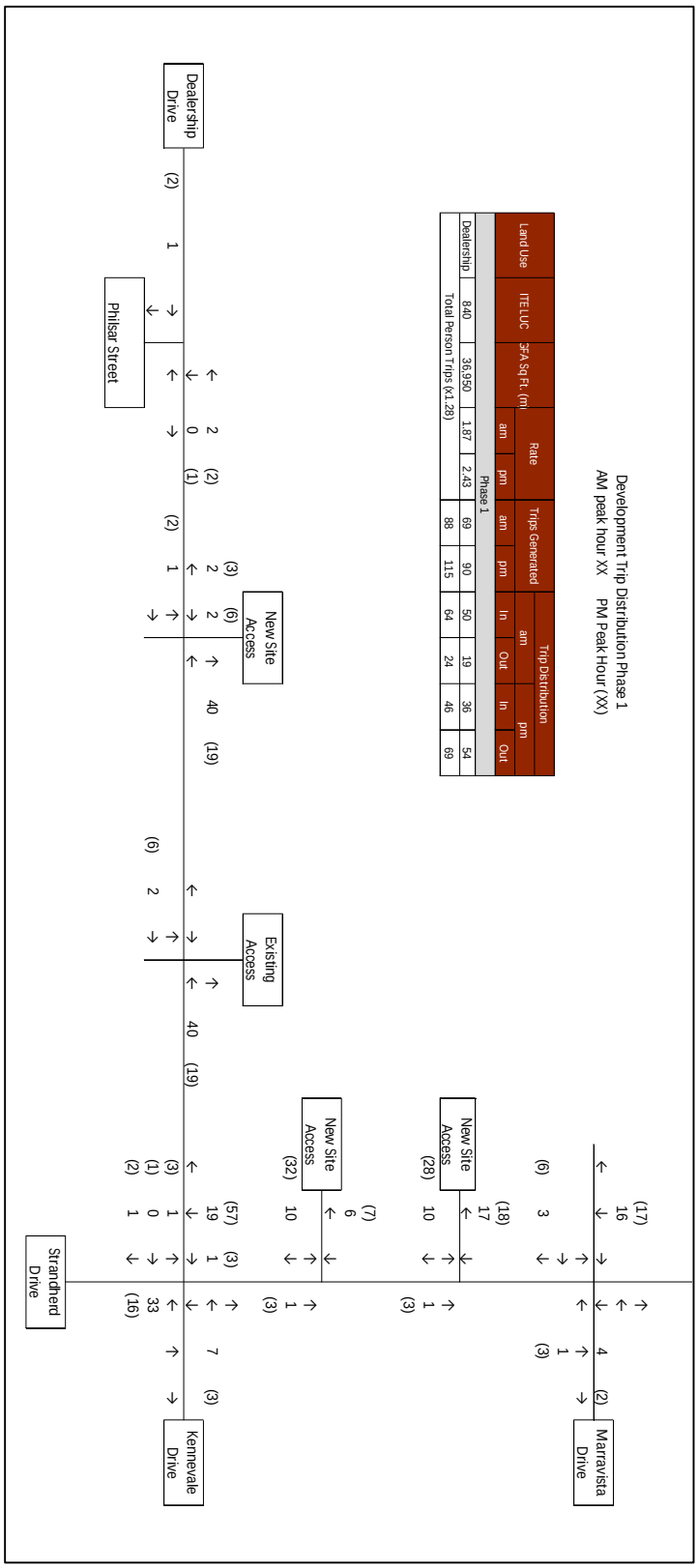


Figure 7.1 Phase One Development Generated traffic

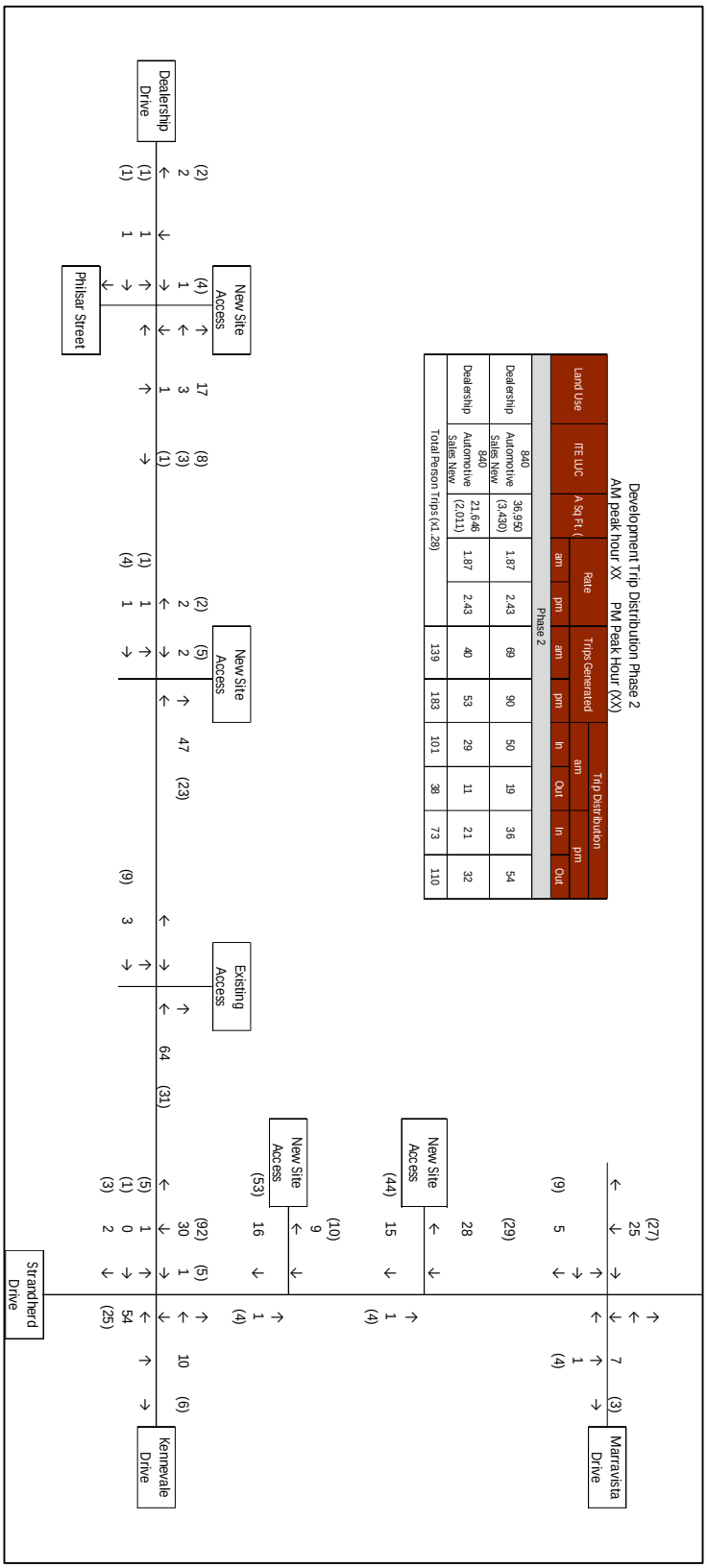


Figure 7.2 Phase Two Development Generated traffic

EXISTING BUSINESS PARK

EXISTING MIXED USE

EXISTING OPEN SPACE

Citigate Drive

Systemhouse Street

N 59°37'30" E 117.04 — N 59°18'40" E 211.60 — N 59°13'10" E 71.22 — N59°23'50"E 104.23 — N 59°09'50" E 153.58

158.84 233.72 31.29 175.85

BLOCK 5
Conservation Block
Area= 1.55 Ha
(3.84 Acres)

BLOCK 4
Industrial & Logistics
Area= 4.17 Ha
(10.31 Acres)

BLOCK 1
Industrial & Logistics
Area= 3.62 Ha
(8.96 Acres)

BLOCK 6
Parkland Dedication
Area= 0.50 Ha
(1.24 Acres)

N 24°41'00" W R=2050.15 A=153.55 C=153.51

96.30 95.48 167.58 61.52

Vacant Lands

313.59

Street One

49.89 11.80 19.87 8.86 11.19

290.20

Cultivated Lands

N 22°35'10" W 157.41 161.73

72.61 84.04 86.01 96.45

N 22°03'00" W 152.13 156.89

BLOCK 3
Industrial & Logistics
Area= 4.64 Ha
(11.48 Acres)

BLOCK 2
Industrial & Logistics
Area= 4.86 Ha
(12.02 Acres)

EXISTING OPEN SPACE

94.57 200.23 325.67

N 59°31'50" E 77.99 — N 59°13'10" E 85.48 — N 59°18'00" E 144.47 — N 59°12'40" E 139.04 — N 59°23'00" E 136.27 — N 59°16'10" E 63.60

FUTURE INDUSTRIAL

EXISTING BUSINESS PARK

EXISTING SWM

FUTURE INDUSTRIAL

N 59°21'30" E 152.52 — N 59°14'40" E 154.24

152.52 141.14 13.10

N77°16'10"W 19.26

N18°19'20"W 9.08

24.00

Dealership Drive

208.55

BLOCK 6
Industrial & Logistics
Area= 6.05 Ha
(14.95 Acres)

PART 1 PLAN 5R-13502
PIN 04467-0028

Cultivated Lands

Street Two

76.29 81.79 30.07 26.00

N 22°35'20" W

N 22°26'00"W 68.04

128.18

N 22°38'30" W

EXISTING BUSINESS PARK

EXISTING OPEN SPACE

Philsar Street

EXISTING BUSINESS PARK

N 59°14'20" E 152.43 — N 59°16'30" E 152.37 — N59°22'20"E 13.18

PIN 04467-0022



KEY MAP
NOT TO SCALE

METRIC : MEASUREMENTS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

DRAFT PLAN OF SUBDIVISION OF
PART LOT 17 & 18
CONCESSION 4 (RIDEAU FRONT)
Geographic Township of Nepean
CITY OF OTTAWA
SCALE
1 : 1500
DATE: JUNE, 2023

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJOINING LANDS ARE CORRECTLY SHOWN.

DATED _____

ED HERWEYER
ONTARIO LAND SURVEYOR

ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
ONTARIO LAND SURVEYORS 22664-22

OWNER'S CERTIFICATE

I/WE, _____ BEING THE REGISTERED OWNER(S), HEREBY AUTHORIZE NOVATECH TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF OTTAWA FOR REVIEW AND APPROVAL.

DATED _____ _____
owner name

OWNER'S CERTIFICATE

I/WE, CITY OF OTTAWA, BEING THE REGISTERED OWNER(S), HEREBY AUTHORIZE NOVATECH TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF OTTAWA FOR REVIEW AND APPROVAL.

DATED _____ _____
owner name

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT.

A) The boundaries of the land proposed to be subdivided, certified by an Ontario land Surveyor;
As shown on Draft Plan

B) The locations, widths & names of the proposed highways within the proposed subdivision & of existing highways on which the proposed subdivision abuts;
As shown on Draft Plan

C) On a small keyplan, on a scale of not less than 1cm to 100m, all of the land adjacent to the proposed subdivision that is owned by the applicant or in which the applicant has an interest, every subdivision adjacent to the proposed subdivision & the relationship of the boundaries of the land to be subdivided to the boundaries of the township lot of other original grant of which the land forms the whole part;
As Shown on Draft Plan

D) The purpose for which the proposed lots are to be used;
Industrial, and Open Space shown on Draft Plan

E) The existing uses of all adjoining lands;
Business Park, Open Space, and Stornwater Management shown on Draft Plan

F) The approximate dimensions & layout of the proposed lots;
As shown on Draft Plan

G) Natural & artificial features such as buildings or other structures or installations, railways, highways, watercourses, drainage ditches, wetlands & wooded areas within or adjacent to the land proposed to be subdivided;
As shown on Draft Plan

H) The availability and nature of domestic water supplies;
Development will be supplied with full municipal piped water service

I) The nature & porosity of the soil;
See Soils Report

J) Existing contours or elevations as may be required to determine the grade of the highways and the drainage of the land proposed to be subdivided;
Contours shown at 0.25 metre intervals on Draft Plan

K) The municipal services available or to be available to the land proposed to be subdivided;
Development will be supplied with full sanitary and storm water sewer services.

L) The nature & extent of any restrictions affecting the land proposed to be subdivided, including restrictive covenants or easements. 1994, c. 23, s. 30; 1996, c. 4, s. 29 (3);
As shown on Draft Plan.

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

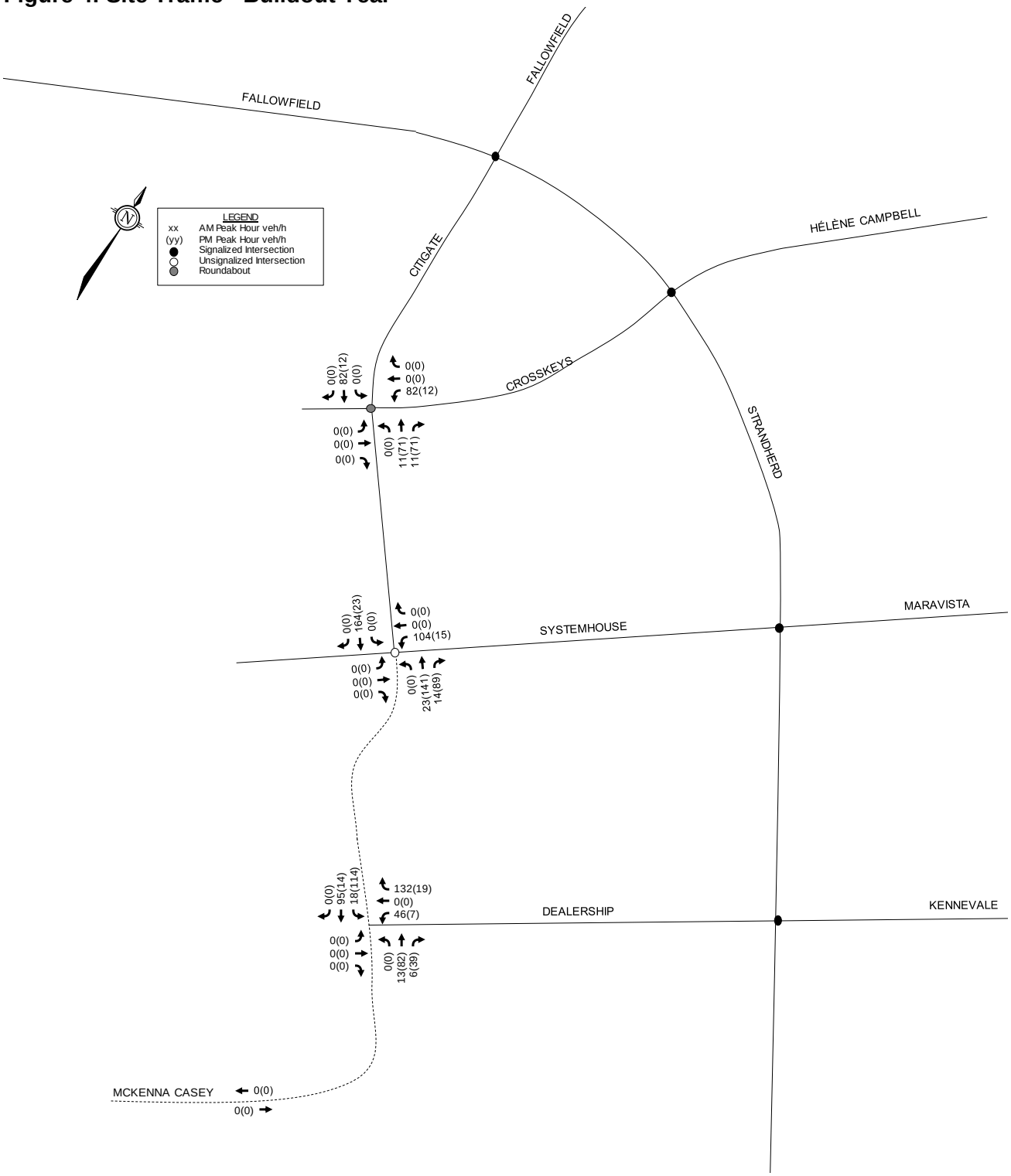
PROJECT No. 122003

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DXX-XX-XXXX

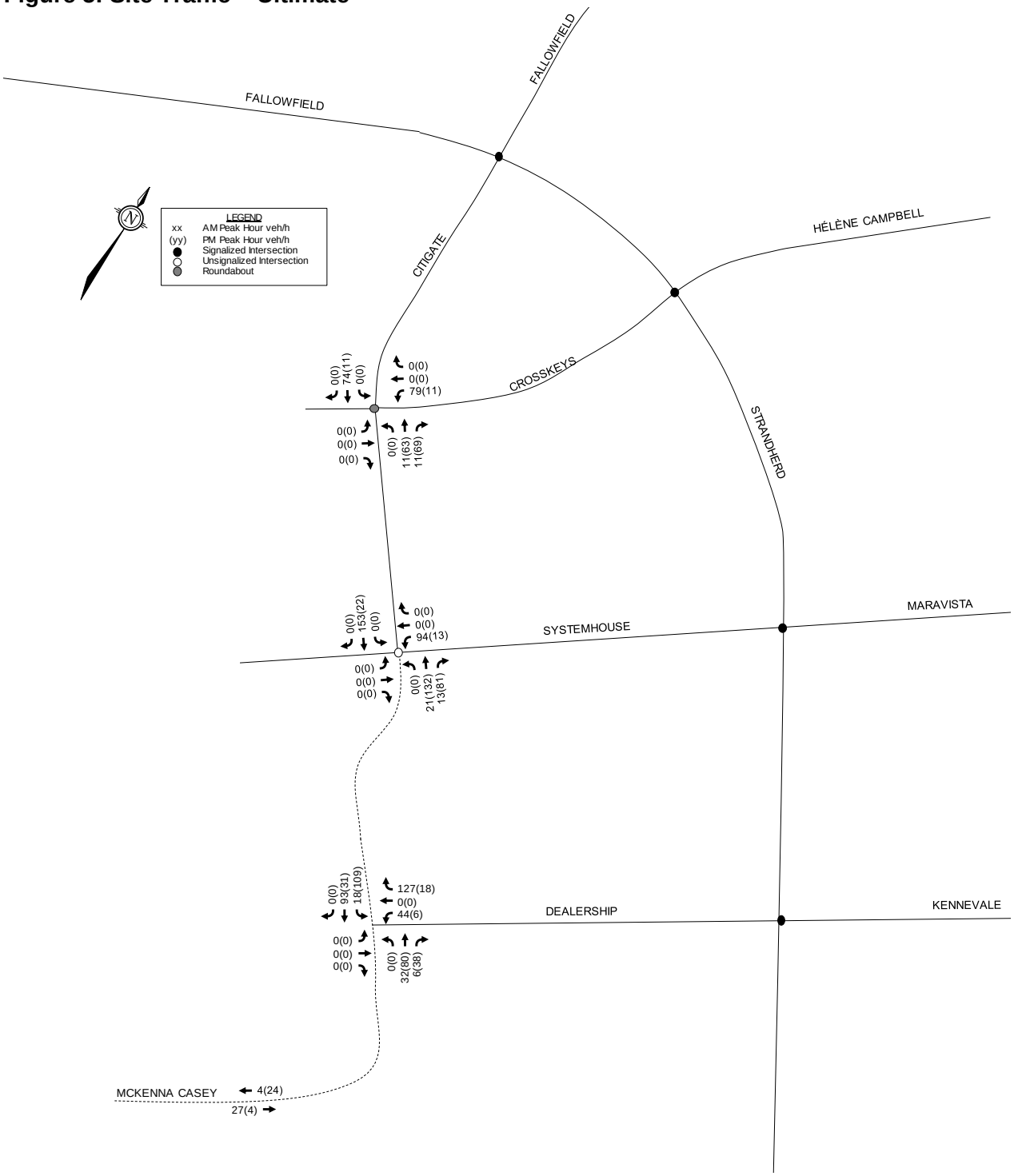
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Figure 4: Site Traffic - Buildout Year

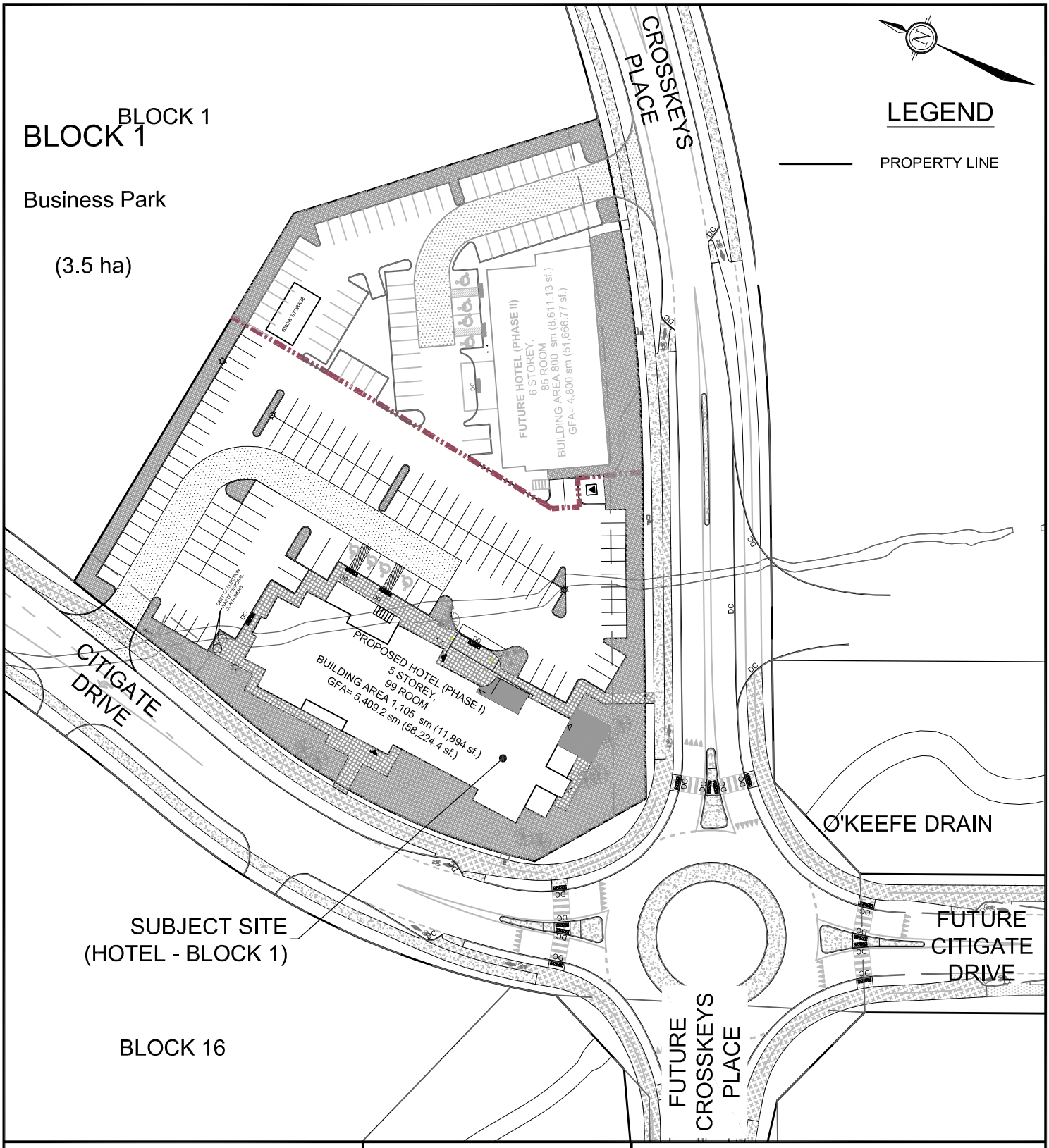


Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

Figure 5: Site Traffic – Ultimate



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NOVATECH
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Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
CITIGATE HOTEL
4433 STRANDHERD DRIVE

SITE PLAN

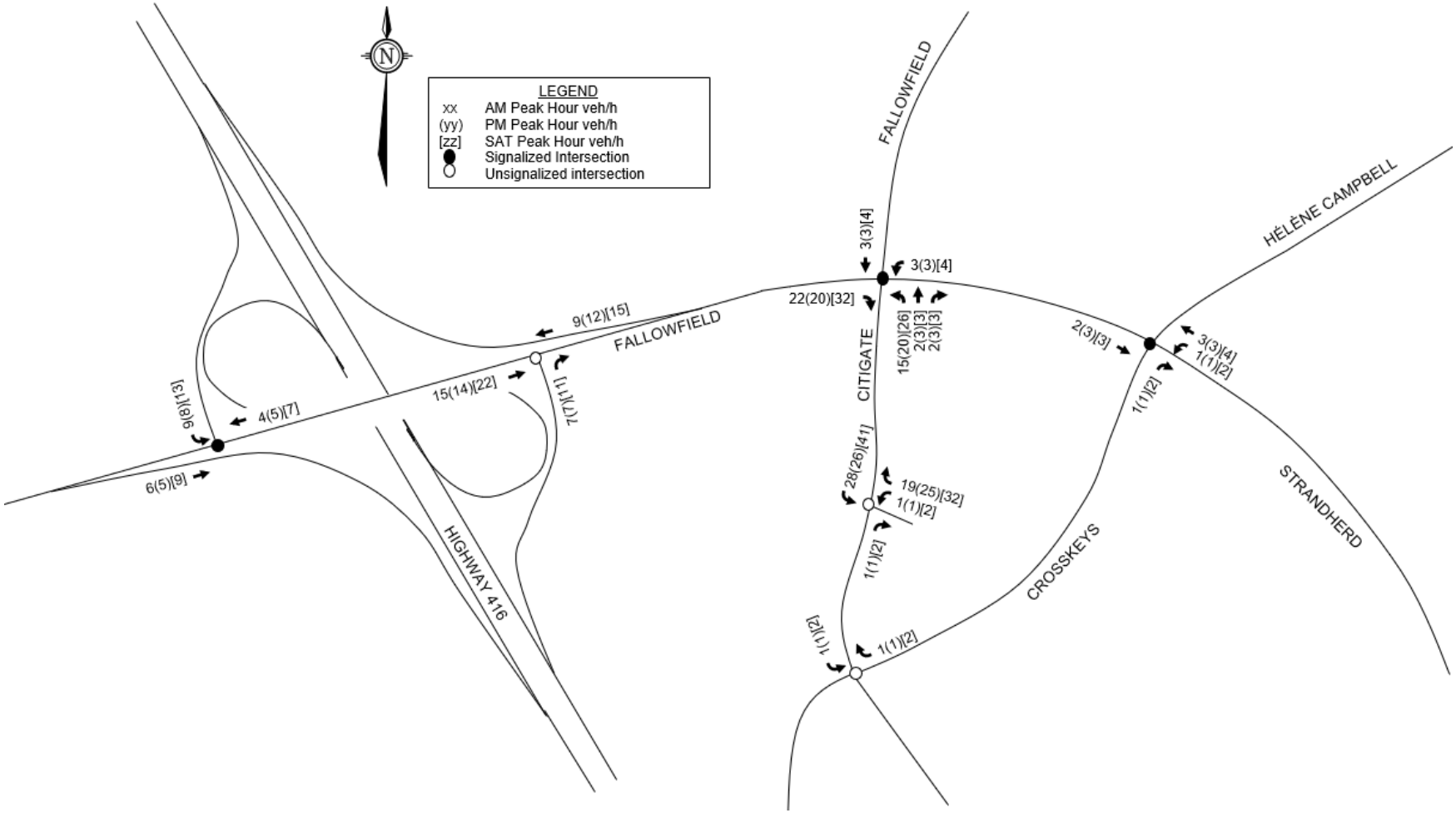
SCALE 1 : 1000 (0, 10, 20, 30, 40)

DATE MAR 2019 | JOB 118081 | FIGURE

SHT8X11.DWG - 216mmx279mm

M:\2018\118081\CAD\Design\Figures\Traffic\118081 AutoTurn.dwg, SITE PLAN, Mar 07, 2019 - 8:38am, rfortier

Figure 4: Site Generated Traffic Volumes



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.

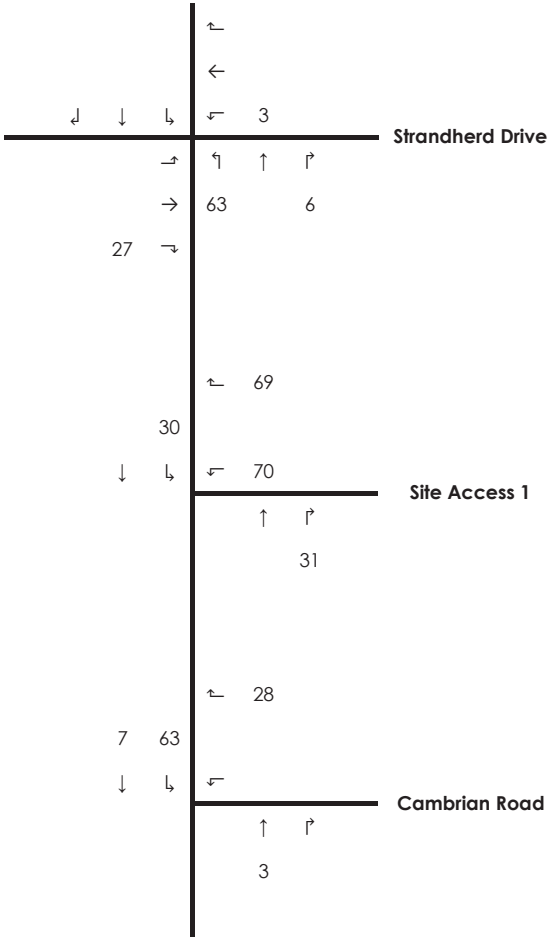
The anticipated site traffic generated by the proposed residential development was assigned to the boundary road network using a logical pattern of primary roads (i.e. along arterials and collectors) which can be seen in **Table 4** below.

Table 4 Traffic Distribution from the South Nepean District

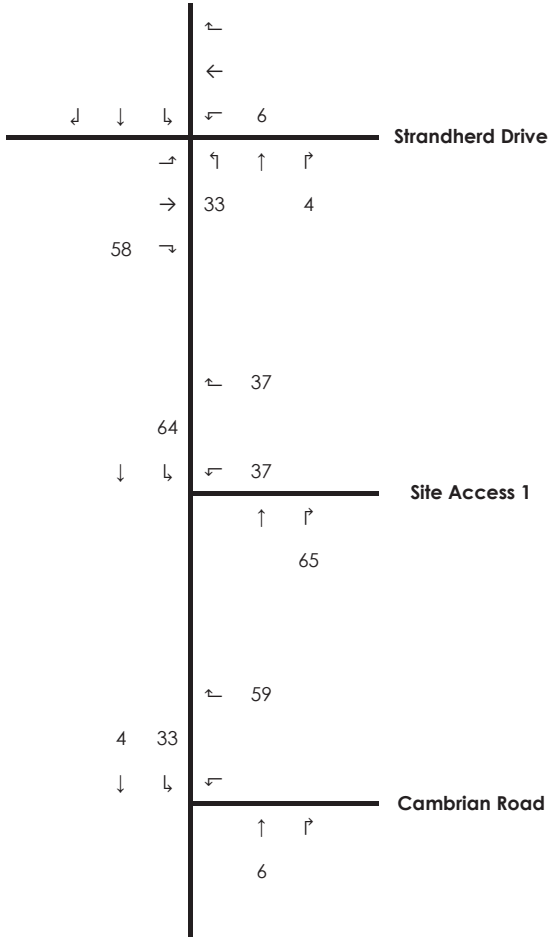
CARDINAL DIRECTION	VIA (TO / FROM)			
	% Distribution	Borrisokane North	Borrisokane South	Existing Greenbank North
North	25%	20%		5%
East	25%	12.5%		12.5%
South	5%		5%	
West	5%	5%		
Internal (South Nepean)	40%	12%		28%
Total	**100%**	**49.5%**	**5%**	**45.5%**

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

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

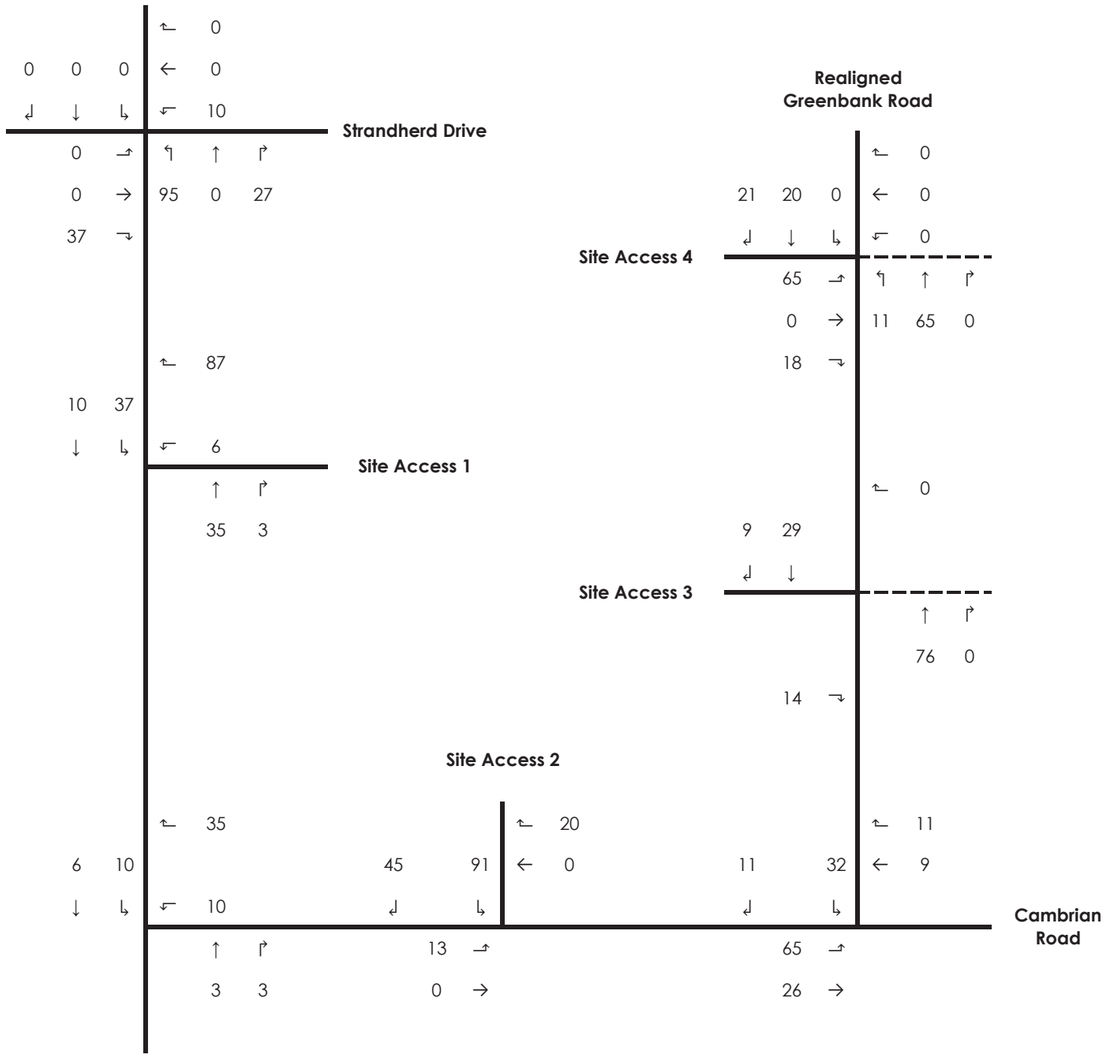
Cardinal Direction	Via (to / from)				
	% Distribution	Borrisokane North	Borrisokane South	Cambrian Road East	Realigned Greenbank North
North	25%	10%			15%
East	25%	12.5%		7.5%	5%
South	5%		5%		
West	5%	4.5%			0.5%
Internal (South Nepean)	40%	10%		10%	20%
Total	100%	37%	5%	17.5%	40.5%

Table 5 Commercial Traffic Distribution from the South Nepean District

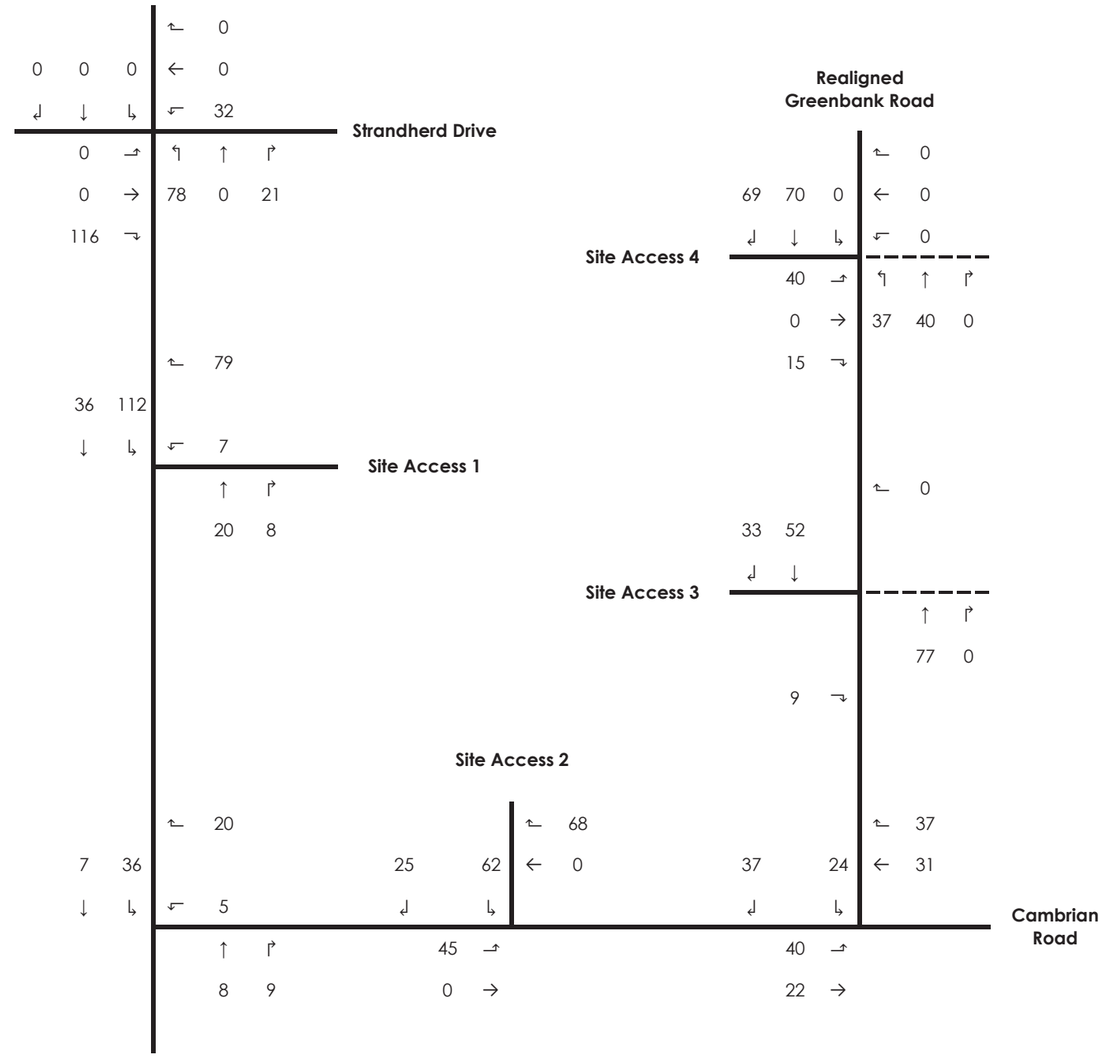
Cardinal Direction	Via (to / from)				
	% Distribution	Borrisokane North	Borrisokane South	Cambrian Road East	Realigned Greenbank North
North	25%	22.5%			2.5%
East	25%	12.5%		7.5%	5%
South	5%		5%		
West	5%	5%			
Internal (South Nepean)	40%	16%		16%	8%
Total	100%	56%	5%	23.5%	15.5%

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

AM Peak Hour



PM Peak Hour



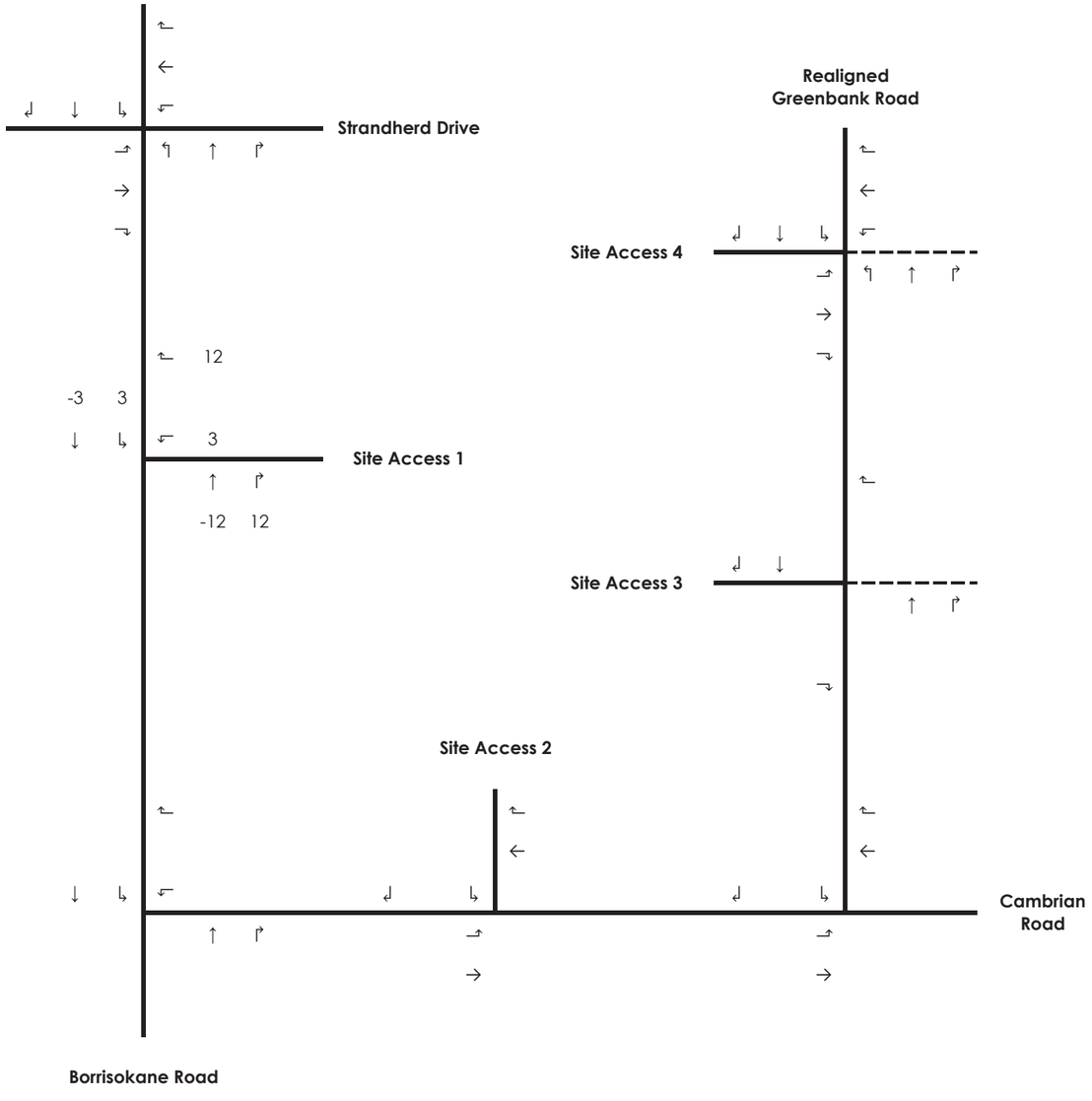
Stantec

Mattamy Homes

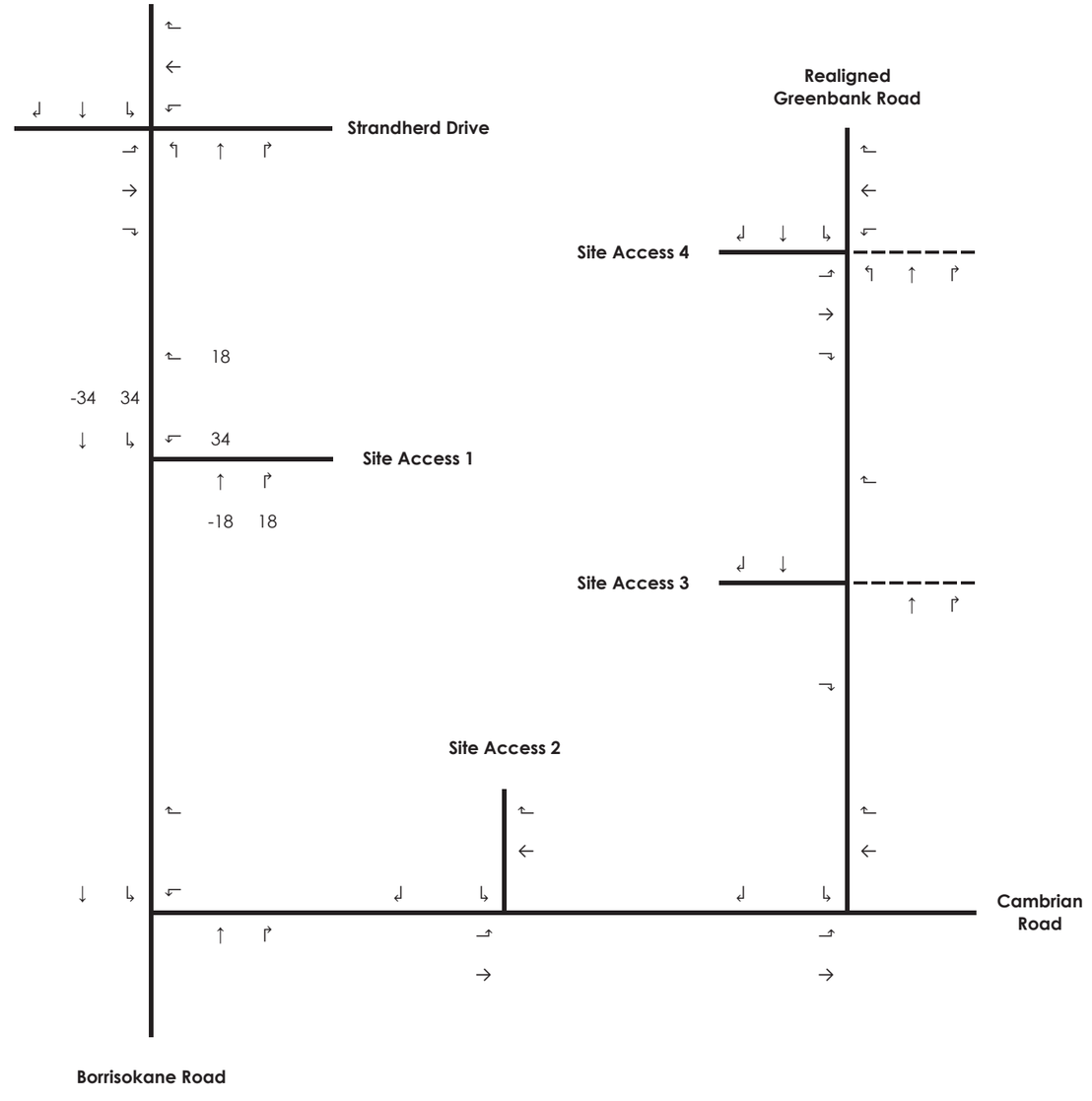
Half Moon Bay West

Figure 7: Site Traffic Volumes

AM Peak Hour



PM Peak Hour



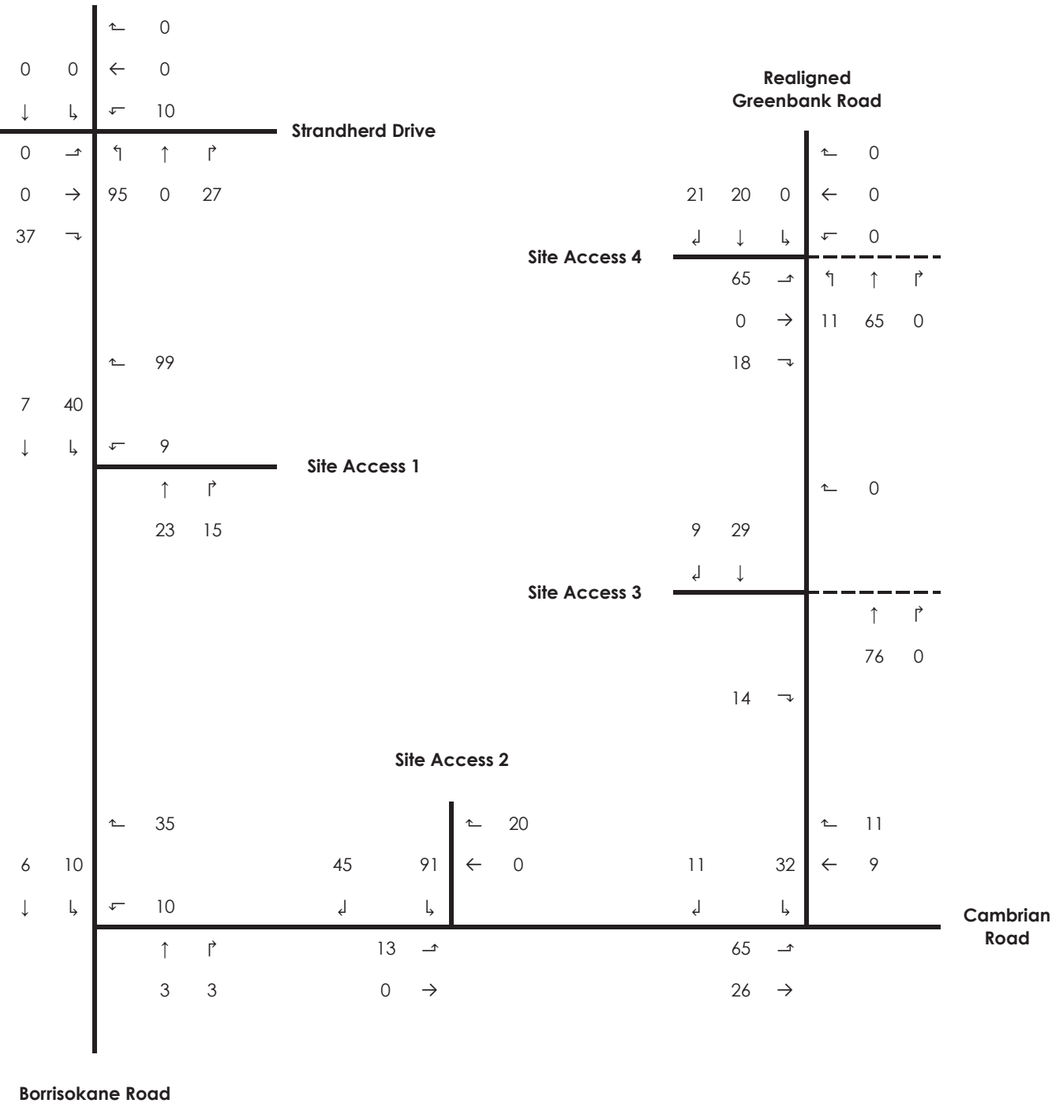
Stantec

Mattamy Homes

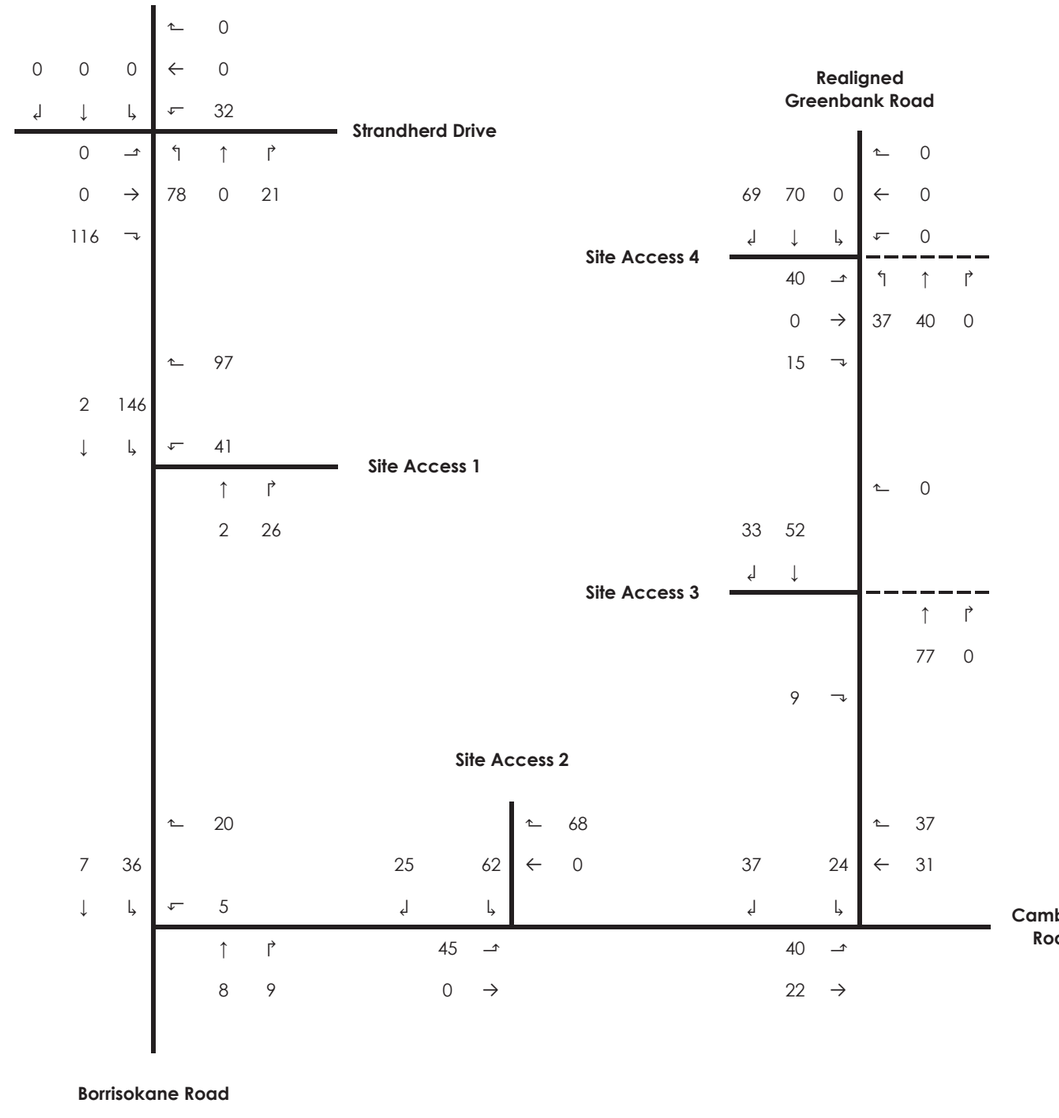
Half Moon Bay West

Figure 8: Pass-By Traffic Volumes

AM Peak Hour



PM Peak Hour

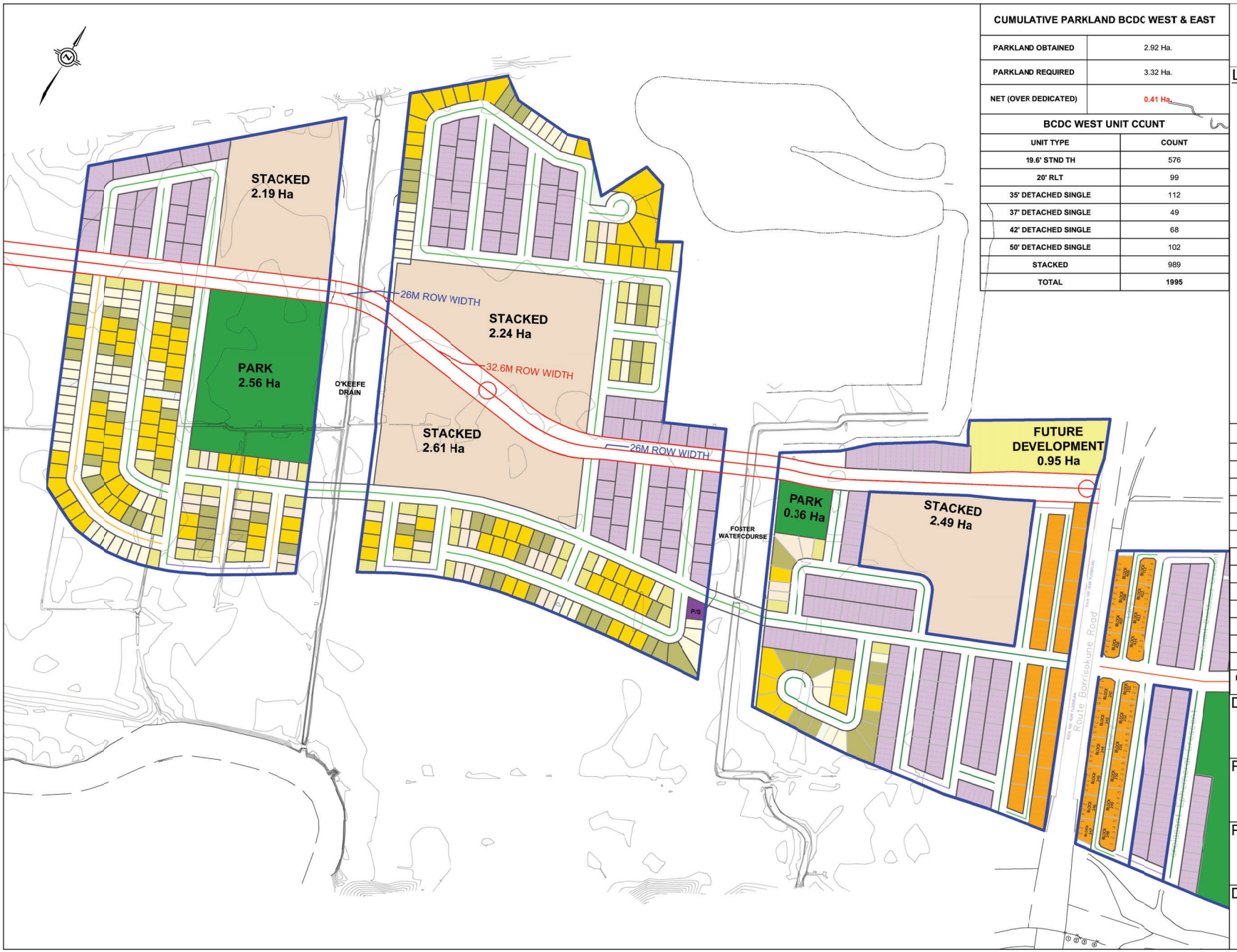


Stantec

Mattamy Homes

Half Moon Bay West

Figure 9: Net New Site Traffic Volumes



CUMULATIVE PARKLAND BCDC WEST & EAST	
PARKLAND OBTAINED	2.92 Ha.
PARKLAND REQUIRED	3.32 Ha.
NET (OVER DEDICATED)	0.41 Ha.

BCDC WEST UNIT CCUNT	
UNIT TYPE	COUNT
19.6' STND TH	576
20' RLT	99
35' DETACHED SINGLE	112
37' DETACHED SINGLE	49
42' DETACHED SINGLE	68
50' DETACHED SINGLE	102
STACKED	989
TOTAL	1995

CAIVAN

LEGEND:

- 19.6' STANDARD TOWNHOME
- 20' RLTH
- 35' DETACHED SINGLE
- 37' DETACHED SINGLE
- 42' DETACHED SINGLE
- 50' DETACHED SINGLE
- STACKED CONDO BLOCK
- FUTURE DEVELCPMENT
- PARKS
- PUMP STATION
- WALKWAY/SERVICING BLOCK
- 8.5m LANE
- 14.75m ROW (WINDOW)
- 16.50m ROW
- 18.0m ROW
- PHASE BOUNDARY

LOT COUNT	
UNIT TYPE	COUNT
RLT	99
STND TH	576
DETACHED SINGLE	331
STACKED	989
TOTAL	1995

REV #	DESCRIPTION	DATE
7	Update for pre-con DWG Sk-22 now Sk-22.1	2024-02-21
6	Updated STND TH to new 19.6' TH	2024-01-18
5	Plans updated to incorporate BCDC East	2024-01-12
4	Updated BRT plan W.Stacked Product	2024-01-10
3	Updated BRT Alignment	2023-12-19
2	1st Rev. DP Comments	2022-07-21
1	Revised Jock River Boundary Line	2022-04-18

DATE: 2024-02-23

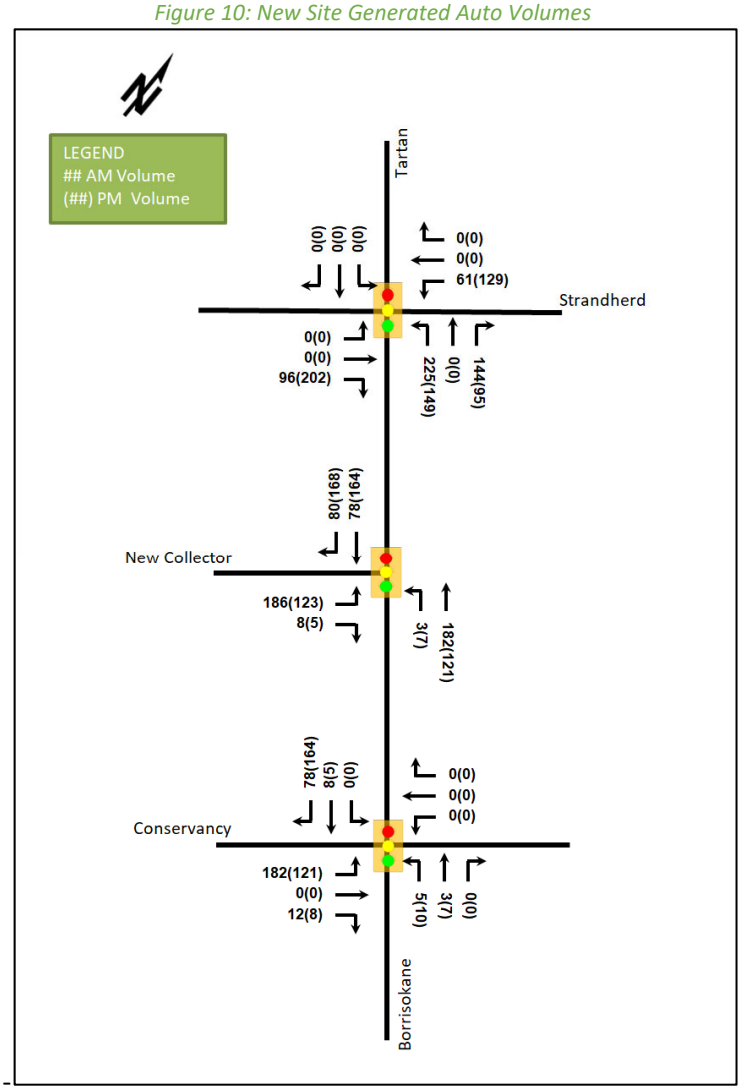
DRAWN BY: LV

PROJECT NO.: OTL400.3

PROJECT NAME: CONSERVANCY WEST

DRAWING #: SK-22.1_SK-8.3

Figure 10: New Site Generated Auto Volumes



5 Exemption Review

Table 14 summarizes the exemptions for this TIA.

Table 14: Exemption Review

Module	Element	Explanation	Exempt/Required
Site Design and TDM			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plan and zoning by-law applications	Exempt
	4.1.3 New Street Networks	Only required for plans of subdivision	Required
4.2 Parking	4.2.1 Parking Supply	Only required for site plan and zoning by-law applications	Exempt
4.3 Boundary Street Design		All applications	Required
4.5 Transportation Demand Management	All Elements	Only required when the development generates more than 60 person-trips	Required

Figure 2: Concept Plan



Unit Type	Count	Percent
Singles	103	19.5%
Executive Towns	262	49.5%
Avenue Towns	158	29.9%
Units from Land Swap	6	1.1%
Total	529	100.0%

Legend

- 28' Single Family Homes
- 36' Single Family Homes
- 43' Single Family Homes
- Executive Towns
- Avenue Towns
- Storm Water Management (SWM) Pond
- Parkland
- Natural Feature | Area within Floodplain
- Open Space / Pathways
- Property Boundary
- Mattamy to Minto Land Exchange
- Minto to Mattamy Land Exchange

Notes:

Parkland Required = 0.88 ha

MISSING 0.03 ha

No.	Description	Date	By
3	Change in Lotting	6/28/2023	E.H
2	Land Exchange Edits	6/20/2023	E.H
1	Executive Town Depth Adjustment	6/14/2023	E.H
0	Issued for Review	5/3/2023	D.F

Revisions

Title: **Concept Plan 44**

Project: **Kennedy Lands**

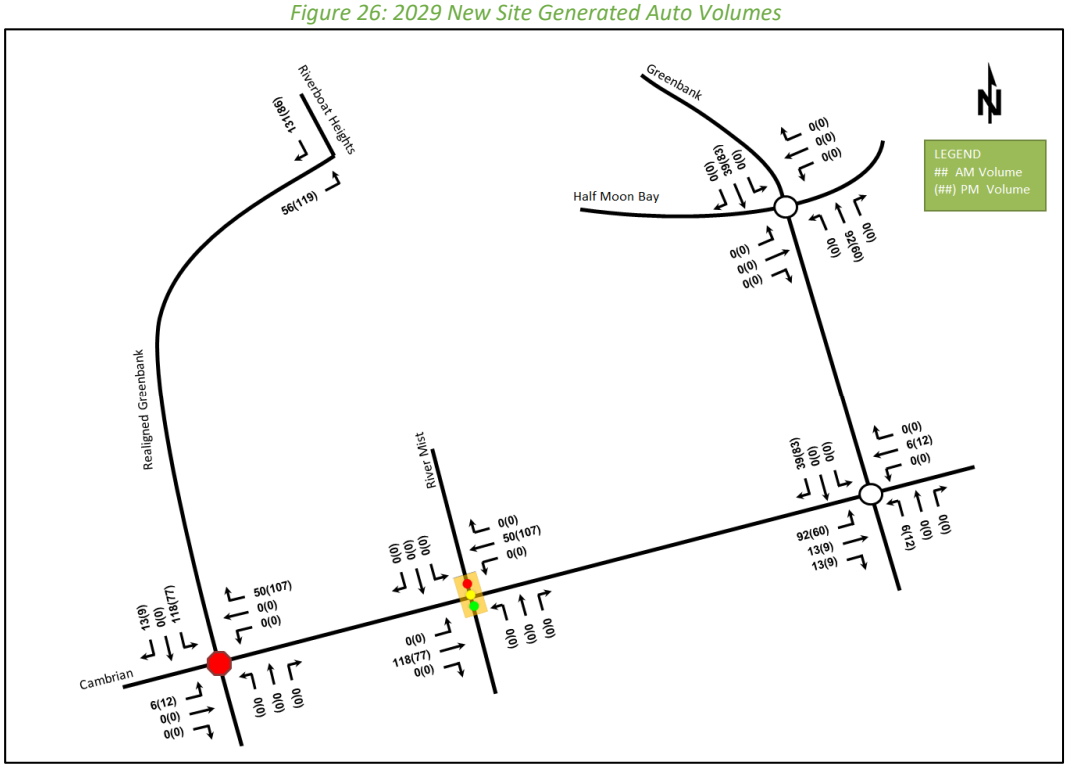
North

Scale: **NTS**

Drawn By: D.F.
Checked By: C.S.

Minto Communities Inc
180 Kent Street,
Ottawa, ON
K1P 0B6

Figure 26: 2029 New Site Generated Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3.1. The additional capacity provided by these plans will improve the level of service in the study area road network, but these changes are not part of the 10-year affordable network. To support the proposed development and minimize the impact on the adjacent developments to the east, a temporary connection from the site access at River Boat Heights will be extended down to Cambrian Road. This road connection will be built along the Realigned Greenbank Road corridor. No access from the east side would be provided in order to prevent traffic from the proposed development cutting through the existing developments. This work should be coordinated with the ongoing Realigned Greenbank Road detail design to minimize throwaway. The 2029 Future background volume at the intersection of realigned Greenbank Road and Cambrian Road were acquired from the adjacent Half Moon Bay West Community development TIA (Stantec, 2016).

6.2 Background Growth and Other Developments

Surrounding development Traffic Impact Assessments have used a 2% traffic growth within the study area of this report. As such, an annual background growth of 2% will be used in order to remain consistent with these studies.

The background developments explicitly considered in the background conditions include:

- Half Moon Bay West Community
- 2444 Watercolours Way
- 3831 Cambrian Road
- 3718 Greenbank Road
- The Meadows Phase 4

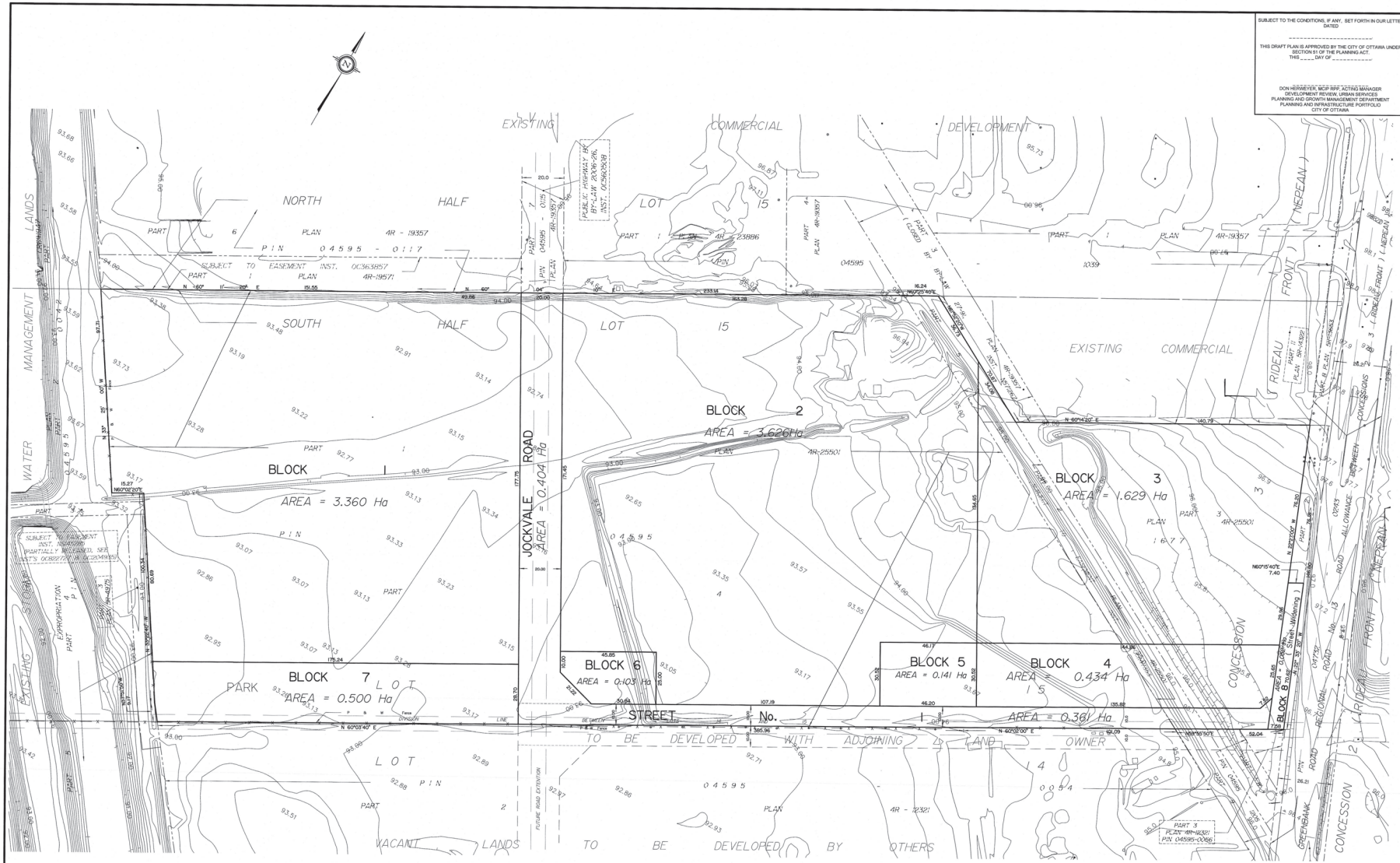

EXISTING COMMERCIAL DEVELOPMENT
NORTH HALF LOT 15
SOUTH HALF LOT 15
EXISTING COMMERCIAL
BLOCK 1
AREA = 3.360 Ha
BLOCK 2
AREA = 3.626Ha
BLOCK 3
AREA = 1.629 Ha
BLOCK 4
AREA = 0.434 Ha
BLOCK 5
AREA = 0.141 Ha
BLOCK 6
AREA = 0.103 Ha
BLOCK 7
AREA = 0.500 Ha
BLOCK 8
AREA = 0.361 Ha
JOCKVALE ROAD
AREA = 0.404 Ha
PARK
LOT
STREET No. 1
TO BE DEVELOPED WITH ADJOINING LAND OWNER
VACANT LANDS TO BE DEVELOPED BY OTHERS
FUTURE ROAD EXTENTION
PUBLIC HIGHWAY BY-LAW 2006-26, INST.: OC2405289
SUBJECT TO EASEMENT INST. OC363857
PART 3 PLAN 4R-19357
PART 3 PLAN 4R-23886
PART 3 PLAN 4R-25501
PART 3 PLAN 4R-19357
PART 3 PLAN 4R-19357
PART 3 PLAN 4R-19357

Figure 10: New Site Generation Auto Volumes

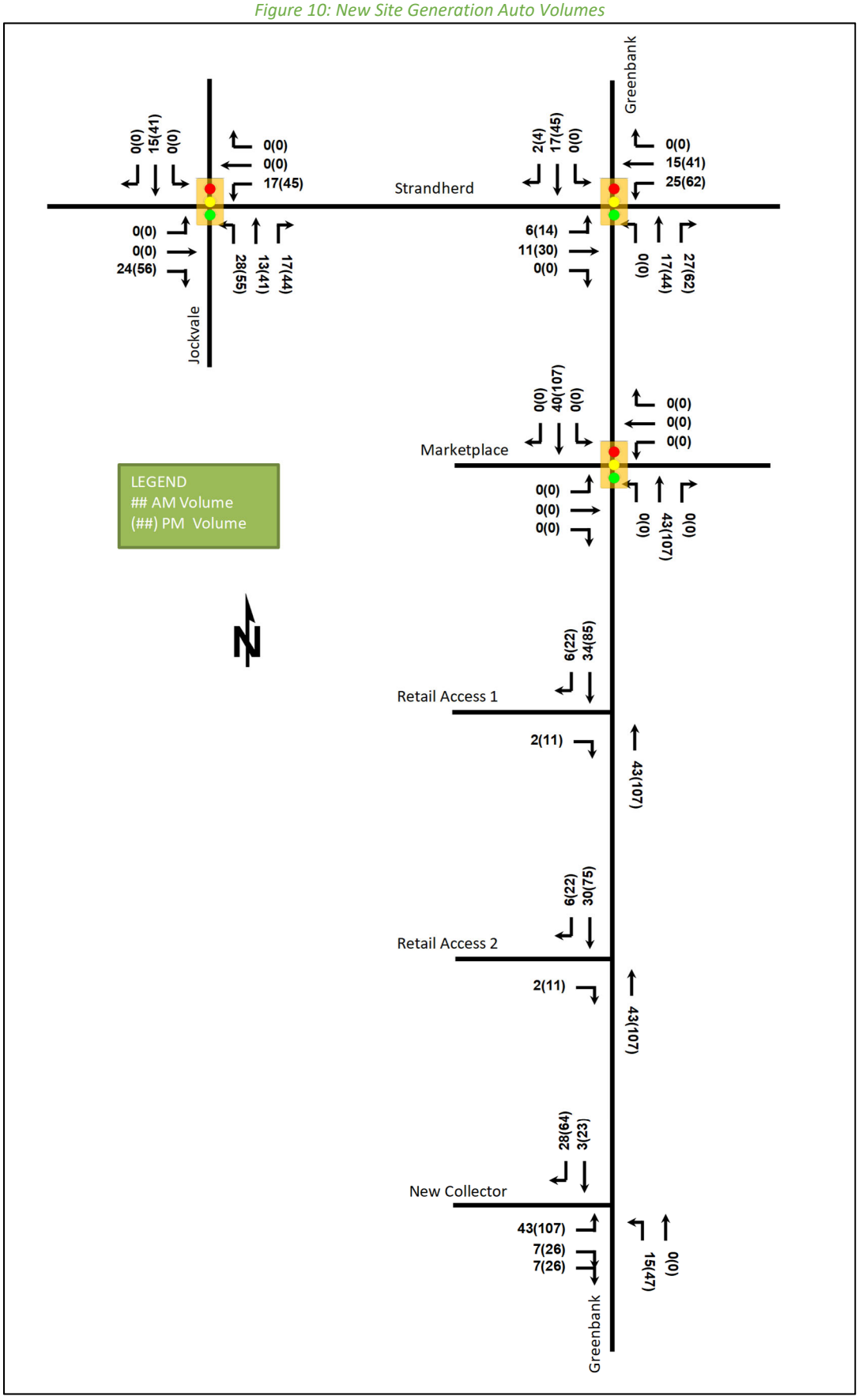
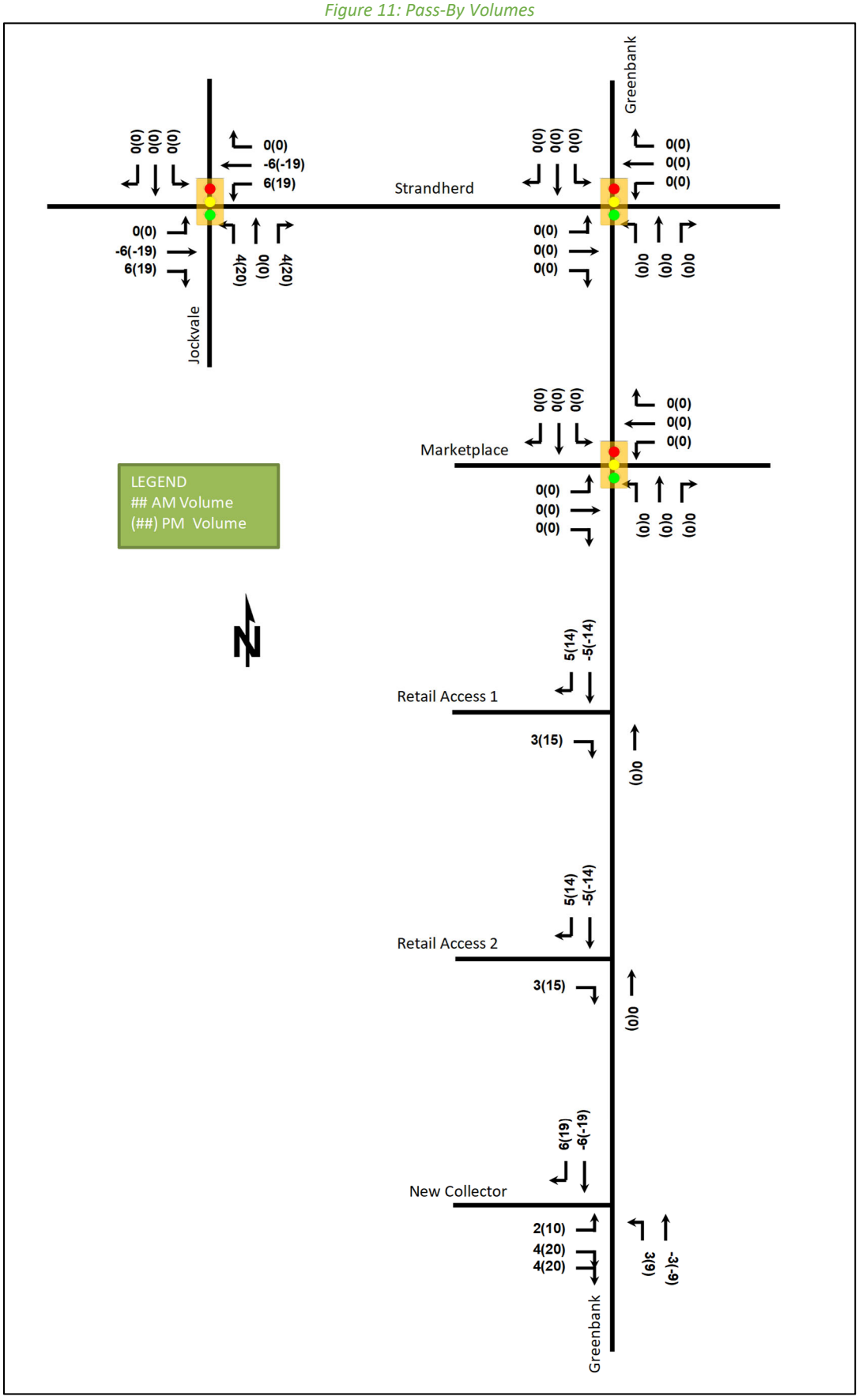
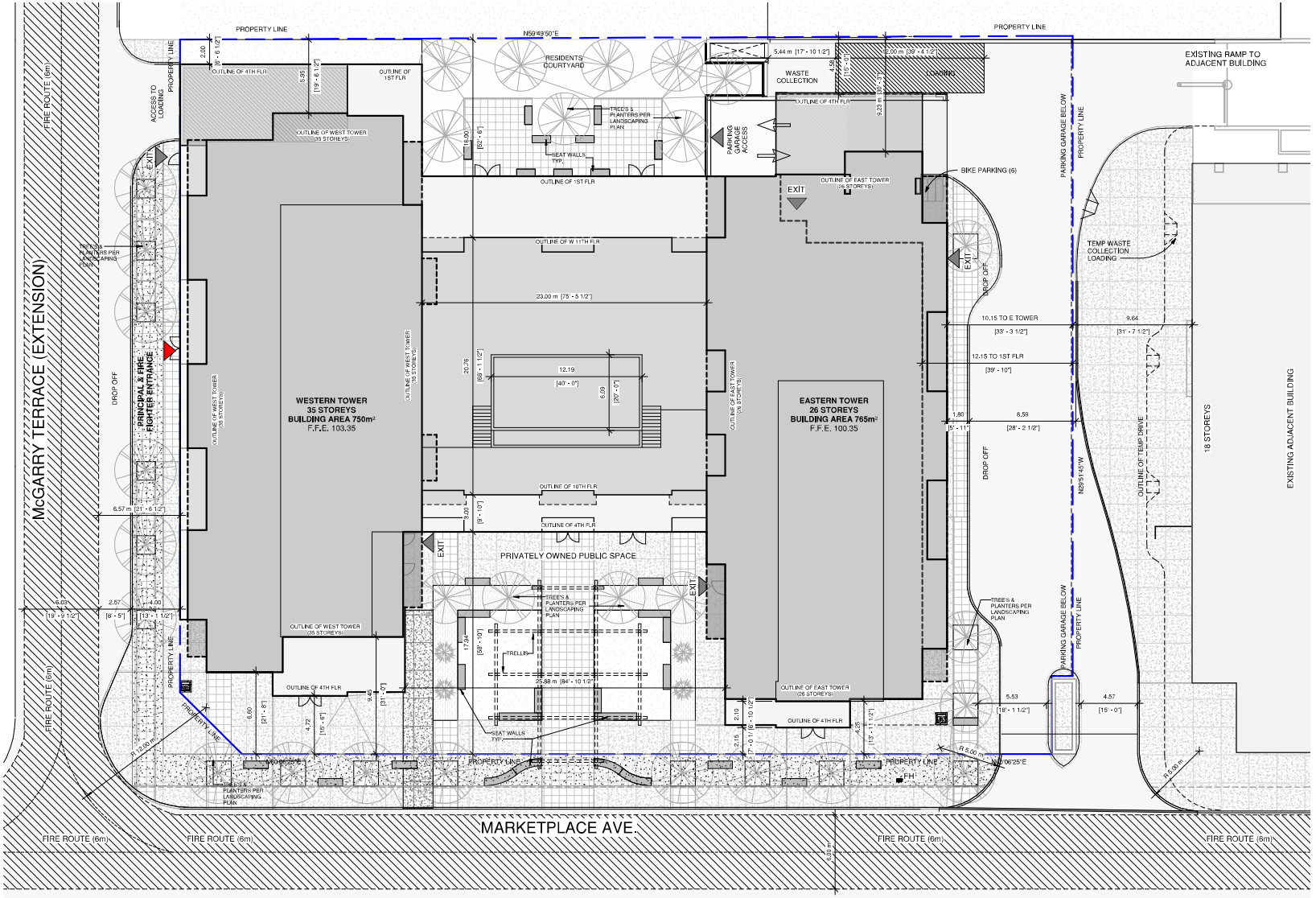
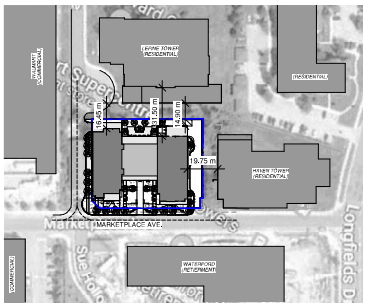


Figure 11: Pass-By Volumes





1 ARCHITECTURAL SITE PLAN
1 : 150



2 KEYPLAN
1 : 1500

TRUE NORTH

PROJECT NORTH

PROGRESSIVE ARCHITECTS, LTD.
5255 COUNTY RD. 42, UNIT C, WINDSOR ON, N8N2M1 TEL: 519-256-1607

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rev.	date	issued for	rev.	date	issued for
8			16		
7			15		
6			14		
5			13		
4			12		
3			11		
2			10		
1			9		

project:
MARKET PLACE WEST

address: 1034 MCGARRY TERRACE, OTTAWA ON

sheet name:
ARCHITECTURAL SITE PLAN

project no.:
22-0039

sheet no.:
A001

5.4 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the study area road network. Table 15 summarizes the proportional assignment to the study area roadways. Figure 15 illustrates the new site-generated volumes, and Figure 16 illustrates the pass-by volumes.

Table 15: Trip Assignment

To/From	Inbound Via
North	35% Strandherd Drive (W) 10% Longfields Drive (N) 20% Strandherd Drive (E)
South	10% Longfields Drive (S)
East	10% Strandherd Drive (E) 5% Chapman Mills Drive (E)
West	10% Strandherd Drive (W)
Total	**100%**

Figure 15: New Site Generation Auto Volumes

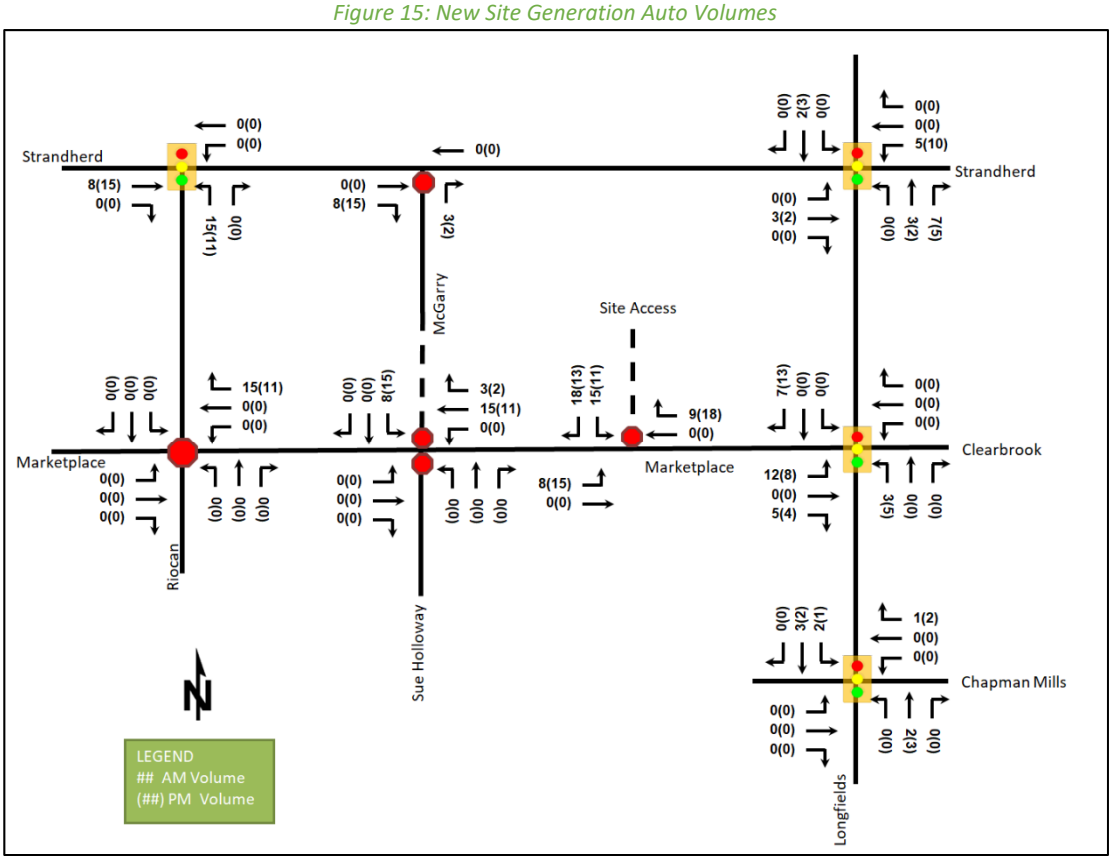
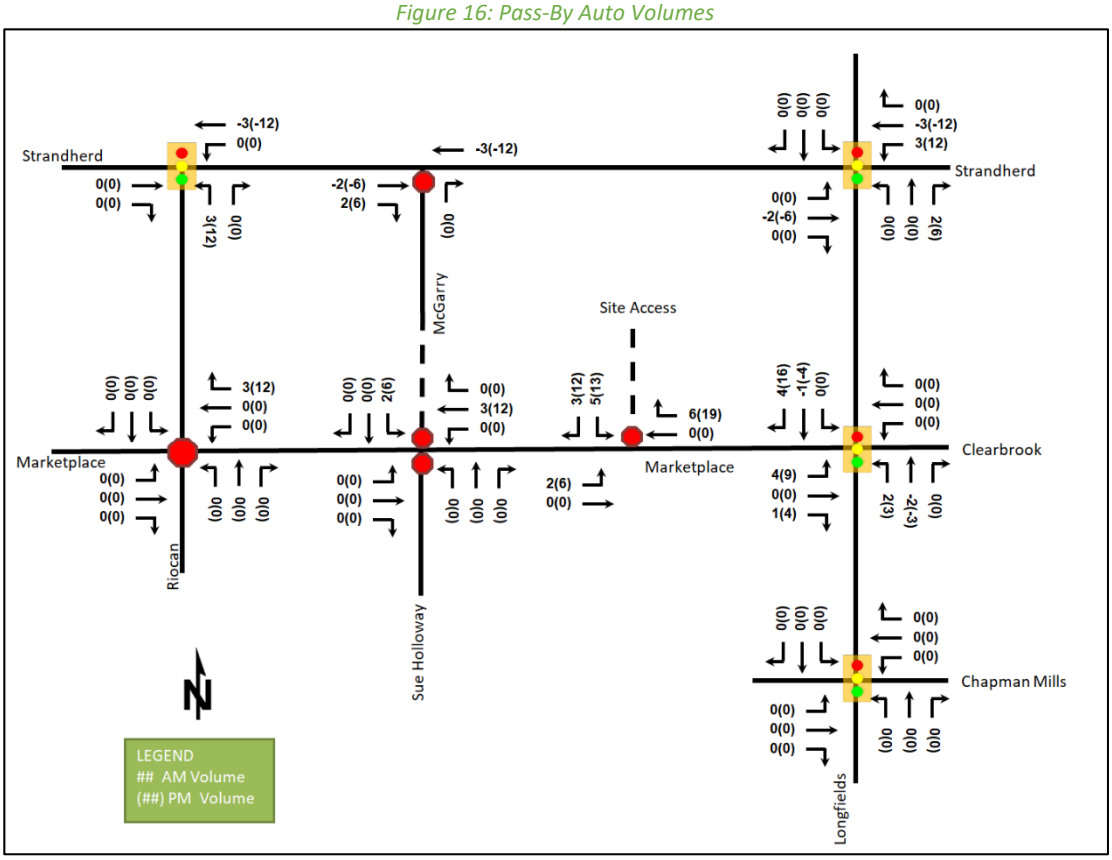


Figure 16: Pass-By Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. The extension of Chapman Mills Drive from Longfields Drive to Greenbank Road is assumed to complete by 2031, although it will not impact the site-generated trips and trips distribution, the background volumes will be redistributed, and background volumes will be consistent with the study area TIAs. The projected associated redistribution of volumes is illustrated in Figure 17.

APPENDIX I

Signal Timing Plans

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

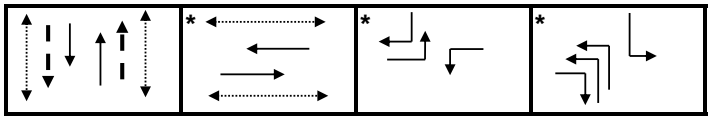
Intersection:	***Main:*** Strandherd	***Side:***	Maravista-Systemhouse
Controller:	**ATC 3**	**TSD:**	**6728**
Author:	Kymen Kwan	**Date:**	03-Nov-2025

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	130	120	120	115	115	120			
Offset	94	103	54	X	0	X			
NB Thru	47	34	41	32	33	33	7	18	4.2+2.4
SB Thru	47	34	41	32	33	33	7	18	4.2+2.4
EB Thru	49	49	49	49	49	49	7	34	3.3+4.2
WB Thru	49	49	49	49	49	49	7	34	3.3+4.2
EB Left (fp)	14	21	13	18	14	18	-	-	3.3+3.9
WB Left (fp)	14	21	13	18	14	18	-	-	3.3+3.9
SB Right	14	21	13	18	14	18	-	-	3.3+3.9
NB Left (fp)	20	16	17	16	19	20	-	-	4.2+2.7
SB Left (fp)	20	16	17	16	19	20	-	-	4.2+2.7
EB Right	20	16	17	16	19	20	-	-	4.2+2.7

Phasing Sequence‡

Plan: All



Notes: 1) For Plan 1, if the EW pedestrian phase is not actuated, the EW Thru movement will force off 20s early
2) For Plan 3, if the EW pedestrian phase is not actuated, the EW Thru movement will force off 10s 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
▬ ▬ ► Bike Signal
═ ═ ► Transit Signal
Cost is $63.94 ($56.58 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

Intersection:	***Main:*** Strandherd	***Side:***	Helene Campbell
Controller:	**ATC3**	**TSD:**	**5319**
Author:	Hamadoun Issabre	**Date:**	27-Aug-2024

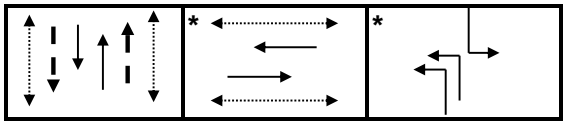
Existing Timing Plans†

	Plan						**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**Off Peak 2** 12	***Walk***	***DW***	***A+R***
Cycle	120	110	120	100	110	105			
Offset	73	108	85	X	108	X			
NB Thru	56	46	56	35	46	35	7	18	4.6+2.2
SB Thru	56	46	56	35	46	35	7	18	4.6+2.2
EB Thru	49	49	49	49	49	49	7	34	3.3+4.4
WB Thru	49	49	49	49	49	49	7	34	3.3+4.4
NB Left (fp)	15	15	15	16	15	21	-	-	4.6+2.3
SB Left (fp)	15	15	15	16	15	21	-	-	4.6+2.3

* Strandherd is considered as the NS corridor

Phasing Sequence‡

Plan: All



Notes: 1) In all plans; if the EW pedestrian phase and the WB Thru movement are not actuated; the EB Thru movement will force off after 10s green time

2) In plans 1, 2 & 4; if only the EW pedestrian phase is not actuated; the EW Thru movement will force off after 30s green time

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

– – ► Bike signal

Cost is $62.38 ($55.20 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

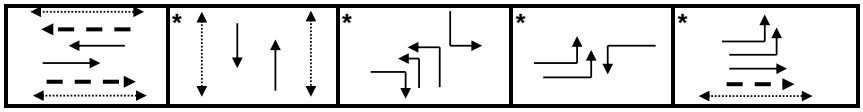
Intersection:	***Main:*** Strandherd	***Side:***	Fallowfield/Citigate
Controller:	**ATC 3**	**TSD:**	**6252**
Author:	Hamadoun Issabre	**Date:**	29-Apr-2024

Existing Timing Plans†

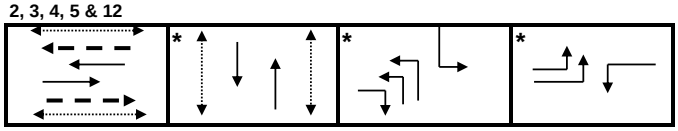
	Plan						**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**Evening** 12	***Walk***	***DW***	***A+R***
Cycle	120	110	120	110	110	120			
Offset	101	15	115	X	15	X			
EB Thru	46	31	34	30	31	30	7	16	4.6+2.3
WB Thru	31	31	34	30	31	30	7	16	4.6+2.3
NB Thru	48	48	48	48	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



Note: 1) For all plans; if the NS pedestrian phase is not actuated; the NS Thru movement will force off after 15s

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

Bike signal

Cost is $62.38 ($55.20 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

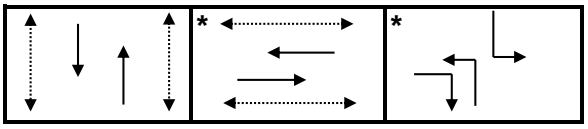
Intersection:	***Main:*** Strandherd	***Side:***	Kennevale
Controller:	**ATC 3**	**TSD:**	**6715**
Author:	Hamadoun Issabre	**Date:**	13-Mar-2024

Existing Timing Plans†

	Plan							**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**Evening** 12	**Heavy PM** 13	***Walk***	***DW***	***A+R***
Cycle	120	110	120	100	110	100	140			
Offset	29	93	57	X	93	X	57			
NB Thru	62	54	60	43	60	43	80	7	18	4.2+2.9
SB Thru	62	54	60	43	60	43	80	7	18	4.2+2.9
EB Thru	37	37	37	37	38	37	37	7	22	3.3+3.9
WB Thru	37	37	37	37	38	37	37	7	22	3.3+3.9
NB Left (fp)	21	19	23	20	12	20	23	-	-	4.2+3.2
SB Left (fp)	21	19	23	20	12	20	23	-	-	4.2+3.2
EB Right	21	19	23	20	12	20	23	-	-	4.2+3.2

Phasing Sequence‡

Plan: All



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

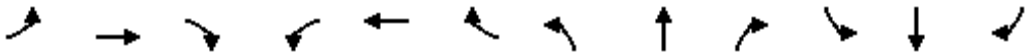
◄·····► Pedestrian signal

Cost is $62.38 ($55.20 + HST)

APPENDIX J

Detailed Analysis Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	19	64	24	56	74	232	936	34	59	599	11
Future Volume (vph)	30	19	64	24	56	74	232	936	34	59	599	11
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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		0.99		0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.915			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1784	1473	1695	1598	0	3257	3278	0	1662	3202	1199
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1512	1784	1455	1695	1598	0	3250	3278	0	1662	3202	1180
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91		54			3				96
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	4					4	2		1	1		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 (%)	14%	2%	5%	2%	5%	2%	3%	5%	2%	4%	8%	29%
Adj. Flow (vph)	33	21	71	27	62	82	258	1040	38	66	666	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	21	71	27	144	0	258	1078	0	66	666	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



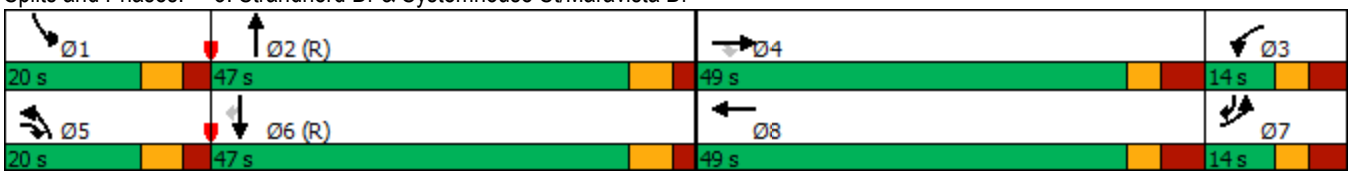
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	20.0	14.0	49.0		20.0	47.0		20.0	47.0	14.0
Total Split (%)	10.8%	37.7%	15.4%	10.8%	37.7%		15.4%	36.2%		15.4%	36.2%	10.8%
Maximum Green (s)	6.8	41.5	13.1	6.8	41.5		13.1	40.4		13.1	40.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	7.0	16.2	30.4	13.7	23.0		13.6	69.6		10.2	63.5	69.9
Actuated g/C Ratio	0.05	0.12	0.23	0.11	0.18		0.10	0.54		0.08	0.49	0.54
v/c Ratio	0.40	0.09	0.17	0.15	0.44		0.76	0.61		0.51	0.43	0.02
Control Delay	74.0	45.8	2.5	53.1	30.3		71.4	29.3		70.5	27.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	74.0	45.8	2.5	53.1	30.3		71.4	29.3		70.5	27.4	0.1
LOS	E	D	A	D	C		E	C		E	C	A
Approach Delay		28.6			33.9			37.4			30.8	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	8.3	5.1	0.0	6.5	22.4		32.9	95.9		16.5	55.4	0.0
Queue Length 95th (m)	19.5	10.0	4.1	16.7	33.6		#52.9	#201.0		30.8	99.0	0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	85	569	415	183	546		347	1755		167	1564	682
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	0.39	0.04	0.17	0.15	0.26		0.74	0.61		0.40	0.43	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 94 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	

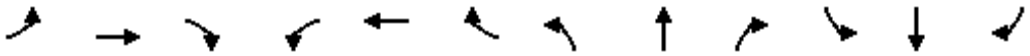
Intersection Signal Delay: 34.6	Intersection LOS: C
Intersection Capacity Utilization 71.8%	ICU Level of Service C
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	5	22	77	16	66	51	1059	96	31	592	71
Future Volume (vph)	31	5	22	77	16	66	51	1059	96	31	592	71
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99		1.00					0.99
Frt			0.850		0.880			0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1554	0	3288	3346	0	1647	3293	1473
Flt Permitted	0.698			0.754			0.950			0.950		
Satd. Flow (perm)	1244	1784	1497	1344	1554	0	3285	3346	0	1647	3293	1454
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		73			10				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)	1		1	1		1	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%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	34	6	24	86	18	73	57	1177	107	34	658	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	6	24	86	91	0	57	1284	0	34	658	79
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

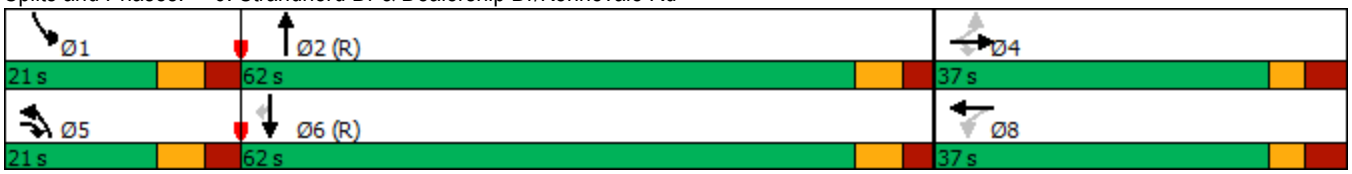


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	21.0	37.0	37.0		21.0	62.0		21.0	62.0	62.0
Total Split (%)	30.8%	30.8%	17.5%	30.8%	30.8%		17.5%	51.7%		17.5%	51.7%	51.7%
Maximum Green (s)	29.8	29.8	13.6	29.8	29.8		13.6	54.9		13.6	54.9	54.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	15.6	15.6	22.9	15.6	15.6		7.5	80.1		8.0	77.8	77.8
Actuated g/C Ratio	0.13	0.13	0.19	0.13	0.13		0.06	0.67		0.07	0.65	0.65
v/c Ratio	0.21	0.03	0.08	0.49	0.34		0.28	0.57		0.31	0.31	0.08
Control Delay	46.5	40.4	4.5	56.2	16.9		56.6	14.9		60.0	11.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.5	40.4	4.5	56.2	16.9		56.6	14.9		60.0	11.6	1.6
LOS	D	D	A	E	B		E	B		E	B	A
Approach Delay		30.2			36.0			16.7			12.7	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	7.5	1.3	0.0	19.6	3.9		6.7	84.0		7.8	33.1	0.0
Queue Length 95th (m)	14.9	4.5	3.5	31.0	16.4		13.3	155.8		17.9	63.5	4.5
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	308	443	392	333	440		372	2236		186	2134	979
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	0.11	0.01	0.06	0.26	0.21		0.15	0.57		0.18	0.31	0.08

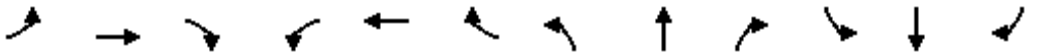
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 29 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 17.2	Intersection LOS: B

Intersection Capacity Utilization 57.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	17	5	51	33	449	2	1394	42	530	787	91
Future Volume (vph)	53	17	5	51	33	449	2	1394	42	530	787	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00								0.99	1.00		
Frt		0.964				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1286	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2914	1286	0	1631	1504	1517	1330	3293	1496	3194	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				378			225			101
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	1								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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	59	19	6	57	37	499	2	1549	47	589	874	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	25	0	57	37	499	2	1549	47	589	874	101
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

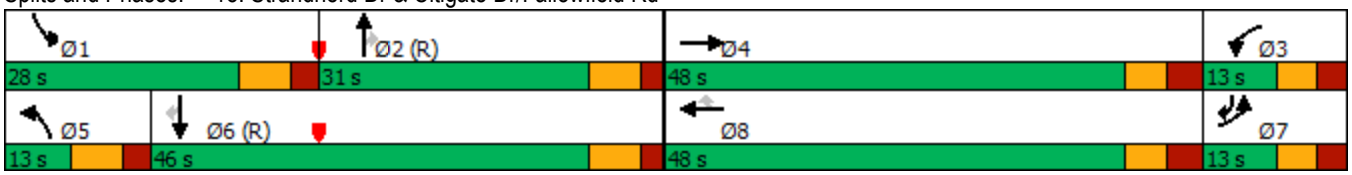


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.0	48.0		13.0	48.0	48.0	13.0	31.0	31.0	28.0	46.0	13.0
Total Split (%)	10.8%	40.0%		10.8%	40.0%	40.0%	10.8%	25.8%	25.8%	23.3%	38.3%	10.8%
Maximum Green (s)	6.5	41.0		6.5	41.0	41.0	5.9	24.1	24.1	20.9	39.1	6.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			1	1		1	1		0	
Act Effct Green (s)	7.1	12.5		21.7	21.1	21.1	5.7	35.4	35.4	28.9	68.7	81.5
Actuated g/C Ratio	0.06	0.10		0.18	0.18	0.18	0.05	0.30	0.30	0.24	0.57	0.68
v/c Ratio	0.34	0.18		0.19	0.14	0.86	0.03	1.60	0.08	0.77	0.47	0.11
Control Delay	59.7	45.5		39.3	37.4	26.3	76.0	300.8	0.2	50.5	19.8	2.7
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	59.7	45.5		39.3	37.4	26.3	76.0	300.8	0.2	50.5	19.8	2.7
LOS	E	D		D	D	C	E	F	A	D	B	A
Approach Delay		55.4			28.3			291.7			30.3	
Approach LOS		E			C			F			C	
Queue Length 50th (m)	6.9	4.2		12.2	7.7	29.3	0.5	~275.4	0.0	65.7	53.7	0.0
Queue Length 95th (m)	14.0	13.1		19.7	13.6	58.3	m1.2	#354.2	m0.0	#113.3	125.1	7.8
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	177	443		295	513	767	65	970	599	769	1851	949
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	0.33	0.06		0.19	0.07	0.65	0.03	1.60	0.08	0.77	0.47	0.11

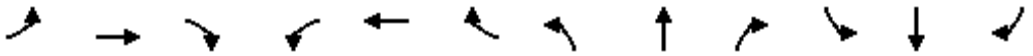
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 101 (84%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.60	
Intersection Signal Delay: 139.3	Intersection LOS: F

Intersection Capacity Utilization 91.2% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	20	7	25	36	204	13	1140	23	47	727	69
Future Volume (vph)	94	20	7	25	36	204	13	1140	23	47	727	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.99	1.00		0.98	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)	1647	1784	1517	1695	1784	1517	3288	3293	1517	1631	3202	1488
Flt Permitted	0.731			0.743			0.950			0.950		
Satd. Flow (perm)	1266	1784	1497	1325	1784	1497	3286	3293	1483	1630	3202	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			168			105			105
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		1	1		1	1		1	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%	2%	2%	2%	2%	2%	2%	5%	2%	6%	8%	4%
Adj. Flow (vph)	104	22	8	28	40	227	14	1267	26	52	808	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	22	8	28	40	227	14	1267	26	52	808	77
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

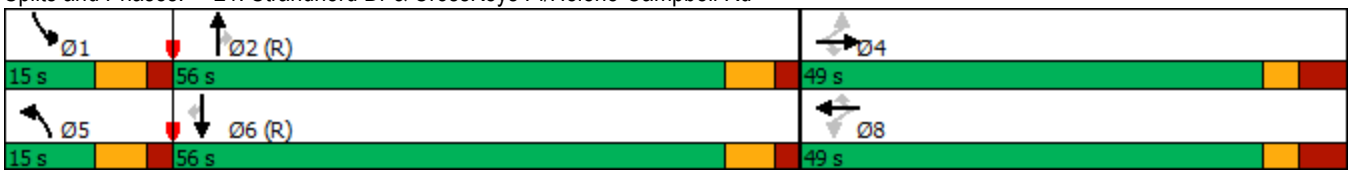


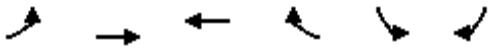
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1		1	1		1	1
Act Effct Green (s)	19.4	19.4	19.4	19.4	19.4	19.4	6.0	73.4	73.4	8.3	80.7	80.7
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.61	0.61	0.07	0.67	0.67
v/c Ratio	0.51	0.08	0.02	0.13	0.14	0.59	0.08	0.63	0.03	0.46	0.38	0.08
Control Delay	51.9	37.5	0.1	39.1	39.4	18.3	55.2	20.0	0.0	70.5	12.7	5.8
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	51.9	37.5	0.1	39.1	39.4	18.3	55.2	20.0	0.0	70.5	12.7	5.8
LOS	D	D	A	D	D	B	E	B	A	E	B	A
Approach Delay		46.5			23.2			20.0			15.4	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	23.6	4.6	0.0	6.0	8.5	12.8	1.6	91.4	0.0	13.1	17.8	0.0
Queue Length 95th (m)	31.5	9.3	0.0	11.1	14.1	28.6	5.0	#194.4	0.0	26.6	72.5	12.0
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	435	613	578	456	613	625	221	2014	947	121	2153	1021
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	0.24	0.04	0.01	0.06	0.07	0.36	0.06	0.63	0.03	0.43	0.38	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 73 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 20.0		Intersection LOS: C	

Intersection Capacity Utilization 74.2% 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.

Splits and Phases: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

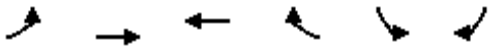




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	28	95	204	85	15
Future Volume (Veh/h)	15	28	95	204	85	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	31	106	227	94	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	333				171	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333				171	106
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				88	98
cM capacity (veh/h)	1226				808	948

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	48	106	227
Volume Left	17	0	0
Volume Right	0	0	227
cSH	1226	1700	1700
Volume to Capacity	0.01	0.06	0.13
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	2.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	2.9	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

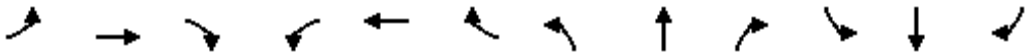


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	62	48	36	1
Future Volume (Veh/h)	2	7	62	48	36	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	8	69	53	40	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	168	80	81	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	168	80	81	0	0	
tC, single (s)	7.6	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	4.0	4.0	4.0	3.4	2.3	
p0 queue free %	100	99	91	95	97	
cM capacity (veh/h)	609	789	786	1068	1548	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	10	122	41
Volume Left	2	0	40
Volume Right	0	53	1
cSH	745	888	1548
Volume to Capacity	0.01	0.14	0.03
Queue Length 95th (m)	0.3	3.6	0.6
Control Delay (s)	9.9	9.7	7.2
Lane LOS	A	A	A
Approach Delay (s)	9.9	9.7	7.2
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	16.5%	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)	59	56	292	17	59	42	367	806	27	121	982	14
Future Volume (vph)	59	56	292	17	59	42	367	806	27	121	982	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		0.99		0.98
Frt			0.850		0.938			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1635	0	3257	3336	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1673	1784	1492	1688	1635	0	3250	3336	0	1685	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99		33			3				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	66	62	324	19	66	47	408	896	30	134	1091	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	62	324	19	113	0	408	926	0	134	1091	16
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



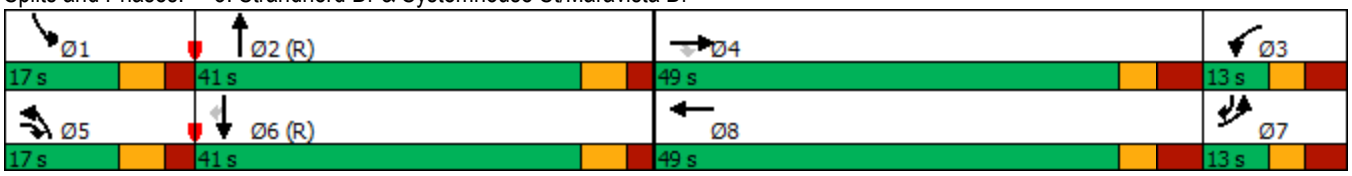
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	32.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	8.2	26.7	50.2	12.1	22.7		22.9	47.9		13.1	38.1	45.6
Actuated g/C Ratio	0.07	0.22	0.42	0.10	0.19		0.19	0.40		0.11	0.32	0.38
v/c Ratio	0.57	0.16	0.47	0.11	0.34		0.66	0.70		0.73	1.01	0.03
Control Delay	74.6	38.1	15.2	48.8	28.4		55.7	24.4		58.0	83.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	74.6	38.1	15.2	48.8	28.4		55.7	24.4		58.0	83.9	0.1
LOS	E	D	B	D	C		E	C		E	F	A
Approach Delay		27.0			31.3			34.0			80.1	
Approach LOS		C			C			C			F	
Queue Length 50th (m)	14.9	11.4	29.3	4.4	18.2		38.2	92.3		24.1	144.0	0.0
Queue Length 95th (m)	#39.5	19.8	40.2	12.2	26.5		#98.8	#151.5		#71.4	#203.1	m0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	115	616	686	172	587		621	1332		184	1075	632
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	0.57	0.10	0.47	0.11	0.19		0.66	0.70		0.73	1.01	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	

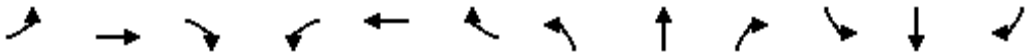
Intersection Signal Delay: 51.0	Intersection LOS: D
Intersection Capacity Utilization 76.7%	ICU Level of Service D
Analysis Period (min) 15	

\# 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: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	19	66	144	9	53	38	1017	107	54	1236	47
Future Volume (vph)	104	19	66	144	9	53	38	1017	107	54	1236	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.872			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1509	0	3288	3335	0	1695	3390	1517
Flt Permitted	0.712			0.744			0.950			0.950		
Satd. Flow (perm)	1269	1784	1496	1300	1509	0	3288	3335	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		59			12				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	116	21	73	160	10	59	42	1130	119	60	1373	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	21	73	160	69	0	42	1249	0	60	1373	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



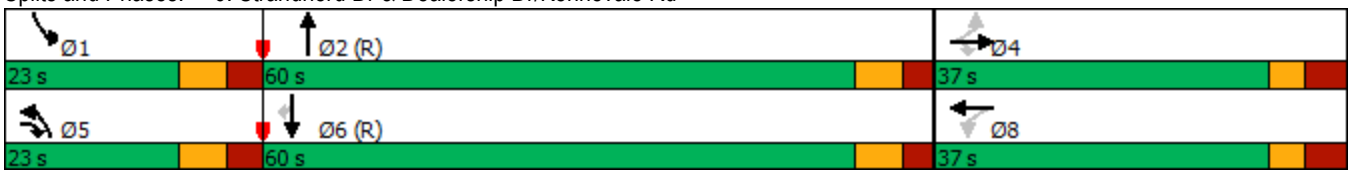
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	23.0	37.0	37.0		23.0	60.0		23.0	60.0	60.0
Total Split (%)	30.8%	30.8%	19.2%	30.8%	30.8%		19.2%	50.0%		19.2%	50.0%	50.0%
Maximum Green (s)	29.8	29.8	15.6	29.8	29.8		15.6	52.9		15.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	20.2	20.2	27.0	20.2	20.2		7.0	71.2		9.6	73.7	73.7
Actuated g/C Ratio	0.17	0.17	0.22	0.17	0.17		0.06	0.59		0.08	0.61	0.61
v/c Ratio	0.54	0.07	0.20	0.73	0.23		0.22	0.63		0.44	0.66	0.05
Control Delay	53.9	39.0	17.0	65.6	14.0		56.2	20.2		35.2	35.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.9	39.0	17.0	65.6	14.0		56.2	20.2		35.2	35.6	7.6
LOS	D	D	B	E	B		E	C		D	D	A
Approach Delay		39.6			50.1			21.3			34.6	
Approach LOS		D			D			C			C	
Queue Length 50th (m)	25.4	4.2	6.2	36.2	2.0		4.9	99.4		11.4	170.8	1.3
Queue Length 95th (m)	40.6	10.4	15.3	54.7	13.4		10.6	156.0		m15.1	m181.4	m4.3
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	315	443	472	322	419		427	1982		220	2082	972
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	0.37	0.05	0.15	0.50	0.16		0.10	0.63		0.27	0.66	0.05

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	

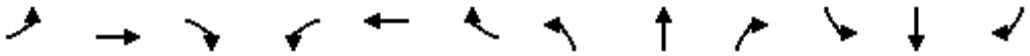
Intersection Signal Delay: 30.7	Intersection LOS: C
Intersection Capacity Utilization 73.7%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	50	9	122	60	479	5	1046	98	421	1150	186
Future Volume (vph)	192	50	9	122	60	479	5	1046	98	421	1150	186
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.977				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1662	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1662	0	1692	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				360			160			150
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	213	56	10	136	67	532	6	1162	109	468	1278	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	66	0	136	67	532	6	1162	109	468	1278	207
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

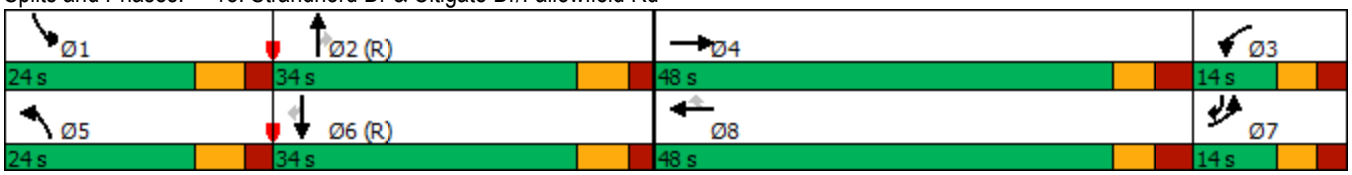


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	14.0	48.0		14.0	48.0	48.0	24.0	34.0	34.0	24.0	34.0	14.0
Total Split (%)	11.7%	40.0%		11.7%	40.0%	40.0%	20.0%	28.3%	28.3%	20.0%	28.3%	11.7%
Maximum Green (s)	7.5	41.0		7.5	41.0	41.0	16.9	27.1	27.1	16.9	27.1	7.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	13.9	11.0		30.9	24.6	24.6	6.3	32.8	32.8	21.2	58.2	77.6
Actuated g/C Ratio	0.12	0.09		0.26	0.20	0.20	0.05	0.27	0.27	0.18	0.48	0.65
v/c Ratio	0.58	0.42		0.31	0.19	0.90	0.09	1.29	0.21	0.80	0.78	0.20
Control Delay	57.7	53.0		37.6	36.3	32.6	80.6	166.4	1.5	59.5	32.1	4.2
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	57.7	53.0		37.6	36.3	32.6	80.6	166.4	1.5	59.5	32.1	4.2
LOS	E	D		D	D	C	F	F	A	E	C	A
Approach Delay		56.6			33.9			151.9			35.7	
Approach LOS		E			C			F			D	
Queue Length 50th (m)	24.4	13.2		26.5	13.3	43.8	1.6	~204.3	1.7	53.0	122.4	3.9
Queue Length 95th (m)	#52.7	26.7		41.6	21.2	77.3	m2.8	#241.6	m2.6	#92.3	#238.7	17.4
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	369	573		436	581	745	173	898	530	582	1643	1015
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	0.58	0.12		0.31	0.12	0.71	0.03	1.29	0.21	0.80	0.78	0.20

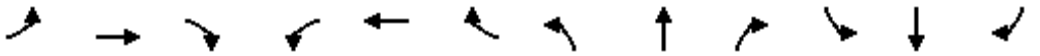
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.29			
Intersection Signal Delay: 71.7		Intersection LOS: E	

Intersection Capacity Utilization 84.6% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	117	29	37	114	126	40	853	23	122	955	194
Future Volume (vph)	210	117	29	37	114	126	40	853	23	122	955	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1695	1784	1502	1679	1784	1517	3288	3202	1517	1695	3357	1517
Flt Permitted	0.676			0.674			0.950			0.950		
Satd. Flow (perm)	1204	1784	1468	1180	1784	1495	3285	3202	1479	1693	3357	1494
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			140			105			201
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	3%	3%	2%	2%	2%	8%	2%	2%	3%	2%
Adj. Flow (vph)	233	130	32	41	127	140	44	948	26	136	1061	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	233	130	32	41	127	140	44	948	26	136	1061	216
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

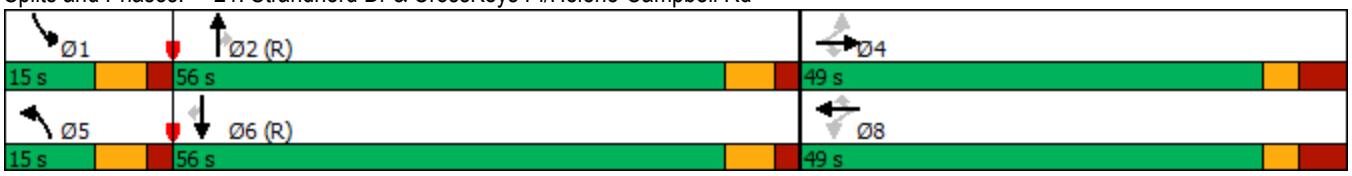


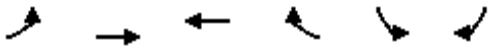
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	28.7	28.7	28.7	28.7	28.7	28.7	7.0	52.9	52.9	17.1	65.4	65.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.44	0.44	0.14	0.54	0.54
v/c Ratio	0.81	0.31	0.08	0.15	0.30	0.30	0.23	0.67	0.04	0.57	0.58	0.24
Control Delay	63.5	37.4	0.3	33.9	37.3	6.7	81.9	13.9	0.1	59.2	24.5	10.5
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	63.5	37.4	0.3	33.9	37.3	6.7	81.9	13.9	0.1	59.2	24.5	10.5
LOS	E	D	A	C	D	A	F	B	A	E	C	B
Approach Delay		49.8			22.9			16.4			25.7	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	51.9	25.2	0.0	7.6	24.6	0.0	5.7	111.8	0.0	31.6	43.2	0.2
Queue Length 95th (m)	73.3	37.8	0.0	15.3	36.9	13.8	m8.7	13.4	m0.0	m#52.4	124.1	m34.8
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	414	613	568	406	613	606	224	1410	710	240	1828	905
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	0.21	0.06	0.10	0.21	0.23	0.20	0.67	0.04	0.57	0.58	0.24

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 25.5	Intersection LOS: C

Intersection Capacity Utilization 73.8% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

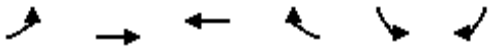




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	87	88	346	320	15
Future Volume (Veh/h)	15	87	88	346	320	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	97	98	384	356	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	482				229	98
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	482				229	98
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				52	98
cM capacity (veh/h)	1081				747	958

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	114	98	384
Volume Left	17	0	0
Volume Right	0	0	384
cSH	1081	1700	1700
Volume to Capacity	0.02	0.06	0.23
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	1.4	0.0	0.0
Lane LOS	A		
Approach Delay (s)	1.4	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

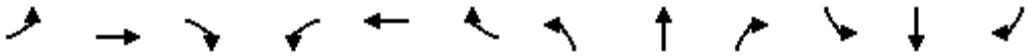


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	25	26	77	77	1
Future Volume (Veh/h)	3	25	26	77	77	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	3	28	29	86	86	1
Pedestrians		1	1			
Lane Width (m)		3.7	3.7			
Walking Speed (m/s)		1.1	1.1			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	274	174	175	1	1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	274	174	175	1	1	
tC, single (s)	7.1	6.5	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.3	
p0 queue free %	99	96	96	92	95	
cM capacity (veh/h)	577	678	678	1074	1569	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	31	115	87
Volume Left	3	0	86
Volume Right	0	86	1
cSH	667	936	1569
Volume to Capacity	0.05	0.12	0.05
Queue Length 95th (m)	1.1	3.2	1.3
Control Delay (s)	10.7	9.4	7.3
Lane LOS	B	A	A
Approach Delay (s)	10.7	9.4	7.3
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	18.0%	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)	72	54	330	17	70	52	465	708	25	120	961	12
Future Volume (vph)	72	54	330	17	70	52	465	708	25	120	961	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.98		1.00	1.00		0.99		0.98
Frt			0.850		0.936			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1624	0	3288	3369	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1661	1784	1488	1685	1624	0	3282	3369	0	1684	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		36			3				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	80	60	367	19	78	58	517	787	28	133	1068	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	60	367	19	136	0	517	815	0	133	1068	13
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.9	40.8	63.9	6.5	28.6		22.5	38.6		11.7	27.8	35.1
Actuated g/C Ratio	0.07	0.35	0.56	0.06	0.25		0.20	0.34		0.10	0.24	0.31
v/c Ratio	0.69	0.09	0.41	0.20	0.32		0.81	0.72		0.78	1.30	0.02
Control Delay	81.9	22.5	7.4	56.5	24.0		57.6	41.2		79.3	182.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	81.9	22.5	7.4	56.5	24.0		57.6	41.2		79.3	182.2	0.1
LOS	F	C	A	E	C		E	D		E	F	A
Approach Delay		20.9			28.0			47.6			169.0	
Approach LOS		C			C			D			F	
Queue Length 50th (m)	18.0	7.0	18.3	4.2	15.3		~83.1	~105.3		29.5	~167.5	0.0
Queue Length 95th (m)	#43.2	18.2	33.1	11.8	29.9		#116.0	#144.2		#59.0	#208.0	0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	116	730	899	102	609		642	1132		179	819	531
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	0.69	0.08	0.41	0.19	0.22		0.81	0.72		0.74	1.30	0.02

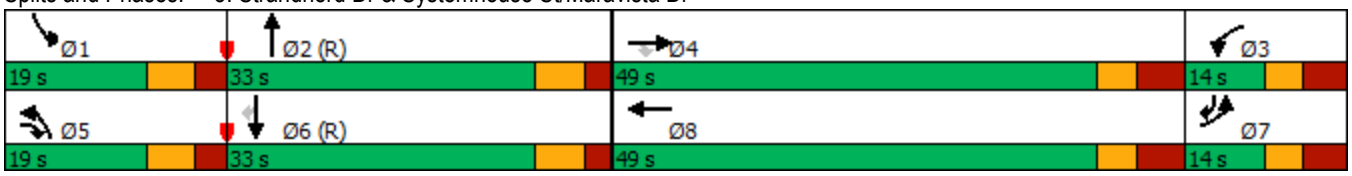
Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.30	
Intersection Signal Delay: 88.4	Intersection LOS: F

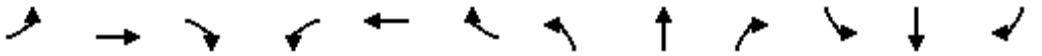
Intersection Capacity Utilization 94.1%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	8	31	95	13	76	40	1033	106	46	987	32
Future Volume (vph)	66	8	31	95	13	76	40	1033	106	46	987	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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			0.99	1.00			1.00	1.00		1.00		0.99
Frt			0.850		0.871			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1554	0	3288	3336	0	1695	3390	1517
Flt Permitted	0.694			0.752			0.950			0.950		
Satd. Flow (perm)	1238	1784	1497	1340	1554	0	3285	3336	0	1694	3390	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		84			14				115
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)			1	1			2		1	1		2
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
Adj. Flow (vph)	73	9	34	106	14	84	44	1148	118	51	1097	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	9	34	106	98	0	44	1266	0	51	1097	36
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	38.0	38.0	12.0	38.0	38.0		12.0	60.0		12.0	60.0	60.0
Total Split (%)	34.5%	34.5%	10.9%	34.5%	34.5%		10.9%	54.5%		10.9%	54.5%	54.5%
Maximum Green (s)	30.8	30.8	4.6	30.8	30.8		4.6	52.9		4.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		0	0			1			0	0
Act Effct Green (s)	16.2	16.2	22.5	16.2	16.2		6.5	66.7		8.1	68.2	68.2
Actuated g/C Ratio	0.15	0.15	0.20	0.15	0.15		0.06	0.61		0.07	0.62	0.62
v/c Ratio	0.40	0.03	0.10	0.54	0.33		0.23	0.62		0.41	0.52	0.04
Control Delay	46.7	35.4	6.6	51.7	13.4		52.1	17.6		59.0	14.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.7	35.4	6.6	51.7	13.4		52.1	17.6		59.0	14.9	0.1
LOS	D	D	A	D	B		D	B		E	B	A
Approach Delay		34.1			33.3			18.7			16.4	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	14.7	1.7	0.0	21.9	2.7		4.6	87.4		10.5	66.0	0.0
Queue Length 95th (m)	24.6	5.3	5.2	33.6	14.8		10.4	142.3		#25.4	115.1	0.0
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	346	499	340	375	495		194	2027		124	2100	970
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	0.21	0.02	0.10	0.28	0.20		0.23	0.62		0.41	0.52	0.04

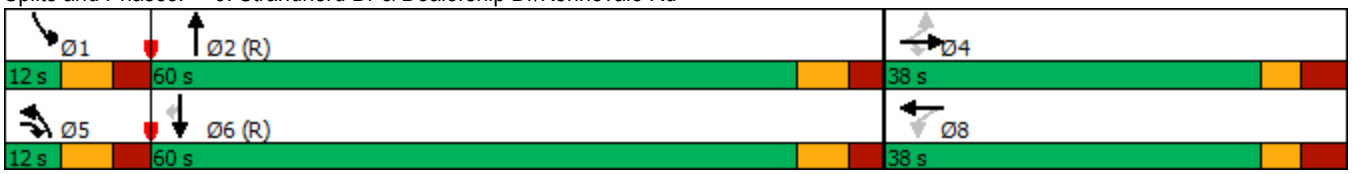
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 19.4		Intersection LOS: B	
Intersection Capacity Utilization 64.5%		ICU Level of Service C	

Analysis Period (min) 15

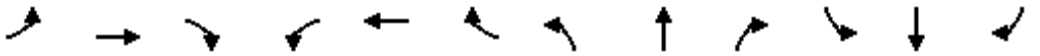
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	45	7	52	49	148	4	1148	76	178	1084	125
Future Volume (vph)	104	45	7	52	49	148	4	1148	76	178	1084	125
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.98	1.00					0.97
Frt		0.979				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2819	1567	0	1662	1717	1459	1383	3390	1473	3225	3293	1446
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2806	1567	0	1662	1717	1435	1381	3390	1473	3225	3293	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				174			175			114
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	6					6	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 (%)	19%	9%	43%	4%	6%	6%	25%	2%	5%	4%	5%	7%
Adj. Flow (vph)	116	50	8	58	54	164	4	1276	84	198	1204	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	58	0	58	54	164	4	1276	84	198	1204	139
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

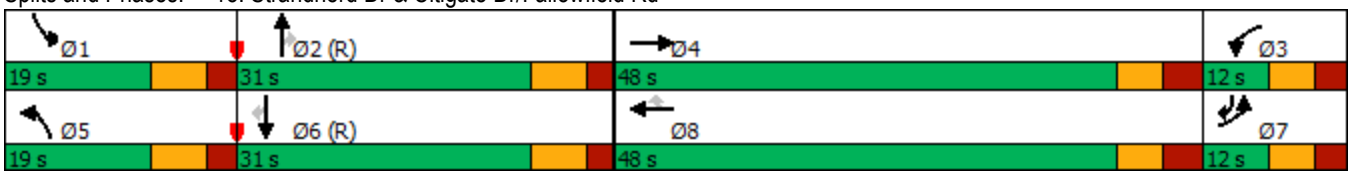


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	12.0	48.0		12.0	48.0	48.0	19.0	31.0	31.0	19.0	31.0	12.0
Total Split (%)	10.9%	43.6%		10.9%	43.6%	43.6%	17.3%	28.2%	28.2%	17.3%	28.2%	10.9%
Maximum Green (s)	5.5	41.0		5.5	41.0	41.0	11.9	24.1	24.1	11.9	24.1	5.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	10.5	13.5		10.1	10.6	10.6	6.0	49.4	49.4	12.0	65.7	76.6
Actuated g/C Ratio	0.10	0.12		0.09	0.10	0.10	0.05	0.45	0.45	0.11	0.60	0.70
v/c Ratio	0.43	0.29		0.38	0.33	0.56	0.05	0.84	0.11	0.56	0.61	0.14
Control Delay	51.5	44.8		53.5	51.8	13.7	46.5	28.0	1.1	52.5	17.3	1.5
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	51.5	44.8		53.5	51.8	13.7	46.5	28.0	1.1	52.5	17.3	1.5
LOS	D	D		D	D	B	D	C	A	D	B	A
Approach Delay		49.3			29.5			26.4			20.4	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	12.2	10.3		11.8	11.1	0.0	0.7	60.3	0.0	21.1	74.0	1.0
Queue Length 95th (m)	20.7	22.5		24.2	22.9	17.0	m1.5	#186.5	m2.0	31.5	142.6	5.1
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	269	589		152	639	644	149	1522	758	378	1967	1015
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	0.43	0.10		0.38	0.08	0.25	0.03	0.84	0.11	0.52	0.61	0.14

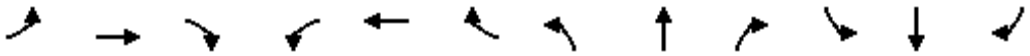
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 25.1		Intersection LOS: C	

Intersection Capacity Utilization 70.5% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	147	78	43	137	139	89	822	16	72	824	247
Future Volume (vph)	259	147	78	43	137	139	89	822	16	72	824	247
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.96	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)	1695	1784	1517	1695	1784	1517	3288	3232	1517	1695	3390	1517
Flt Permitted	0.660			0.652			0.950			0.950		
Satd. Flow (perm)	1177	1784	1488	1158	1784	1497	3286	3232	1463	1688	3390	1497
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			154			115			274
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		7	7		1	1		7	7		1
Confl. Bikes (#/hr)			2									
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%	2%	2%	7%	2%	2%	2%	2%
Adj. Flow (vph)	288	163	87	48	152	154	99	913	18	80	916	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	163	87	48	152	154	99	913	18	80	916	274
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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												



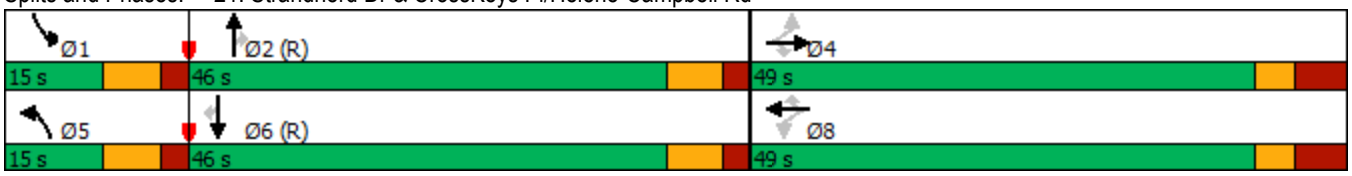
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	44.5%	44.5%	44.5%	44.5%	44.5%	44.5%	13.6%	41.8%	41.8%	13.6%	41.8%	41.8%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	39.2	39.2	8.1	39.2	39.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	8.1	49.9	49.9	9.4	48.5	48.5
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.07	0.45	0.45	0.09	0.44	0.44
v/c Ratio	0.84	0.31	0.17	0.14	0.29	0.28	0.41	0.62	0.02	0.55	0.61	0.34
Control Delay	57.4	30.4	3.7	26.8	30.0	5.2	53.8	28.2	0.1	77.8	18.1	3.3
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	57.4	30.4	3.7	26.8	30.0	5.2	53.8	28.2	0.1	77.8	18.1	3.3
LOS	E	C	A	C	C	A	D	C	A	E	B	A
Approach Delay		40.5			18.8			30.2			18.7	
Approach LOS		D			B			C			B	
Queue Length 50th (m)	57.4	27.0	0.0	7.6	25.0	0.0	10.5	83.4	0.0	18.4	45.0	0.0
Queue Length 95th (m)	81.1	39.4	7.1	14.8	36.9	12.7	19.1	116.2	0.0	m#32.4	55.2	21.5
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	441	669	624	434	669	658	254	1466	726	149	1496	813
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	0.65	0.24	0.14	0.11	0.23	0.23	0.39	0.62	0.02	0.54	0.61	0.34

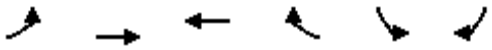
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 108 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	

Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 76.8%	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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

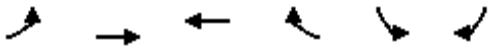




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	68	89	448	388	15
Future Volume (Veh/h)	15	68	89	448	388	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	76	99	498	431	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	597				209	99
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	597				209	99
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				44	98
cM capacity (veh/h)	980				766	957

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	93	99	498
Volume Left	17	0	0
Volume Right	0	0	498
cSH	980	1700	1700
Volume to Capacity	0.02	0.06	0.29
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	1.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	1.7	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	22	46	58	61	0
Future Volume (Veh/h)	2	22	46	58	61	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	24	51	64	68	0
Pedestrians		2			3	
Lane Width (m)		3.7			3.7	
Walking Speed (m/s)		1.1			1.1	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	230	138	138	3	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230	138	138	3	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	100	97	93	94	96	
cM capacity (veh/h)	619	719	719	1063	1572	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	115	68
Volume Left	2	0	68
Volume Right	0	64	0
cSH	710	877	1572
Volume to Capacity	0.04	0.13	0.04
Queue Length 95th (m)	0.9	3.4	1.0
Control Delay (s)	10.3	9.7	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.3	9.7	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	18.0%	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)	30	19	66	27	56	74	232	1131	34	59	699	11
Future Volume (vph)	30	19	66	27	56	74	232	1131	34	59	699	11
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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		0.99		0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.915			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1784	1473	1695	1598	0	3257	3281	0	1662	3202	1199
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1512	1784	1455	1695	1598	0	3250	3281	0	1662	3202	1180
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91		54			2				96
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	4					4	2		1	1		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 (%)	14%	2%	5%	2%	5%	2%	3%	5%	2%	4%	8%	29%
Adj. Flow (vph)	30	19	66	27	56	74	232	1131	34	59	699	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	19	66	27	130	0	232	1165	0	59	699	11
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												

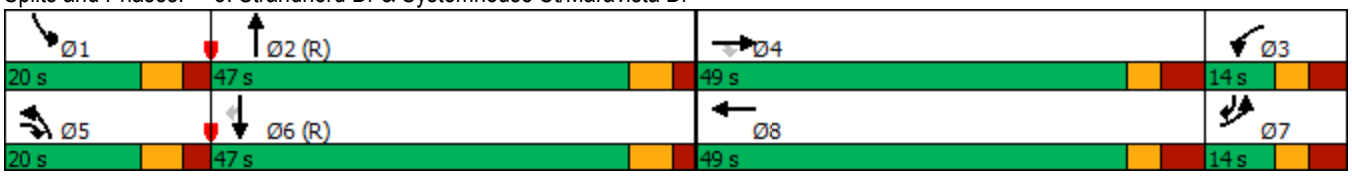
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	20.0	14.0	49.0		20.0	47.0		20.0	47.0	14.0
Total Split (%)	10.8%	37.7%	15.4%	10.8%	37.7%		15.4%	36.2%		15.4%	36.2%	10.8%
Maximum Green (s)	6.8	41.5	13.1	6.8	41.5		13.1	40.4		13.1	40.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	7.0	16.2	29.7	13.5	22.8		12.9	70.2		9.8	64.5	70.9
Actuated g/C Ratio	0.05	0.12	0.23	0.10	0.18		0.10	0.54		0.08	0.50	0.55
v/c Ratio	0.37	0.09	0.16	0.15	0.40		0.72	0.66		0.47	0.44	0.02
Control Delay	72.3	45.5	2.1	53.4	27.6		70.1	29.8		69.2	27.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	72.3	45.5	2.1	53.4	27.6		70.1	29.8		69.2	27.2	0.0
LOS	E	D	A	D	C		E	C		E	C	A
Approach Delay		27.6			32.0			36.5			30.0	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	7.5	4.6	0.0	6.6	18.9		29.7	104.1		14.7	56.2	0.0
Queue Length 95th (m)	17.8	9.2	3.2	16.7	29.8		43.9	#226.1		28.4	105.0	0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	84	569	409	179	546		335	1771		167	1589	690
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	0.36	0.03	0.16	0.15	0.24		0.69	0.66		0.35	0.44	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 94 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	

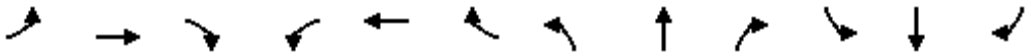
Intersection Signal Delay: 33.7	Intersection LOS: C
Intersection Capacity Utilization 77.5%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	5	23	77	19	66	72	1256	96	31	694	71
Future Volume (vph)	31	5	23	77	19	66	72	1256	96	31	694	71
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99		1.00					0.99
Frt			0.850		0.884			0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1561	0	3288	3353	0	1647	3293	1473
Flt Permitted	0.702			0.754			0.950			0.950		
Satd. Flow (perm)	1251	1784	1497	1344	1561	0	3285	3353	0	1647	3293	1454
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		66			9				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)	1		1	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%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	31	5	23	77	19	66	72	1256	96	31	694	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	5	23	77	85	0	72	1352	0	31	694	71
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

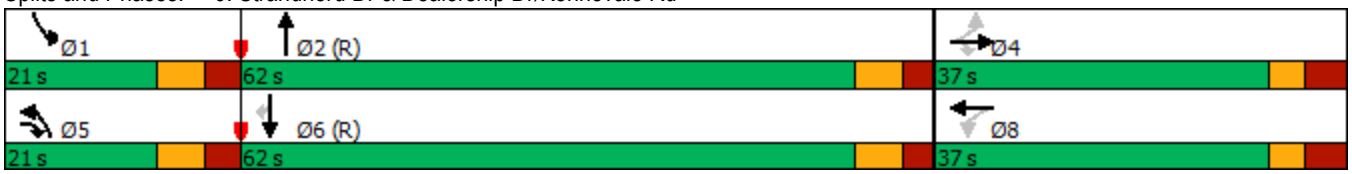


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	21.0	37.0	37.0		21.0	62.0		21.0	62.0	62.0
Total Split (%)	30.8%	30.8%	17.5%	30.8%	30.8%		17.5%	51.7%		17.5%	51.7%	51.7%
Maximum Green (s)	29.8	29.8	13.6	29.8	29.8		13.6	54.9		13.6	54.9	54.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	15.1	15.1	23.0	15.1	15.1		8.0	80.8		7.8	77.8	77.8
Actuated g/C Ratio	0.13	0.13	0.19	0.13	0.13		0.07	0.67		0.06	0.65	0.65
v/c Ratio	0.20	0.02	0.07	0.46	0.33		0.33	0.60		0.29	0.33	0.07
Control Delay	46.5	40.4	4.1	55.1	18.1		56.9	15.1		59.7	11.8	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.5	40.4	4.1	55.1	18.1		56.9	15.1		59.7	11.8	1.3
LOS	D	D	A	E	B		E	B		E	B	A
Approach Delay		29.5			35.7			17.2			12.8	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	6.8	1.1	0.0	17.6	4.1		8.5	89.0		7.1	35.0	0.0
Queue Length 95th (m)	13.9	4.2	3.2	28.0	16.1		15.6	168.1		16.7	68.5	3.2
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	310	443	386	333	437		372	2259		186	2135	979
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	0.10	0.01	0.06	0.23	0.19		0.19	0.60		0.17	0.33	0.07

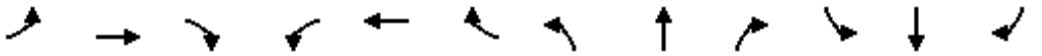
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 29 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 17.3		Intersection LOS: B	

Intersection Capacity Utilization 63.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	19	7	61	36	459	5	1576	56	546	876	113
Future Volume (vph)	68	19	7	61	36	459	5	1576	56	546	876	113
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00								0.99	1.00		
Frt		0.960				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1272	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2914	1272	0	1631	1504	1517	1330	3293	1496	3194	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				370			225			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	68	19	7	61	36	459	5	1576	56	546	876	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	26	0	61	36	459	5	1576	56	546	876	113
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

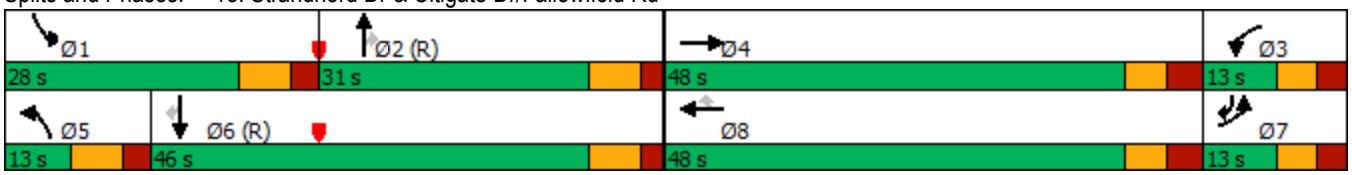


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.0	48.0		13.0	48.0	48.0	13.0	31.0	31.0	28.0	46.0	13.0
Total Split (%)	10.8%	40.0%		10.8%	40.0%	40.0%	10.8%	25.8%	25.8%	23.3%	38.3%	10.8%
Maximum Green (s)	6.5	41.0		6.5	41.0	41.0	5.9	24.1	24.1	20.9	39.1	6.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			1	1		1	1		0	
Act Effct Green (s)	7.4	12.6		20.2	19.4	19.4	5.8	40.1	40.1	25.6	70.2	83.2
Actuated g/C Ratio	0.06	0.10		0.17	0.16	0.16	0.05	0.33	0.33	0.21	0.58	0.69
v/c Ratio	0.38	0.19		0.22	0.15	0.83	0.08	1.43	0.09	0.80	0.46	0.11
Control Delay	60.3	44.4		41.5	39.1	22.3	75.6	227.7	0.2	54.8	18.9	2.5
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	44.4		41.5	39.1	22.3	75.6	227.7	0.2	54.8	18.9	2.5
LOS	E	D		D	D	C	E	F	A	D	B	A
Approach Delay		55.9			25.5			219.4			30.5	
Approach LOS		E			C			F			C	
Queue Length 50th (m)	8.0	4.2		13.5	7.7	20.0	1.4	~261.3	0.0	61.8	49.7	0.0
Queue Length 95th (m)	15.6	13.3		20.7	13.2	46.9	m2.4	#360.7	m0.0	#101.7	125.5	8.1
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	182	439		274	513	761	66	1100	649	682	1891	971
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	0.37	0.06		0.22	0.07	0.60	0.08	1.43	0.09	0.80	0.46	0.12

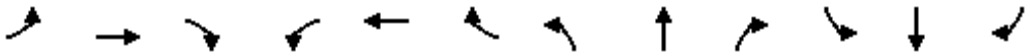
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 101 (84%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 111.3	Intersection LOS: F

Intersection Capacity Utilization 97.2% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	20	8	25	36	204	14	1336	23	47	827	69
Future Volume (vph)	94	20	8	25	36	204	14	1336	23	47	827	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.99	1.00		0.98	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)	1647	1784	1517	1695	1784	1517	3288	3293	1517	1631	3202	1488
Flt Permitted	0.734			0.744			0.950			0.950		
Satd. Flow (perm)	1271	1784	1497	1326	1784	1497	3286	3293	1483	1631	3202	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			165			105			105
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		1	1		1	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 (%)	5%	2%	2%	2%	2%	2%	2%	5%	2%	6%	8%	4%
Adj. Flow (vph)	94	20	8	25	36	204	14	1336	23	47	827	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	20	8	25	36	204	14	1336	23	47	827	69
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

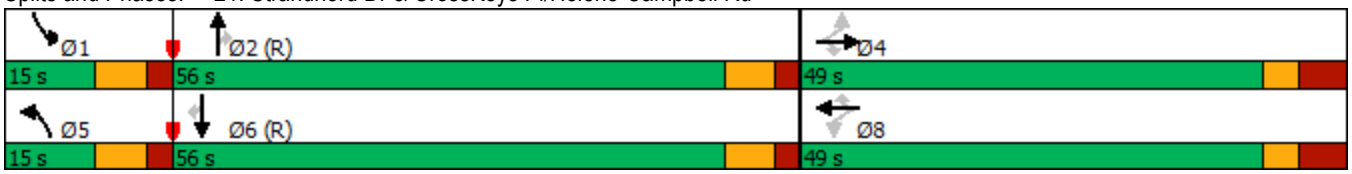


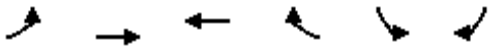
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1		1	1		1	1
Act Effct Green (s)	18.8	18.8	18.8	18.8	18.8	18.8	6.0	74.2	74.2	8.1	81.3	81.3
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.62	0.62	0.07	0.68	0.68
v/c Ratio	0.47	0.07	0.03	0.12	0.13	0.55	0.08	0.66	0.02	0.43	0.38	0.07
Control Delay	51.0	37.8	0.1	39.2	39.6	15.1	55.1	20.2	0.0	69.5	12.7	5.3
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	51.0	37.8	0.1	39.2	39.6	15.1	55.1	20.2	0.0	69.5	12.7	5.3
LOS	D	D	A	D	D	B	E	C	A	E	B	A
Approach Delay		45.5			20.7			20.2			15.0	
Approach LOS		D			C			C			B	
Queue Length 50th (m)	21.4	4.3	0.0	5.4	7.7	8.4	1.6	96.1	0.0	11.8	18.2	0.0
Queue Length 95th (m)	28.8	8.6	0.0	10.2	13.1	23.4	5.0	#212.4	0.0	24.8	74.2	10.5
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	437	613	578	456	613	623	221	2036	957	118	2169	1028
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	0.22	0.03	0.01	0.05	0.06	0.33	0.06	0.66	0.02	0.40	0.38	0.07

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 73 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 19.6	Intersection LOS: B

Intersection Capacity Utilization 79.9% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

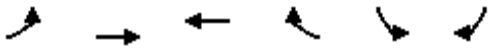




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	28	95	204	85	15
Future Volume (Veh/h)	15	28	95	204	85	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	28	95	204	85	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	299				153	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	299				153	95
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	98
cM capacity (veh/h)	1262				829	962

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	43	95	204
Volume Left	15	0	0
Volume Right	0	0	204
cSH	1262	1700	1700
Volume to Capacity	0.01	0.06	0.12
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	2.8	0.0	0.0
Lane LOS	A		
Approach Delay (s)	2.8	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

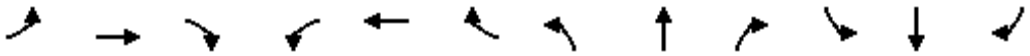


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	62	48	36	1
Future Volume (Veh/h)	2	7	62	48	36	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	7	62	48	36	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	152	72	73	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	72	73	0	0	
tC, single (s)	7.6	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	4.0	4.0	4.0	3.4	2.3	
p0 queue free %	100	99	92	96	98	
cM capacity (veh/h)	634	799	797	1068	1548	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	9	110	37
Volume Left	2	0	36
Volume Right	0	48	1
cSH	755	896	1548
Volume to Capacity	0.01	0.12	0.02
Queue Length 95th (m)	0.3	3.2	0.5
Control Delay (s)	9.8	9.6	7.2
Lane LOS	A	A	A
Approach Delay (s)	9.8	9.6	7.2
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	16.5%	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)	59	56	295	19	59	42	367	946	27	121	1176	14
Future Volume (vph)	59	56	295	19	59	42	367	946	27	121	1176	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		0.99		0.98
Frt			0.850		0.938			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1635	0	3257	3340	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1673	1784	1492	1688	1635	0	3250	3340	0	1686	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		33			2				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	59	56	295	19	59	42	367	946	27	121	1176	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	56	295	19	101	0	367	973	0	121	1176	14
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



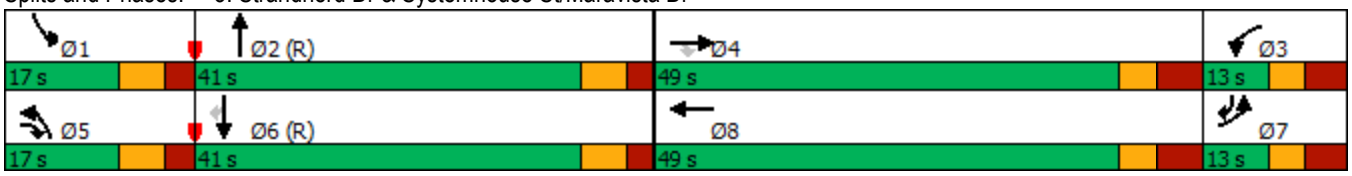
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	32.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	7.7	23.1	43.8	12.2	22.5		20.1	52.6		11.8	44.3	51.4
Actuated g/C Ratio	0.06	0.19	0.36	0.10	0.19		0.17	0.44		0.10	0.37	0.43
v/c Ratio	0.55	0.16	0.48	0.11	0.30		0.67	0.66		0.73	0.94	0.02
Control Delay	74.1	38.7	15.6	48.7	26.5		59.3	22.2		60.2	65.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	74.1	38.7	15.6	48.7	26.5		59.3	22.2		60.2	65.3	0.1
LOS	E	D	B	D	C		E	C		E	E	A
Approach Delay		27.2			30.0			32.4			64.1	
Approach LOS		C			C			C			E	
Queue Length 50th (m)	13.4	10.5	27.2	4.4	15.5		36.8	93.7		22.6	155.2	0.0
Queue Length 95th (m)	#34.6	18.3	35.4	12.2	23.7		#86.7	#163.7		#63.4	#226.8	m0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	108	616	611	173	587		546	1466		166	1251	698
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	0.55	0.09	0.48	0.11	0.17		0.67	0.66		0.73	0.94	0.02

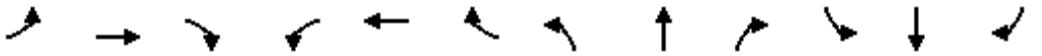
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	

Intersection Signal Delay: 44.7	Intersection LOS: D
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

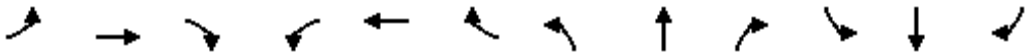
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	19	67	144	12	53	47	1158	107	56	1457	47
Future Volume (vph)	106	19	67	144	12	53	47	1158	107	56	1457	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.878			0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1520	0	3288	3339	0	1695	3390	1517
Flt Permitted	0.715			0.745			0.950			0.950		
Satd. Flow (perm)	1274	1784	1496	1302	1520	0	3288	3339	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		53			10				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	106	19	67	144	12	53	47	1158	107	56	1457	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	19	67	144	65	0	47	1265	0	56	1457	47
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



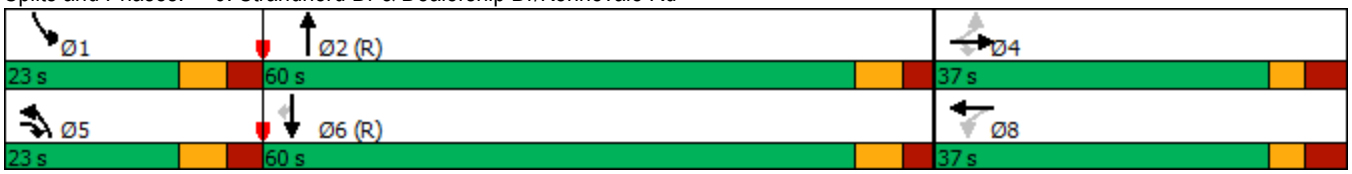
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	23.0	37.0	37.0		23.0	60.0		23.0	60.0	60.0
Total Split (%)	30.8%	30.8%	19.2%	30.8%	30.8%		19.2%	50.0%		19.2%	50.0%	50.0%
Maximum Green (s)	29.8	29.8	15.6	29.8	29.8		15.6	52.9		15.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	19.1	19.1	26.1	19.1	19.1		7.1	72.5		9.3	74.6	74.6
Actuated g/C Ratio	0.16	0.16	0.22	0.16	0.16		0.06	0.60		0.08	0.62	0.62
v/c Ratio	0.52	0.07	0.19	0.70	0.23		0.24	0.63		0.43	0.69	0.05
Control Delay	53.9	39.5	16.1	63.9	15.5		56.4	19.5		35.2	38.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.9	39.5	16.1	63.9	15.5		56.4	19.5		35.2	38.6	7.0
LOS	D	D	B	E	B		E	B		D	D	A
Approach Delay		39.3			48.8			20.8			37.5	
Approach LOS		D			D			C			D	
Queue Length 50th (m)	23.3	3.9	5.2	32.6	2.4		5.5	97.7		11.1	183.1	0.2
Queue Length 95th (m)	37.4	9.6	14.0	49.3	13.4		11.5	158.7		m14.2	m205.7	m3.9
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	316	443	459	323	417		427	2020		220	2108	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	0.04	0.15	0.45	0.16		0.11	0.63		0.25	0.69	0.05

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	

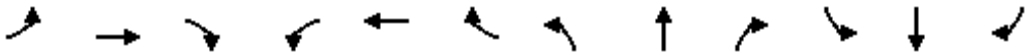
Intersection Signal Delay: 31.6	Intersection LOS: C
Intersection Capacity Utilization 76.4%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	53	12	138	63	496	8	1166	116	440	1326	206
Future Volume (vph)	212	53	12	138	63	496	8	1166	116	440	1326	206
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.972				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1650	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1650	0	1692	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				360			160			144
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	212	53	12	138	63	496	8	1166	116	440	1326	206
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	65	0	138	63	496	8	1166	116	440	1326	206
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

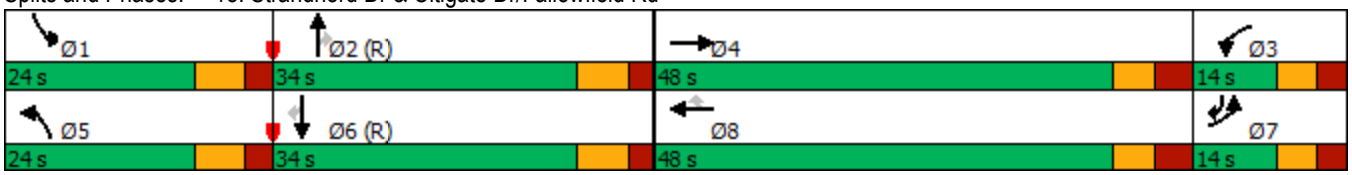


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	14.0	48.0		14.0	48.0	48.0	24.0	34.0	34.0	24.0	34.0	14.0
Total Split (%)	11.7%	40.0%		11.7%	40.0%	40.0%	20.0%	28.3%	28.3%	20.0%	28.3%	11.7%
Maximum Green (s)	7.5	41.0		7.5	41.0	41.0	16.9	27.1	27.1	16.9	27.1	7.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	14.6	9.5		28.2	20.6	20.6	6.5	36.9	36.9	20.5	61.4	81.6
Actuated g/C Ratio	0.12	0.08		0.24	0.17	0.17	0.05	0.31	0.31	0.17	0.51	0.68
v/c Ratio	0.55	0.47		0.35	0.22	0.90	0.12	1.15	0.20	0.79	0.76	0.19
Control Delay	55.8	55.0		40.1	39.8	32.0	78.2	106.4	1.6	58.7	29.8	3.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	55.0		40.1	39.8	32.0	78.2	106.4	1.6	58.7	29.8	3.8
LOS	E	D		D	D	C	E	F	A	E	C	A
Approach Delay		55.6			34.3			96.8			33.5	
Approach LOS		E			C			F			C	
Queue Length 50th (m)	24.3	12.6		28.0	13.0	33.7	2.0	~184.7	1.5	50.4	120.3	3.8
Queue Length 95th (m)	#38.5	26.0		42.2	21.4	67.2	m3.8	#243.4	m2.9	#84.4	#253.2	16.6
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	388	570		398	581	745	173	1011	577	560	1734	1057
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	0.55	0.11		0.35	0.11	0.67	0.05	1.15	0.20	0.79	0.76	0.19

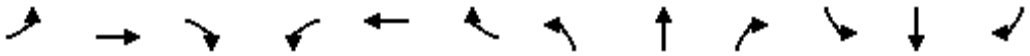
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 54.4		Intersection LOS: D	

Intersection Capacity Utilization 89.8% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	117	30	37	114	126	41	993	23	122	1148	194
Future Volume (vph)	210	117	30	37	114	126	41	993	23	122	1148	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1695	1784	1502	1679	1784	1517	3288	3202	1517	1695	3357	1517
Flt Permitted	0.684			0.682			0.950			0.950		
Satd. Flow (perm)	1218	1784	1468	1194	1784	1495	3285	3202	1479	1693	3357	1494
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			126			105			167
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	3%	3%	2%	2%	2%	8%	2%	2%	3%	2%
Adj. Flow (vph)	210	117	30	37	114	126	41	993	23	122	1148	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	117	30	37	114	126	41	993	23	122	1148	194
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

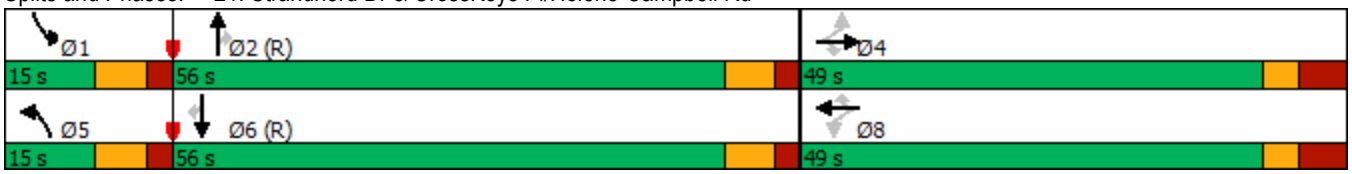


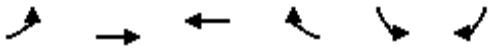
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	26.2	26.2	26.2	26.2	26.2	26.2	7.0	56.3	56.3	16.1	67.9	67.9
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.47	0.47	0.13	0.57	0.57
v/c Ratio	0.79	0.30	0.08	0.14	0.29	0.30	0.22	0.66	0.03	0.54	0.60	0.21
Control Delay	64.1	39.2	0.4	35.7	39.1	7.4	80.6	13.3	0.0	57.9	23.1	10.2
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	64.1	39.2	0.4	35.7	39.1	7.4	80.6	13.3	0.0	57.9	23.1	10.2
LOS	E	D	A	D	D	A	F	B	A	E	C	B
Approach Delay		50.6			24.2			15.6			24.3	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	47.0	23.2	0.0	7.1	22.5	0.0	5.3	114.0	0.0	28.5	43.1	0.4
Queue Length 95th (m)	67.5	35.6	0.0	14.7	34.8	13.5	m8.2	149.7	m0.0	m39.4	137.7	m33.4
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	419	613	568	410	613	597	223	1502	749	226	1899	918
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	0.50	0.19	0.05	0.09	0.19	0.21	0.18	0.66	0.03	0.54	0.60	0.21

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 24.4	Intersection LOS: C

Intersection Capacity Utilization 79.5% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

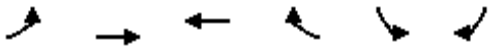




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	87	88	346	320	15
Future Volume (Veh/h)	15	87	88	346	320	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	87	88	346	320	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	434				205	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	434				205	88
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				59	98
cM capacity (veh/h)	1126				773	970

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	102	88	346
Volume Left	15	0	0
Volume Right	0	0	346
cSH	1126	1700	1700
Volume to Capacity	0.01	0.05	0.20
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	1.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	1.3	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

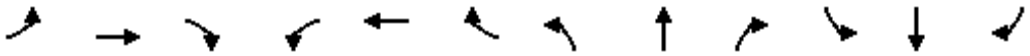


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	25	26	77	77	1
Future Volume (Veh/h)	3	25	26	77	77	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	25	26	77	77	1
Pedestrians		1	1			
Lane Width (m)		3.7	3.7			
Walking Speed (m/s)		1.1	1.1			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	246	156	157	1	1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246	156	157	1	1	
tC, single (s)	7.1	6.5	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.3	
p0 queue free %	100	96	96	93	95	
cM capacity (veh/h)	614	698	698	1074	1569	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	28	103	78
Volume Left	3	0	77
Volume Right	0	77	1
cSH	688	945	1569
Volume to Capacity	0.04	0.11	0.05
Queue Length 95th (m)	1.0	2.8	1.2
Control Delay (s)	10.5	9.3	7.3
Lane LOS	B	A	A
Approach Delay (s)	10.5	9.3	7.3
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	18.0%	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)	72	54	335	19	70	52	465	773	25	120	1051	12
Future Volume (vph)	72	54	335	19	70	52	465	773	25	120	1051	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.98		1.00	1.00		0.99		0.98
Frt			0.850		0.936			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1624	0	3288	3369	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1660	1784	1488	1685	1624	0	3281	3369	0	1684	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		36			3				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	54	335	19	70	52	465	773	25	120	1051	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	54	335	19	122	0	465	798	0	120	1051	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	

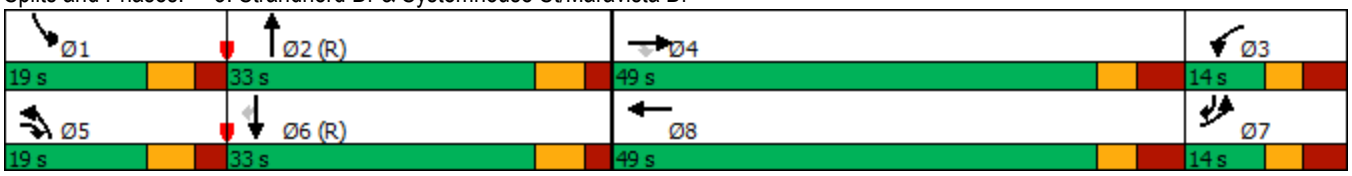


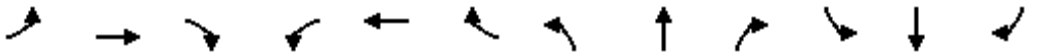
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.6	37.7	58.9	6.5	28.6		20.6	42.1		11.3	32.8	39.8
Actuated g/C Ratio	0.07	0.33	0.51	0.06	0.25		0.18	0.37		0.10	0.29	0.35
v/c Ratio	0.65	0.09	0.40	0.20	0.28		0.79	0.65		0.72	1.09	0.02
Control Delay	78.8	22.3	7.3	56.5	22.3		58.3	38.3		74.6	95.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.8	22.3	7.3	56.5	22.3		58.3	38.3		74.6	95.6	0.1
LOS	E	C	A	E	C		E	D		E	F	A
Approach Delay		20.2			26.9			45.7			92.5	
Approach LOS		C			C			D			F	
Queue Length 50th (m)	16.2	6.3	15.1	4.2	13.1		~70.5	~101.0		26.4	~163.3	0.0
Queue Length 95th (m)	#38.1	16.8	28.3	11.8	26.7		#102.4	#139.6		#51.5	#203.5	0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	111	730	840	102	609		589	1236		178	966	588
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	0.65	0.07	0.40	0.19	0.20		0.79	0.65		0.67	1.09	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 59.1	Intersection LOS: E

Intersection Capacity Utilization 96.7% 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.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	8	33	95	18	76	55	1099	106	49	1118	32
Future Volume (vph)	69	8	33	95	18	76	55	1099	106	49	1118	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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			0.99	1.00			1.00	1.00		1.00		0.99
Frt			0.850		0.879			0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1568	0	3288	3340	0	1695	3390	1517
Flt Permitted	0.696			0.752			0.950			0.950		
Satd. Flow (perm)	1242	1784	1497	1340	1568	0	3285	3340	0	1694	3390	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		76			13				115
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)			1	1			2		1	1		2
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
Adj. Flow (vph)	69	8	33	95	18	76	55	1099	106	49	1118	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	8	33	95	94	0	55	1205	0	49	1118	32
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	38.0	38.0	12.0	38.0	38.0		12.0	60.0		12.0	60.0	60.0
Total Split (%)	34.5%	34.5%	10.9%	34.5%	34.5%		10.9%	54.5%		10.9%	54.5%	54.5%
Maximum Green (s)	30.8	30.8	4.6	30.8	30.8		4.6	52.9		4.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		0	0			1			0	0
Act Effct Green (s)	15.7	15.7	22.2	15.7	15.7		6.7	67.3		8.0	68.5	68.5
Actuated g/C Ratio	0.14	0.14	0.20	0.14	0.14		0.06	0.61		0.07	0.62	0.62
v/c Ratio	0.39	0.03	0.10	0.50	0.33		0.27	0.59		0.40	0.53	0.03
Control Delay	46.9	35.6	6.3	50.7	14.8		52.7	16.4		58.8	14.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.9	35.6	6.3	50.7	14.8		52.7	16.4		58.8	14.9	0.1
LOS	D	D	A	D	B		D	B		E	B	A
Approach Delay		33.9			32.8			18.0			16.3	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	14.0	1.6	0.0	19.6	3.5		5.8	78.6		10.1	66.7	0.0
Queue Length 95th (m)	23.4	5.2	4.9	30.4	15.3		12.4	131.9		#24.5	118.2	0.0
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	347	499	336	375	493		201	2049		122	2110	974
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	0.20	0.02	0.10	0.25	0.19		0.27	0.59		0.40	0.53	0.03

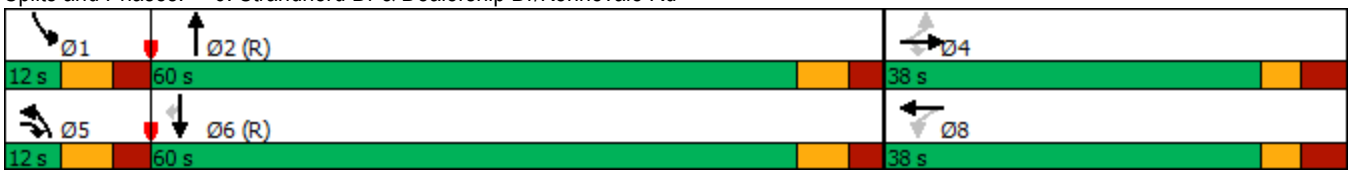
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 18.9		Intersection LOS: B	
Intersection Capacity Utilization 67.1%		ICU Level of Service C	

Analysis Period (min) 15

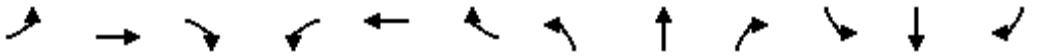
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	48	10	72	53	170	8	1188	99	202	1150	157
Future Volume (vph)	130	48	10	72	53	170	8	1188	99	202	1150	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.98	1.00					0.97
Frt		0.974				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2819	1543	0	1662	1717	1459	1383	3390	1473	3225	3293	1446
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2806	1543	0	1662	1717	1435	1381	3390	1473	3225	3293	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				174			175			135
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	6					6	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 (%)	19%	9%	43%	4%	6%	6%	25%	2%	5%	4%	5%	7%
Adj. Flow (vph)	130	48	10	72	53	170	8	1188	99	202	1150	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	130	58	0	72	53	170	8	1188	99	202	1150	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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

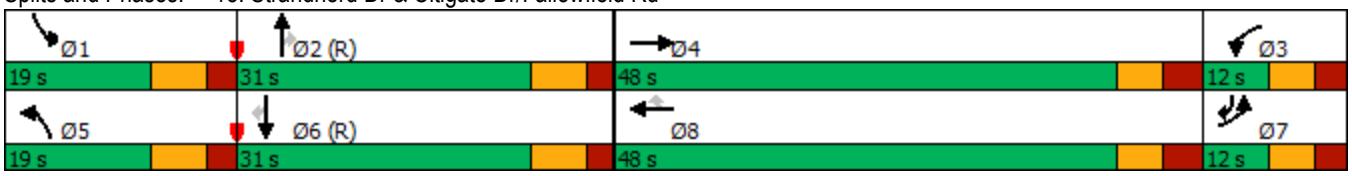


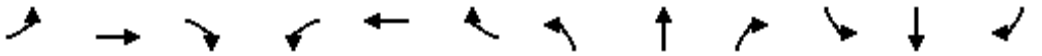
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	12.0	48.0		12.0	48.0	48.0	19.0	31.0	31.0	19.0	31.0	12.0
Total Split (%)	10.9%	43.6%		10.9%	43.6%	43.6%	17.3%	28.2%	28.2%	17.3%	28.2%	10.9%
Maximum Green (s)	5.5	41.0		5.5	41.0	41.0	11.9	24.1	24.1	11.9	24.1	5.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.5	10.7		15.0	10.7	10.7	6.3	48.1	48.1	12.2	64.4	76.3
Actuated g/C Ratio	0.10	0.10		0.14	0.10	0.10	0.06	0.44	0.44	0.11	0.59	0.69
v/c Ratio	0.44	0.37		0.32	0.32	0.57	0.10	0.80	0.13	0.57	0.60	0.15
Control Delay	50.7	46.3		49.1	51.2	14.8	48.8	26.0	1.6	52.4	17.8	1.5
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	50.7	46.3		49.1	51.2	14.8	48.8	26.0	1.6	52.4	17.8	1.5
LOS	D	D		D	D	B	D	C	A	D	B	A
Approach Delay		49.3			29.7			24.3			20.7	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	13.7	9.8		14.7	10.9	0.0	1.7	54.4	0.0	21.5	70.7	0.8
Queue Length 95th (m)	22.6	22.1		28.4	22.5	18.4	m3.4	#170.2	m3.5	32.0	137.7	5.4
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	295	581		226	639	644	149	1482	742	382	1928	1019
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	0.44	0.10		0.32	0.08	0.26	0.05	0.80	0.13	0.53	0.60	0.15

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 24.6	Intersection LOS: C

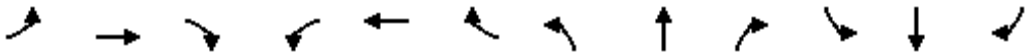
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	147	80	43	137	139	91	886	16	72	910	247
Future Volume (vph)	259	147	80	43	137	139	91	886	16	72	910	247
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.96	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)	1695	1784	1517	1695	1784	1517	3288	3232	1517	1695	3390	1517
Flt Permitted	0.669			0.663			0.950			0.950		
Satd. Flow (perm)	1193	1784	1488	1178	1784	1497	3286	3232	1463	1687	3390	1497
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			139			115			247
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		7	7		1	1		7	7		1
Confl. Bikes (#/hr)			2									
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%	2%	2%	7%	2%	2%	2%	2%
Adj. Flow (vph)	259	147	80	43	137	139	91	886	16	72	910	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	147	80	43	137	139	91	886	16	72	910	247
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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												



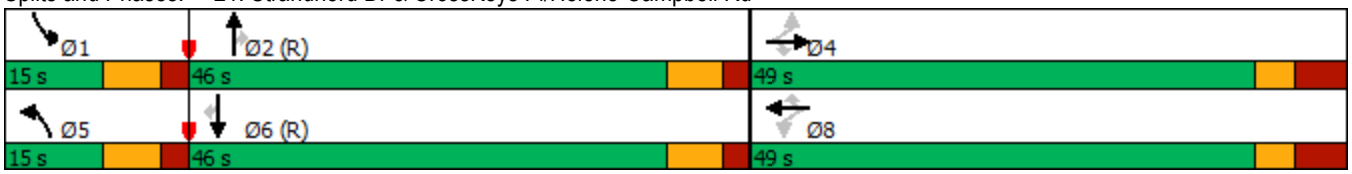
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	44.5%	44.5%	44.5%	44.5%	44.5%	44.5%	13.6%	41.8%	41.8%	13.6%	41.8%	41.8%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	39.2	39.2	8.1	39.2	39.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	8.1	52.5	52.5	9.2	53.6	53.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.48	0.48	0.08	0.49	0.49
v/c Ratio	0.81	0.31	0.17	0.14	0.29	0.28	0.38	0.57	0.02	0.51	0.55	0.29
Control Delay	55.9	31.9	3.1	28.1	31.4	5.6	52.8	25.6	0.1	74.4	16.0	3.4
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	55.9	31.9	3.1	28.1	31.4	5.6	52.8	25.6	0.1	74.4	16.0	3.4
LOS	E	C	A	C	C	A	D	C	A	E	B	A
Approach Delay		39.9			19.7			27.7			16.9	
Approach LOS		D			B			C			B	
Queue Length 50th (m)	51.9	25.2	0.0	7.0	23.3	0.0	9.7	75.0	0.0	15.8	26.0	0.0
Queue Length 95th (m)	71.9	36.4	5.8	13.9	34.2	12.3	17.7	111.9	0.0	m28.2	58.1	20.9
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	447	669	624	442	669	648	257	1543	758	147	1650	855
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	0.22	0.13	0.10	0.20	0.21	0.35	0.57	0.02	0.49	0.55	0.29

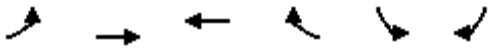
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 108 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	

Intersection Signal Delay: 24.4	Intersection LOS: C
Intersection Capacity Utilization 79.3%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

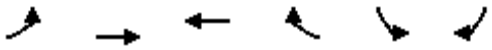




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	68	89	448	388	15
Future Volume (Veh/h)	15	68	89	448	388	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	68	89	448	388	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	537				187	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	537				187	89
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				51	98
cM capacity (veh/h)	1031				790	969

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	83	89	448
Volume Left	15	0	0
Volume Right	0	0	448
cSH	1031	1700	1700
Volume to Capacity	0.01	0.05	0.26
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	1.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	1.6	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

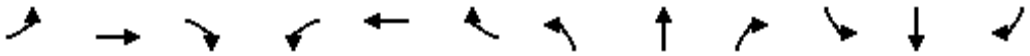


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	22	46	58	61	0
Future Volume (Veh/h)	2	22	46	58	61	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	22	46	58	61	0
Pedestrians		2			3	
Lane Width (m)		3.7			3.7	
Walking Speed (m/s)		1.1			1.1	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	208	124	124	3	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208	124	124	3	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	100	97	94	95	96	
cM capacity (veh/h)	651	735	735	1063	1572	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	104	61
Volume Left	2	0	61
Volume Right	0	58	0
cSH	727	888	1572
Volume to Capacity	0.03	0.12	0.04
Queue Length 95th (m)	0.8	3.0	0.9
Control Delay (s)	10.1	9.6	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.1	9.6	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	18.0%	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)	36	21	71	27	70	74	270	1341	34	59	877	53
Future Volume (vph)	36	21	71	27	70	74	270	1341	34	59	877	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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		0.99		0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.923			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1784	1473	1695	1611	0	3257	3281	0	1662	3202	1199
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1512	1784	1455	1695	1611	0	3252	3281	0	1662	3202	1180
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91		43			2				96
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	4					4	2		1	1		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 (%)	14%	2%	5%	2%	5%	2%	3%	5%	2%	4%	8%	29%
Adj. Flow (vph)	36	21	71	27	70	74	270	1341	34	59	877	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	21	71	27	144	0	270	1375	0	59	877	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



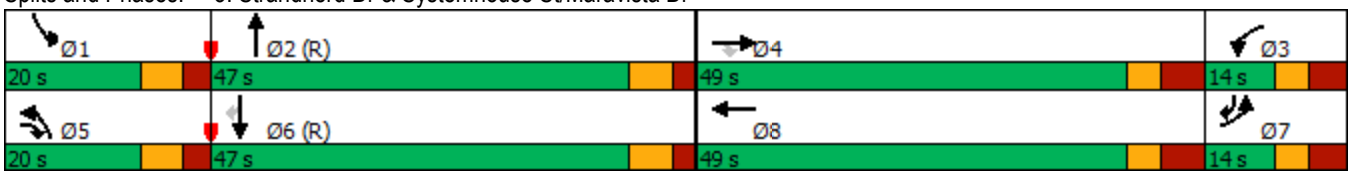
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	20.0	14.0	49.0		20.0	47.0		20.0	47.0	14.0
Total Split (%)	10.8%	37.7%	15.4%	10.8%	37.7%		15.4%	36.2%		15.4%	36.2%	10.8%
Maximum Green (s)	6.8	41.5	13.1	6.8	41.5		13.1	40.4		13.1	40.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	7.1	19.2	33.8	14.0	23.4		13.9	66.6		9.8	59.9	66.5
Actuated g/C Ratio	0.05	0.15	0.26	0.11	0.18		0.11	0.51		0.08	0.46	0.51
v/c Ratio	0.43	0.08	0.16	0.15	0.44		0.78	0.82		0.47	0.59	0.08
Control Delay	75.6	44.6	2.3	52.9	34.0		72.1	35.7		69.2	32.3	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	75.6	44.6	2.3	52.9	34.0		72.1	35.7		69.2	32.3	0.6
LOS	E	D	A	D	C		E	D		E	C	A
Approach Delay		29.9			37.0			41.7			32.8	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	9.0	5.1	0.0	6.5	25.2		34.4	143.1		14.7	81.8	0.0
Queue Length 95th (m)	20.5	10.0	4.1	16.7	36.0		#56.7	#286.4		28.4	#146.3	0.9
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	86	569	448	186	543		353	1682		167	1476	653
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	0.42	0.04	0.16	0.15	0.27		0.76	0.82		0.35	0.59	0.08

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 94 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	

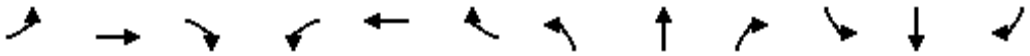
Intersection Signal Delay: 37.9	Intersection LOS: D
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	9	34	77	45	66	149	1500	96	31	809	139
Future Volume (vph)	41	9	34	77	45	66	149	1500	96	31	809	139
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99		1.00					0.99
Frt			0.850		0.911			0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1613	0	3288	3360	0	1647	3293	1473
Flt Permitted	0.685			0.752			0.950			0.950		
Satd. Flow (perm)	1221	1784	1497	1340	1613	0	3286	3360	0	1647	3293	1454
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		59			7				139
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)	1		1	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%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	41	9	34	77	45	66	149	1500	96	31	809	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	9	34	77	111	0	149	1596	0	31	809	139
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

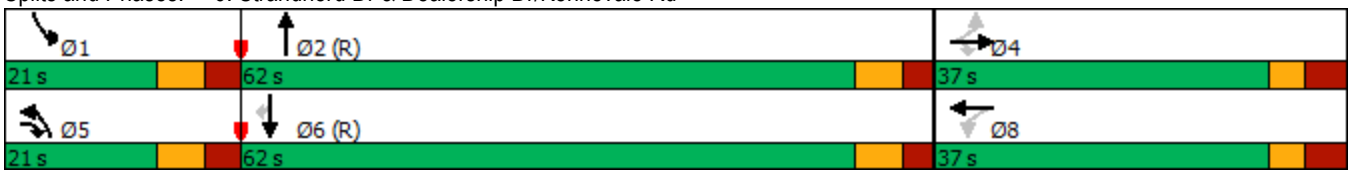


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	21.0	37.0	37.0		21.0	62.0		21.0	62.0	62.0
Total Split (%)	30.8%	30.8%	17.5%	30.8%	30.8%		17.5%	51.7%		17.5%	51.7%	51.7%
Maximum Green (s)	29.8	29.8	13.6	29.8	29.8		13.6	54.9		13.6	54.9	54.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	15.1	15.1	25.7	15.1	15.1		10.8	80.7		7.8	72.4	72.4
Actuated g/C Ratio	0.13	0.13	0.21	0.13	0.13		0.09	0.67		0.06	0.60	0.60
v/c Ratio	0.27	0.04	0.10	0.46	0.44		0.51	0.71		0.29	0.41	0.15
Control Delay	48.7	41.2	7.6	55.2	27.8		57.8	17.7		59.7	14.8	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	48.7	41.2	7.6	55.2	27.8		57.8	17.7		59.7	14.8	3.0
LOS	D	D	A	E	C		E	B		E	B	A
Approach Delay		31.3			39.0			21.1			14.5	
Approach LOS		C			D			C			B	
Queue Length 50th (m)	9.1	2.0	0.0	17.6	11.6		17.5	119.6		7.1	46.1	0.0
Queue Length 95th (m)	17.2	5.9	5.7	28.1	24.7		27.3	#240.7		16.7	88.0	10.7
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	303	443	386	332	444		373	2263		186	1986	932
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	0.14	0.02	0.09	0.23	0.25		0.40	0.71		0.17	0.41	0.15

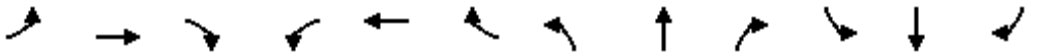
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 29 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 20.4		Intersection LOS: C	

Intersection Capacity Utilization 80.8% 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 Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	23	7	84	67	459	5	1815	60	546	1086	235
Future Volume (vph)	85	23	7	84	67	459	5	1815	60	546	1086	235
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00								0.99	1.00		
Frt		0.965				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1289	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2914	1289	0	1631	1504	1517	1330	3293	1496	3194	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				359			225			230
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	85	23	7	84	67	459	5	1815	60	546	1086	235
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	30	0	84	67	459	5	1815	60	546	1086	235
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

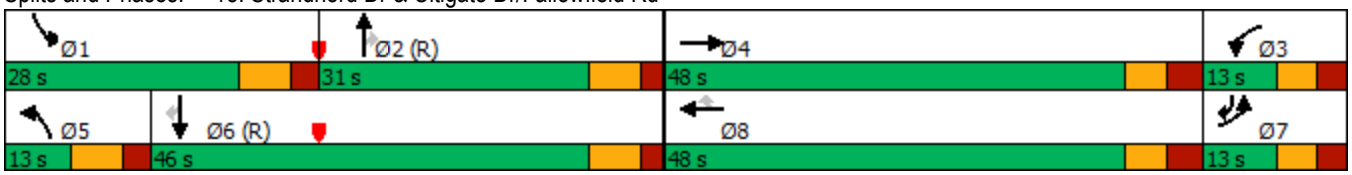


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.0	48.0		13.0	48.0	48.0	13.0	31.0	31.0	28.0	46.0	13.0
Total Split (%)	10.8%	40.0%		10.8%	40.0%	40.0%	10.8%	25.8%	25.8%	23.3%	38.3%	10.8%
Maximum Green (s)	6.5	41.0		6.5	41.0	41.0	5.9	24.1	24.1	20.9	39.1	6.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			1	1		1	1		0	
Act Effct Green (s)	7.9	10.2		24.3	19.8	19.8	5.8	39.2	39.2	25.6	69.3	82.8
Actuated g/C Ratio	0.07	0.08		0.20	0.16	0.16	0.05	0.33	0.33	0.21	0.58	0.69
v/c Ratio	0.45	0.26		0.26	0.27	0.83	0.08	1.69	0.09	0.80	0.58	0.23
Control Delay	61.6	48.0		41.4	42.3	23.8	76.4	338.8	0.3	54.8	21.4	2.3
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	61.6	48.0		41.4	42.3	23.8	76.4	338.8	0.3	54.8	21.4	2.3
LOS	E	D		D	D	C	E	F	A	D	C	A
Approach Delay		58.0			28.3			327.3			28.7	
Approach LOS		E			C			F			C	
Queue Length 50th (m)	10.0	5.2		18.6	14.5	23.2	1.2	~330.4	0.0	61.8	71.1	0.3
Queue Length 95th (m)	18.6	14.7		27.1	21.4	50.0	m1.9	#421.9	m0.0	#101.7	#185.2	11.8
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	192	445		329	513	754	66	1074	639	682	1866	1003
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	0.44	0.07		0.26	0.13	0.61	0.08	1.69	0.09	0.80	0.58	0.23

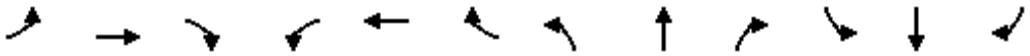
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 101 (84%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.69	
Intersection Signal Delay: 154.9	Intersection LOS: F

Intersection Capacity Utilization 104.1% ICU Level of Service G
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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	27	8	25	43	204	14	1562	23	47	1054	73
Future Volume (vph)	98	27	8	25	43	204	14	1562	23	47	1054	73
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.99	1.00		0.98	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)	1647	1784	1517	1695	1784	1517	3288	3293	1517	1631	3202	1488
Flt Permitted	0.729			0.740			0.950			0.950		
Satd. Flow (perm)	1263	1784	1497	1319	1784	1497	3287	3293	1483	1631	3202	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			159			105			105
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		1	1		1	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 (%)	5%	2%	2%	2%	2%	2%	2%	5%	2%	6%	8%	4%
Adj. Flow (vph)	98	27	8	25	43	204	14	1562	23	47	1054	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	27	8	25	43	204	14	1562	23	47	1054	73
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

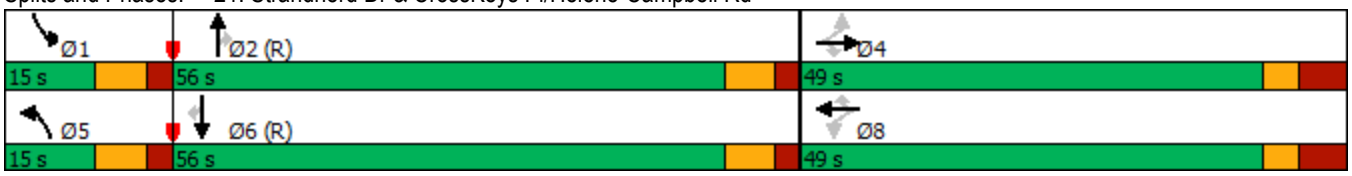


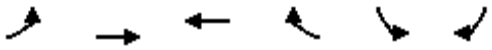
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1		1	1		1	1
Act Effct Green (s)	19.0	19.0	19.0	19.0	19.0	19.0	6.0	74.0	74.0	8.1	81.1	81.1
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.62	0.62	0.07	0.68	0.68
v/c Ratio	0.49	0.10	0.03	0.12	0.15	0.55	0.08	0.77	0.02	0.43	0.49	0.07
Control Delay	51.5	38.4	0.1	39.0	40.0	16.2	55.1	23.3	0.0	67.7	14.5	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	51.5	38.4	0.1	39.0	40.0	16.2	55.1	23.3	0.0	67.7	14.5	5.5
LOS	D	D	A	D	D	B	E	C	A	E	B	A
Approach Delay		45.7			22.0			23.3			16.1	
Approach LOS		D			C			C			B	
Queue Length 50th (m)	22.3	5.8	0.0	5.3	9.2	9.7	1.6	128.6	0.0	11.8	23.0	0.0
Queue Length 95th (m)	29.9	10.7	0.0	10.2	15.0	24.7	5.0	#271.0	0.0	m20.9	97.5	m9.9
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	434	613	578	453	613	619	221	2030	954	118	2163	1025
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	0.23	0.04	0.01	0.06	0.07	0.33	0.06	0.77	0.02	0.40	0.49	0.07

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 73 (61%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 21.4	Intersection LOS: C

Intersection Capacity Utilization 86.5% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

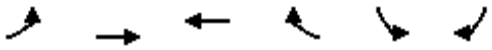




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	41	189	204	85	15
Future Volume (Veh/h)	15	41	189	204	85	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	41	189	204	85	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	393				260	189
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	393				260	189
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				88	98
cM capacity (veh/h)	1166				719	853

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	56	189	204
Volume Left	15	0	0
Volume Right	0	0	204
cSH	1166	1700	1700
Volume to Capacity	0.01	0.11	0.12
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	2.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	2.3	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

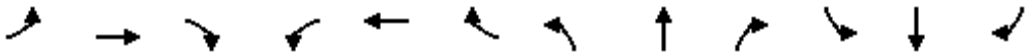


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	62	48	36	1
Future Volume (Veh/h)	2	7	62	48	36	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	7	62	48	36	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	152	72	73	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	72	73	0	0	
tC, single (s)	7.6	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	4.0	4.0	4.0	3.4	2.3	
p0 queue free %	100	99	92	96	98	
cM capacity (veh/h)	634	799	797	1068	1548	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	9	110	37
Volume Left	2	0	36
Volume Right	0	48	1
cSH	755	896	1548
Volume to Capacity	0.01	0.12	0.02
Queue Length 95th (m)	0.3	3.2	0.5
Control Delay (s)	9.8	9.6	7.2
Lane LOS	A	A	A
Approach Delay (s)	9.8	9.6	7.2
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	16.5%	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)	95	68	327	18	61	42	372	1186	27	121	1407	20
Future Volume (vph)	95	68	327	18	61	42	372	1186	27	121	1407	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.939			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1638	0	3257	3344	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1673	1784	1492	1688	1638	0	3252	3344	0	1688	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		32			2				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	95	68	327	18	61	42	372	1186	27	121	1407	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	68	327	18	103	0	372	1213	0	121	1407	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	32.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	11.7	30.2	50.8	12.0	22.5		20.1	45.8		11.8	37.5	48.6
Actuated g/C Ratio	0.10	0.25	0.42	0.10	0.19		0.17	0.38		0.10	0.31	0.40
v/c Ratio	0.58	0.15	0.47	0.11	0.31		0.68	0.95		0.73	1.33	0.03
Control Delay	68.0	36.8	15.1	48.9	27.0		59.3	39.8		56.8	195.5	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	68.0	36.8	15.1	48.9	27.0		59.3	39.8		56.8	195.5	0.5
LOS	E	D	B	D	C		E	D		E	F	A
Approach Delay		28.4			30.3			44.4			182.1	
Approach LOS		C			C			D			F	
Queue Length 50th (m)	21.1	12.1	29.5	4.1	16.2		36.8	138.3		23.8	~213.2	0.0
Queue Length 95th (m)	#59.0	21.3	41.1	11.7	24.2		#88.6	#227.2		m#46.7	#288.7	m0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	165	616	692	170	587		545	1277		166	1058	667
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	0.58	0.11	0.47	0.11	0.18		0.68	0.95		0.73	1.33	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.33	

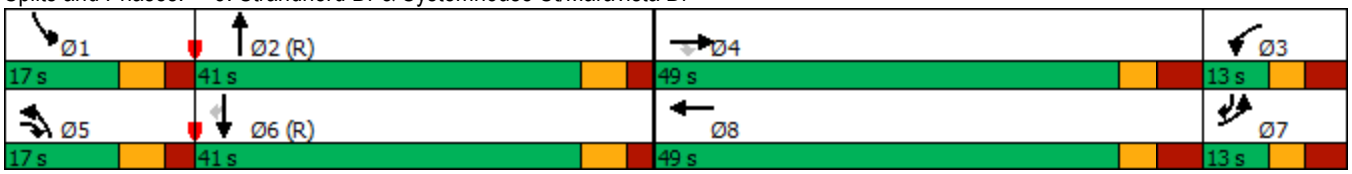
Intersection Signal Delay: 98.8	Intersection LOS: F
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

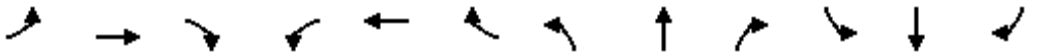
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

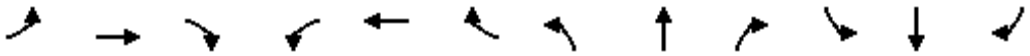
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	41	133	144	16	53	58	1355	107	56	1723	57
Future Volume (vph)	165	41	133	144	16	53	58	1355	107	56	1723	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.885			0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1533	0	3288	3347	0	1695	3390	1517
Flt Permitted	0.712			0.730			0.950			0.950		
Satd. Flow (perm)	1269	1784	1496	1276	1533	0	3288	3347	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		53			9				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	165	41	133	144	16	53	58	1355	107	56	1723	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	41	133	144	69	0	58	1462	0	56	1723	57
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



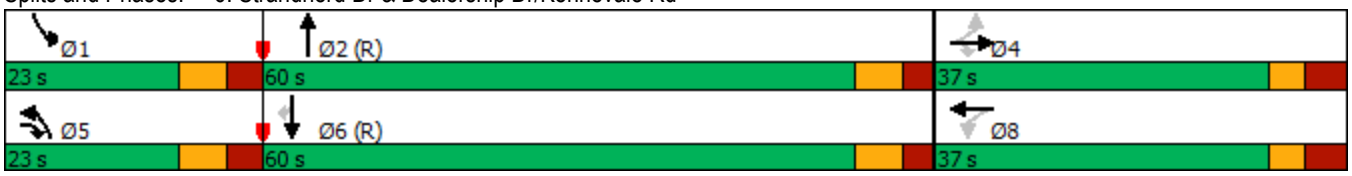
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	23.0	37.0	37.0		23.0	60.0		23.0	60.0	60.0
Total Split (%)	30.8%	30.8%	19.2%	30.8%	30.8%		19.2%	50.0%		19.2%	50.0%	50.0%
Maximum Green (s)	29.8	29.8	15.6	29.8	29.8		15.6	52.9		15.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	20.8	20.8	28.1	20.8	20.8		7.5	70.8		9.3	70.0	70.0
Actuated g/C Ratio	0.17	0.17	0.23	0.17	0.17		0.06	0.59		0.08	0.58	0.58
v/c Ratio	0.75	0.13	0.35	0.65	0.22		0.28	0.74		0.43	0.87	0.06
Control Delay	67.0	40.0	24.1	59.0	15.9		56.7	23.5		31.2	42.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	67.0	40.0	24.1	59.0	15.9		56.7	23.5		31.2	42.8	8.9
LOS	E	D	C	E	B		E	C		C	D	A
Approach Delay		46.9			45.1			24.8			41.4	
Approach LOS		D			D			C			D	
Queue Length 50th (m)	37.3	8.3	17.0	31.9	3.2		6.8	131.6		10.9	222.4	1.8
Queue Length 95th (m)	56.7	16.8	29.0	49.5	14.6		13.4	#215.8		m11.1	m188.4	m3.6
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	315	443	479	316	420		427	1978		220	1977	928
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	0.52	0.09	0.28	0.46	0.16		0.14	0.74		0.25	0.87	0.06

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	

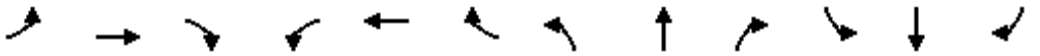
Intersection Signal Delay: 35.6	Intersection LOS: D
Intersection Capacity Utilization 85.6%	ICU Level of Service E
Analysis Period (min) 15	

\# 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: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	79	12	142	67	496	8	1455	140	440	1571	224
Future Volume (vph)	318	79	12	142	67	496	8	1455	140	440	1571	224
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.980				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1669	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1669	0	1692	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				358			160			132
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	318	79	12	142	67	496	8	1455	140	440	1571	224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	91	0	142	67	496	8	1455	140	440	1571	224
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

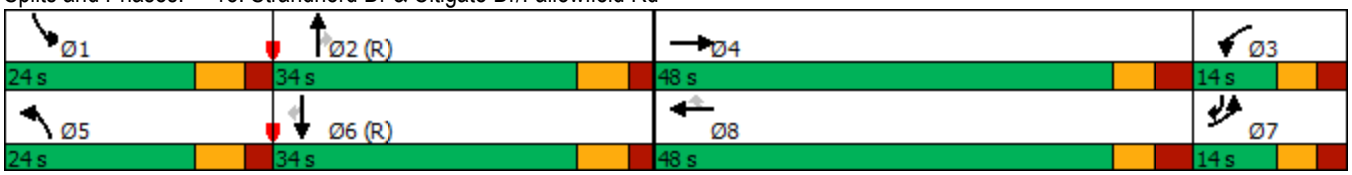


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	14.0	48.0		14.0	48.0	48.0	24.0	34.0	34.0	24.0	34.0	14.0
Total Split (%)	11.7%	40.0%		11.7%	40.0%	40.0%	20.0%	28.3%	28.3%	20.0%	28.3%	11.7%
Maximum Green (s)	7.5	41.0		7.5	41.0	41.0	16.9	27.1	27.1	16.9	27.1	7.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	22.9	11.5		32.2	20.8	20.8	6.5	29.5	29.5	19.4	52.9	81.4
Actuated g/C Ratio	0.19	0.10		0.27	0.17	0.17	0.05	0.25	0.25	0.16	0.44	0.68
v/c Ratio	0.52	0.55		0.31	0.23	0.90	0.12	1.80	0.28	0.83	1.05	0.21
Control Delay	49.2	59.5		37.4	40.0	32.1	79.5	387.4	3.2	63.2	71.3	4.5
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	49.2	59.5		37.4	40.0	32.1	79.5	387.4	3.2	63.2	71.3	4.5
LOS	D	E		D	D	C	E	F	A	E	E	A
Approach Delay		51.5			33.9			352.3			63.0	
Approach LOS		D			C			F			E	
Queue Length 50th (m)	35.3	19.2		27.2	13.8	34.3	2.1	~275.2	2.7	50.4	184.5	5.8
Queue Length 95th (m)	#70.8	34.6		44.6	22.3	67.6	m2.9	#319.0	m2.5	#84.4	#316.6	21.0
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	609	574		454	581	744	173	808	493	531	1494	1051
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	0.52	0.16		0.31	0.12	0.67	0.05	1.80	0.28	0.83	1.05	0.21

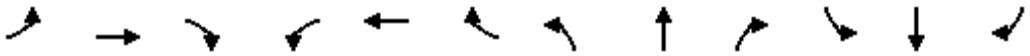
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.80	
Intersection Signal Delay: 151.6	Intersection LOS: F

Intersection Capacity Utilization 101.4% ICU Level of Service G
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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	162	30	37	121	126	41	1271	23	122	1383	198
Future Volume (vph)	234	162	30	37	121	126	41	1271	23	122	1383	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1695	1784	1502	1679	1784	1517	3288	3202	1517	1695	3357	1517
Flt Permitted	0.679			0.624			0.950			0.950		
Satd. Flow (perm)	1209	1784	1468	1093	1784	1495	3286	3202	1479	1694	3357	1494
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			126			105			141
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	3%	3%	2%	2%	2%	8%	2%	2%	3%	2%
Adj. Flow (vph)	234	162	30	37	121	126	41	1271	23	122	1383	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	162	30	37	121	126	41	1271	23	122	1383	198
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

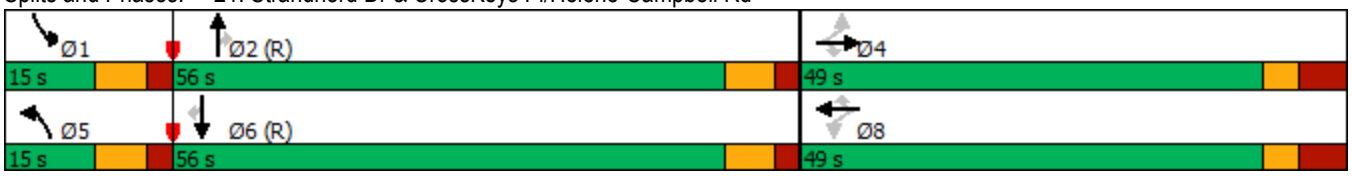


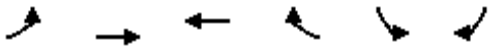
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	28.7	28.7	28.7	28.7	28.7	28.7	7.0	54.6	54.6	15.2	65.4	65.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.46	0.46	0.13	0.54	0.54
v/c Ratio	0.81	0.38	0.07	0.14	0.28	0.28	0.22	0.87	0.03	0.57	0.76	0.23
Control Delay	63.2	39.1	0.3	33.8	37.0	6.8	79.5	18.1	0.0	52.8	30.1	14.9
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	63.2	39.1	0.3	33.8	37.0	6.8	79.5	18.1	0.0	52.8	30.1	14.9
LOS	E	D	A	C	D	A	E	B	A	D	C	B
Approach Delay		49.6			23.2			19.6			29.9	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	52.2	32.0	0.0	6.9	23.4	0.0	5.2	165.7	0.0	28.9	88.8	12.1
Queue Length 95th (m)	73.5	45.9	0.0	14.2	35.4	13.1	m6.0	m#182.8	m0.0	m30.0	m141.5	m25.3
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	416	613	568	376	613	597	223	1457	730	215	1829	878
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	0.26	0.05	0.10	0.20	0.21	0.18	0.87	0.03	0.57	0.76	0.23

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 28.0	Intersection LOS: C

Intersection Capacity Utilization 94.4% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

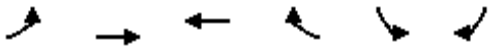




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	168	101	346	320	15
Future Volume (Veh/h)	15	168	101	346	320	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	168	101	346	320	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	447				299	101
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	447				299	101
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				53	98
cM capacity (veh/h)	1113				683	954

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	183	101	346
Volume Left	15	0	0
Volume Right	0	0	346
cSH	1113	1700	1700
Volume to Capacity	0.01	0.06	0.20
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	0.8	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.8	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

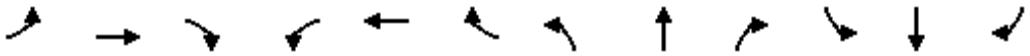


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	25	26	77	77	1
Future Volume (Veh/h)	3	25	26	77	77	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	25	26	77	77	1
Pedestrians		1	1			
Lane Width (m)		3.7	3.7			
Walking Speed (m/s)		1.1	1.1			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	246	156	157	1	1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246	156	157	1	1	
tC, single (s)	7.1	6.5	6.5	6.2	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.3	
p0 queue free %	100	96	96	93	95	
cM capacity (veh/h)	614	698	698	1074	1569	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	28	103	78
Volume Left	3	0	77
Volume Right	0	77	1
cSH	688	945	1569
Volume to Capacity	0.04	0.11	0.05
Queue Length 95th (m)	1.0	2.8	1.2
Control Delay (s)	10.5	9.3	7.3
Lane LOS	B	A	A
Approach Delay (s)	10.5	9.3	7.3
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	18.0%	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)	72	54	335	19	70	52	465	843	25	120	1143	12
Future Volume (vph)	72	54	335	19	70	52	465	843	25	120	1143	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.98		1.00	1.00		0.99		0.98
Frt			0.850		0.936			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1624	0	3288	3373	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1660	1784	1488	1685	1624	0	3282	3373	0	1685	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		36			2				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	54	335	19	70	52	465	843	25	120	1143	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	54	335	19	122	0	465	868	0	120	1143	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	

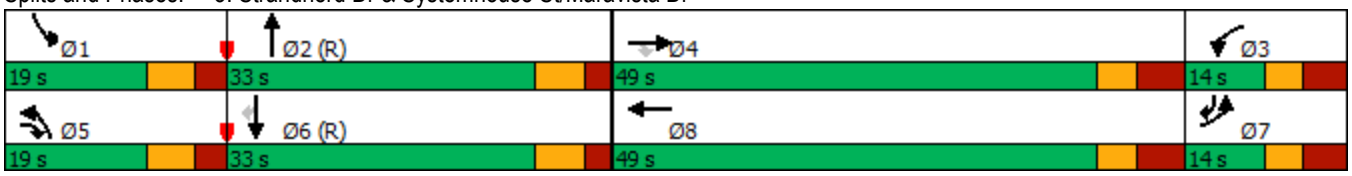


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.6	37.7	58.9	6.5	28.6		20.6	42.1		11.3	32.8	39.8
Actuated g/C Ratio	0.07	0.33	0.51	0.06	0.25		0.18	0.37		0.10	0.29	0.35
v/c Ratio	0.65	0.09	0.40	0.20	0.28		0.79	0.70		0.72	1.18	0.02
Control Delay	78.8	22.3	7.4	56.5	22.3		58.3	39.8		74.6	130.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.8	22.3	7.4	56.5	22.3		58.3	39.8		74.6	130.3	0.1
LOS	E	C	A	E	C		E	D		E	F	A
Approach Delay		20.3			26.9			46.2			123.9	
Approach LOS		C			C			D			F	
Queue Length 50th (m)	16.2	6.3	15.2	4.2	13.1		~70.5	~118.6		26.4	~186.0	0.0
Queue Length 95th (m)	#38.1	16.8	28.3	11.8	26.7		#102.4	#158.1		#51.5	#227.0	0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	111	730	840	102	609		589	1237		178	966	588
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	0.65	0.07	0.40	0.19	0.20		0.79	0.70		0.67	1.18	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 72.5	Intersection LOS: E

Intersection Capacity Utilization 99.4% 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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	8	33	95	18	76	55	1186	106	49	1211	32
Future Volume (vph)	69	8	33	95	18	76	55	1186	106	49	1211	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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			0.99	1.00			1.00	1.00		1.00		0.99
Frt			0.850		0.879			0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1568	0	3288	3343	0	1695	3390	1517
Flt Permitted	0.696			0.752			0.950			0.950		
Satd. Flow (perm)	1242	1784	1497	1340	1568	0	3286	3343	0	1694	3390	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		76			12				115
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		79.8			439.9			933.3			526.0	
Travel Time (s)		5.7			39.6			48.0			27.1	
Confl. Peds. (#/hr)			1	1			2		1	1		2
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
Adj. Flow (vph)	69	8	33	95	18	76	55	1186	106	49	1211	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	8	33	95	94	0	55	1292	0	49	1211	32
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	38.0	38.0	12.0	38.0	38.0		12.0	60.0		12.0	60.0	60.0
Total Split (%)	34.5%	34.5%	10.9%	34.5%	34.5%		10.9%	54.5%		10.9%	54.5%	54.5%
Maximum Green (s)	30.8	30.8	4.6	30.8	30.8		4.6	52.9		4.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		0	0			1			0	0
Act Effct Green (s)	15.7	15.7	22.2	15.7	15.7		6.7	67.3		8.0	68.5	68.5
Actuated g/C Ratio	0.14	0.14	0.20	0.14	0.14		0.06	0.61		0.07	0.62	0.62
v/c Ratio	0.39	0.03	0.10	0.50	0.33		0.27	0.63		0.40	0.57	0.03
Control Delay	46.9	35.6	6.3	50.7	14.8		52.7	17.4		58.8	15.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.9	35.6	6.3	50.7	14.8		52.7	17.4		58.8	15.7	0.1
LOS	D	D	A	D	B		D	B		E	B	A
Approach Delay		33.9			32.8			18.8			17.0	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	14.0	1.6	0.0	19.6	3.5		5.8	88.0		10.1	75.4	0.0
Queue Length 95th (m)	23.4	5.2	4.9	30.4	15.3		12.4	147.0		#24.5	132.7	0.0
Internal Link Dist (m)		55.8			415.9			909.3			502.0	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	347	499	336	375	493		201	2051		122	2110	974
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	0.20	0.02	0.10	0.25	0.19		0.27	0.63		0.40	0.57	0.03

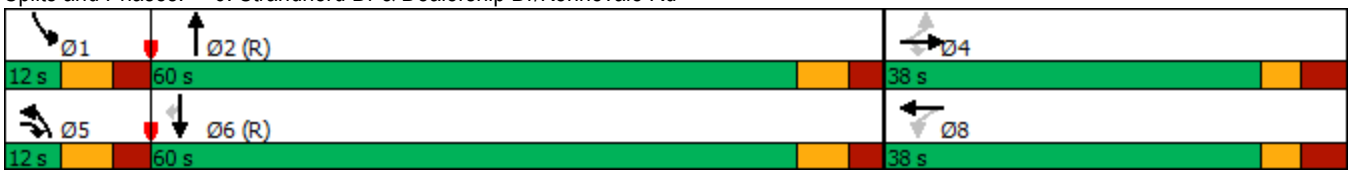
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 67.1%		ICU Level of Service C	

Analysis Period (min) 15

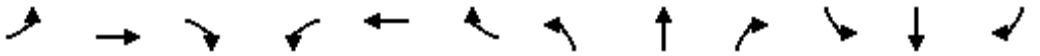
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	48	10	72	53	170	8	1281	99	202	1248	157
Future Volume (vph)	130	48	10	72	53	170	8	1281	99	202	1248	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.98	1.00					0.97
Frt		0.974				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2819	1543	0	1662	1717	1459	1383	3390	1473	3225	3293	1446
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2806	1543	0	1662	1717	1435	1381	3390	1473	3225	3293	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				174			175			124
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	6					6	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 (%)	19%	9%	43%	4%	6%	6%	25%	2%	5%	4%	5%	7%
Adj. Flow (vph)	130	48	10	72	53	170	8	1281	99	202	1248	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	130	58	0	72	53	170	8	1281	99	202	1248	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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

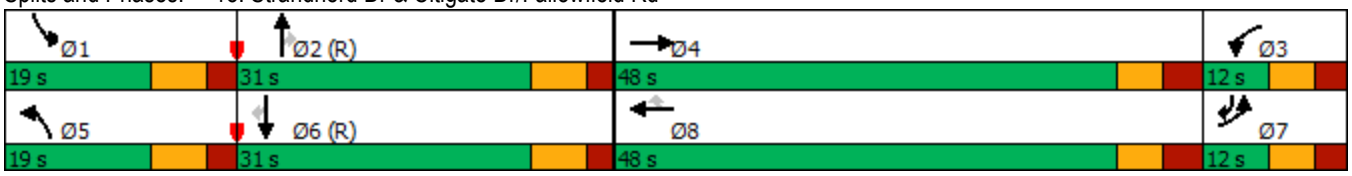


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	12.0	48.0		12.0	48.0	48.0	19.0	31.0	31.0	19.0	31.0	12.0
Total Split (%)	10.9%	43.6%		10.9%	43.6%	43.6%	17.3%	28.2%	28.2%	17.3%	28.2%	10.9%
Maximum Green (s)	5.5	41.0		5.5	41.0	41.0	11.9	24.1	24.1	11.9	24.1	5.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.5	10.7		15.0	10.7	10.7	6.3	48.1	48.1	12.2	64.4	76.3
Actuated g/C Ratio	0.10	0.10		0.14	0.10	0.10	0.06	0.44	0.44	0.11	0.59	0.69
v/c Ratio	0.44	0.37		0.32	0.32	0.57	0.10	0.86	0.13	0.57	0.65	0.15
Control Delay	50.7	46.3		49.1	51.2	14.8	47.6	29.2	1.9	52.4	19.0	1.6
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	50.7	46.3		49.1	51.2	14.8	47.6	29.2	1.9	52.4	19.0	1.6
LOS	D	D		D	D	B	D	C	A	D	B	A
Approach Delay		49.3			29.7			27.4			21.5	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	13.7	9.8		14.7	10.9	0.0	1.8	57.4	0.0	21.5	80.5	1.3
Queue Length 95th (m)	22.6	22.1		28.4	22.5	18.4	m3.3	#192.5	m3.8	32.0	156.0	6.0
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	295	581		226	639	644	149	1482	742	382	1928	1016
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	0.44	0.10		0.32	0.08	0.26	0.05	0.86	0.13	0.53	0.65	0.15

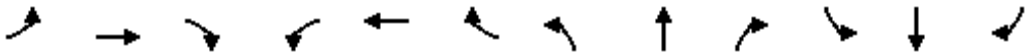
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 26.0	Intersection LOS: C

Intersection Capacity Utilization 76.1% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	147	80	43	137	139	91	962	16	72	995	247
Future Volume (vph)	259	147	80	43	137	139	91	962	16	72	995	247
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.96	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)	1695	1784	1517	1695	1784	1517	3288	3232	1517	1695	3390	1517
Flt Permitted	0.669			0.663			0.950			0.950		
Satd. Flow (perm)	1193	1784	1488	1178	1784	1497	3287	3232	1463	1688	3390	1497
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			139			115			245
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		7	7		1	1		7	7		1
Confl. Bikes (#/hr)			2									
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%	2%	2%	7%	2%	2%	2%	2%
Adj. Flow (vph)	259	147	80	43	137	139	91	962	16	72	995	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	147	80	43	137	139	91	962	16	72	995	247
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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												



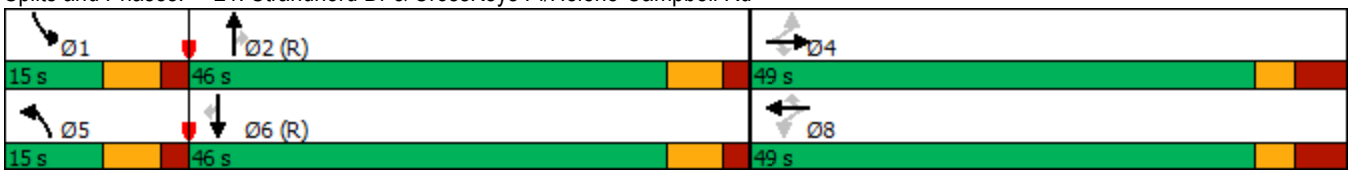
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	44.5%	44.5%	44.5%	44.5%	44.5%	44.5%	13.6%	41.8%	41.8%	13.6%	41.8%	41.8%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	39.2	39.2	8.1	39.2	39.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	8.1	52.5	52.5	9.2	53.6	53.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.48	0.48	0.08	0.49	0.49
v/c Ratio	0.81	0.31	0.17	0.14	0.29	0.28	0.38	0.62	0.02	0.51	0.60	0.29
Control Delay	55.9	31.9	3.1	28.1	31.4	5.6	52.8	26.8	0.1	73.5	16.8	3.6
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	55.9	31.9	3.1	28.1	31.4	5.6	52.8	26.8	0.1	73.5	16.8	3.6
LOS	E	C	A	C	C	A	D	C	A	E	B	A
Approach Delay		39.9			19.7			28.6			17.5	
Approach LOS		D			B			C			B	
Queue Length 50th (m)	51.9	25.2	0.0	7.0	23.3	0.0	9.7	84.1	0.0	15.9	27.9	0.0
Queue Length 95th (m)	71.9	36.4	5.8	13.9	34.2	12.3	17.7	125.0	0.0	m25.9	64.5	22.3
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	447	669	624	442	669	648	257	1543	758	147	1650	854
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	0.22	0.13	0.10	0.20	0.21	0.35	0.62	0.02	0.49	0.60	0.29

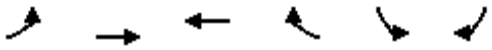
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 108 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	

Intersection Signal Delay: 24.8	Intersection LOS: C
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

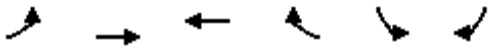




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	68	89	448	388	15
Future Volume (Veh/h)	15	68	89	448	388	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	68	89	448	388	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			156			
pX, platoon unblocked						
vC, conflicting volume	537				187	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	537				187	89
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				51	98
cM capacity (veh/h)	1031				790	969

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	83	89	448
Volume Left	15	0	0
Volume Right	0	0	448
cSH	1031	1700	1700
Volume to Capacity	0.01	0.05	0.26
Queue Length 95th (m)	0.3	0.0	0.0
Control Delay (s)	1.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	1.6	0.0	
Approach LOS			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

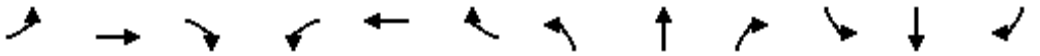


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	22	46	58	61	0
Future Volume (Veh/h)	2	22	46	58	61	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	22	46	58	61	0
Pedestrians		2			3	
Lane Width (m)		3.7			3.7	
Walking Speed (m/s)		1.1			1.1	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	208	124	124	3	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208	124	124	3	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	100	97	94	95	96	
cM capacity (veh/h)	651	735	735	1063	1572	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	104	61
Volume Left	2	0	61
Volume Right	0	58	0
cSH	727	888	1572
Volume to Capacity	0.03	0.12	0.04
Queue Length 95th (m)	0.8	3.0	0.9
Control Delay (s)	10.1	9.6	7.4
Lane LOS	B	A	A
Approach Delay (s)	10.1	9.6	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	18.0%	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)	85	23	7	84	67	459	5	1245	60	546	1086	235
Future Volume (vph)	85	23	7	84	67	459	5	1245	60	546	1086	235
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00								0.99	1.00		
Frt		0.965				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1289	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2914	1289	0	1631	1504	1517	1330	3293	1496	3193	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				285			180			229
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)	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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	85	23	7	84	67	459	5	1245	60	546	1086	235
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	30	0	84	67	459	5	1245	60	546	1086	235
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

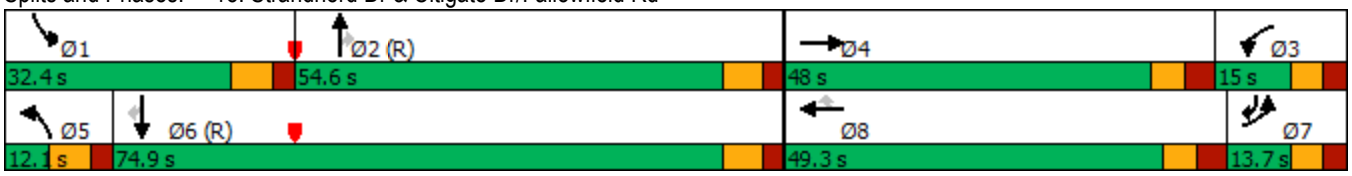


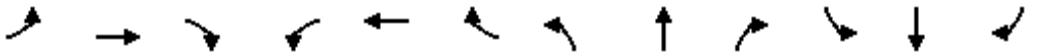
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.7	48.0		15.0	49.3	49.3	12.1	54.6	54.6	32.4	74.9	13.7
Total Split (%)	9.1%	32.0%		10.0%	32.9%	32.9%	8.1%	36.4%	36.4%	21.6%	49.9%	9.1%
Maximum Green (s)	7.2	41.0		8.5	42.3	42.3	5.0	47.7	47.7	25.3	68.0	7.2
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			1	1		1	1		0	
Act Effct Green (s)	8.7	10.4		31.5	26.4	26.4	5.7	56.4	56.4	30.9	92.0	106.3
Actuated g/C Ratio	0.06	0.07		0.21	0.18	0.18	0.04	0.38	0.38	0.21	0.61	0.71
v/c Ratio	0.50	0.31		0.25	0.25	0.91	0.10	1.00	0.09	0.83	0.55	0.23
Control Delay	79.1	62.9		50.2	51.5	45.2	74.0	72.7	0.3	68.5	21.1	1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.1	62.9		50.2	51.5	45.2	74.0	72.7	0.3	68.5	21.1	1.9
LOS	E	E		D	D	D	E	E	A	E	C	A
Approach Delay		74.8			46.6			69.4			32.5	
Approach LOS		E			D			E			C	
Queue Length 50th (m)	12.7	6.6		22.0	17.4	56.6	1.5	~217.4	0.0	79.0	92.3	0.4
Queue Length 95th (m)	#23.1	17.5		35.0	28.0	91.8	6.3	#276.6	0.0	#124.4	164.8	10.6
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	170	357		342	424	632	50	1239	675	658	1983	1027
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	0.50	0.08		0.25	0.16	0.73	0.10	1.00	0.09	0.83	0.55	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 48.4		Intersection LOS: D	

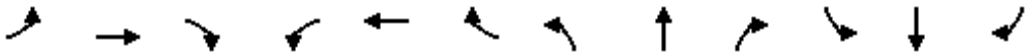
Intersection Capacity Utilization 87.5% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	68	327	18	61	42	372	1186	27	121	1063	20
Future Volume (vph)	95	68	327	18	61	42	372	1186	27	121	1063	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.939			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1638	0	3257	3344	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1673	1784	1492	1688	1638	0	3249	3344	0	1688	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103		32			2				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	95	68	327	18	61	42	372	1186	27	121	1063	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	68	327	18	103	0	372	1213	0	121	1063	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



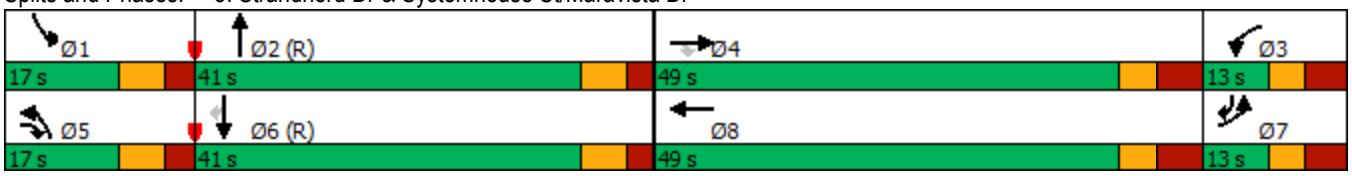
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	32.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	11.7	30.2	50.8	12.0	22.5		20.1	45.8		11.8	37.5	48.6
Actuated g/C Ratio	0.10	0.25	0.42	0.10	0.19		0.17	0.38		0.10	0.31	0.40
v/c Ratio	0.58	0.15	0.47	0.11	0.31		0.68	0.95		0.73	1.00	0.03
Control Delay	68.0	36.8	14.7	48.9	27.0		59.3	39.8		54.0	81.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	68.0	36.8	14.7	48.9	27.0		59.3	39.8		54.0	81.6	0.7
LOS	E	D	B	D	C		E	D		D	F	A
Approach Delay		28.1			30.3			44.4			77.5	
Approach LOS		C			C			D			E	
Queue Length 50th (m)	21.1	12.1	28.8	4.1	16.2		36.8	138.3		27.4	141.5	0.0
Queue Length 95th (m)	#59.0	21.3	40.4	11.7	24.2		#88.6	#227.2		m#45.4	#196.1	m0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	165	616	695	170	587		545	1277		166	1058	667
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	0.58	0.11	0.47	0.11	0.18		0.68	0.95		0.73	1.00	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	

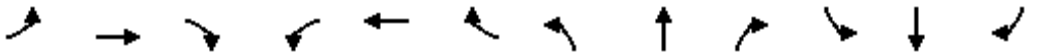
Intersection Signal Delay: 53.3	Intersection LOS: D
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

\# 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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	79	12	142	67	496	8	1050	140	440	1571	224
Future Volume (vph)	318	79	12	142	67	496	8	1050	140	440	1571	224
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.980				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1669	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1669	0	1692	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				254			180			154
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			234.9	
Travel Time (s)		18.4			19.3			18.2			16.9	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	318	79	12	142	67	496	8	1050	140	440	1571	224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	91	0	142	67	496	8	1050	140	440	1571	224
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

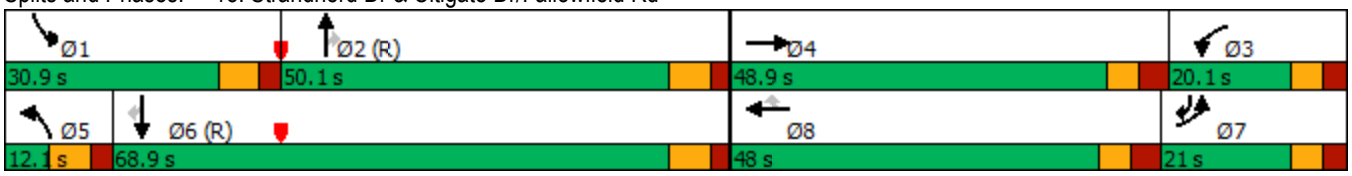


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	21.0	48.9		20.1	48.0	48.0	12.1	50.1	50.1	30.9	68.9	21.0
Total Split (%)	14.0%	32.6%		13.4%	32.0%	32.0%	8.1%	33.4%	33.4%	20.6%	45.9%	14.0%
Maximum Green (s)	14.5	41.9		13.6	41.0	41.0	5.0	43.2	43.2	23.8	62.0	14.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	18.6	13.2		38.7	33.3	33.3	5.2	47.8	47.8	22.9	75.3	99.5
Actuated g/C Ratio	0.12	0.09		0.26	0.22	0.22	0.03	0.32	0.32	0.15	0.50	0.66
v/c Ratio	0.81	0.61		0.32	0.18	0.94	0.19	1.00	0.23	0.88	0.92	0.22
Control Delay	79.3	78.1		47.4	45.6	53.8	80.6	78.6	2.8	81.1	45.3	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
Total Delay	79.3	78.1		47.4	45.6	53.8	80.6	78.6	2.8	81.1	45.3	4.1
LOS	E	E		D	D	D	F	E	A	F	D	A
Approach Delay		79.0			51.7			69.7			48.2	
Approach LOS		E			D			E			D	
Queue Length 50th (m)	47.8	25.1		33.3	15.9	78.0	2.4	~186.8	0.0	66.4	227.5	6.8
Queue Length 95th (m)	#83.1	42.4		55.4	28.1	#134.3	8.4	#229.1	7.0	#91.2	#324.6	18.0
Internal Link Dist (m)		231.8			244.7			229.1			210.9	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	395	469		437	464	591	43	1048	606	521	1702	1038
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	0.19		0.32	0.14	0.84	0.19	1.00	0.23	0.84	0.92	0.22

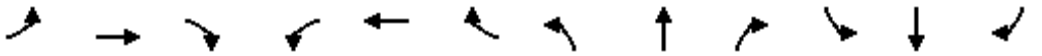
Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 57.2	Intersection LOS: E

Intersection Capacity Utilization 89.6% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	54	335	19	70	52	465	843	25	120	970	12
Future Volume (vph)	72	54	335	19	70	52	465	843	25	120	970	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.98		1.00	1.00		0.99		0.98
Frt			0.850		0.936			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1624	0	3288	3373	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1660	1784	1488	1685	1624	0	3281	3373	0	1685	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		36			2				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			526.0			445.2	
Travel Time (s)		11.3			36.7			27.1			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	54	335	19	70	52	465	843	25	120	970	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	54	335	19	122	0	465	868	0	120	970	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	

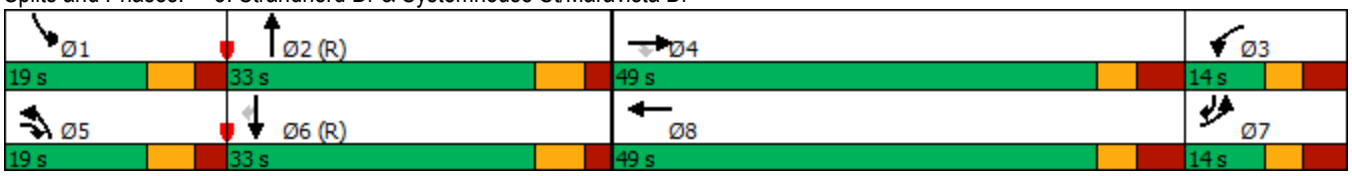


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.6	37.7	58.9	6.5	28.6		20.6	42.1		11.3	32.8	39.8
Actuated g/C Ratio	0.07	0.33	0.51	0.06	0.25		0.18	0.37		0.10	0.29	0.35
v/c Ratio	0.65	0.09	0.40	0.20	0.28		0.79	0.70		0.72	1.00	0.02
Control Delay	78.8	22.3	7.3	56.5	22.3		58.3	39.8		74.6	72.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.8	22.3	7.3	56.5	22.3		58.3	39.8		74.6	72.3	0.1
LOS	E	C	A	E	C		E	D		E	E	A
Approach Delay		20.2			26.9			46.2			71.7	
Approach LOS		C			C			D			E	
Queue Length 50th (m)	16.2	6.3	15.1	4.2	13.1		~70.5	~118.6		26.4	~143.3	0.0
Queue Length 95th (m)	#38.1	16.8	28.3	11.8	26.7		#102.4	#158.1		#51.5	#183.1	0.0
Internal Link Dist (m)		132.5			384.1			502.0			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	111	730	840	102	609		589	1237		178	966	588
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	0.65	0.07	0.40	0.19	0.20		0.79	0.70		0.67	1.00	0.02

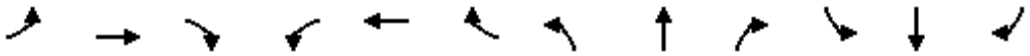
Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 50.6	Intersection LOS: D

Intersection Capacity Utilization 94.4% 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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	23	66	27	64	74	232	1154	34	59	746	11
Future Volume (vph)	30	23	66	27	64	74	232	1154	34	59	746	11
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.920			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1592	0	3257	3340	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1672	1784	1491	1687	1592	0	3245	3340	0	1687	3390	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91		47			2				96
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	30	23	66	27	64	74	232	1154	34	59	746	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	23	66	27	138	0	232	1188	0	59	746	11
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



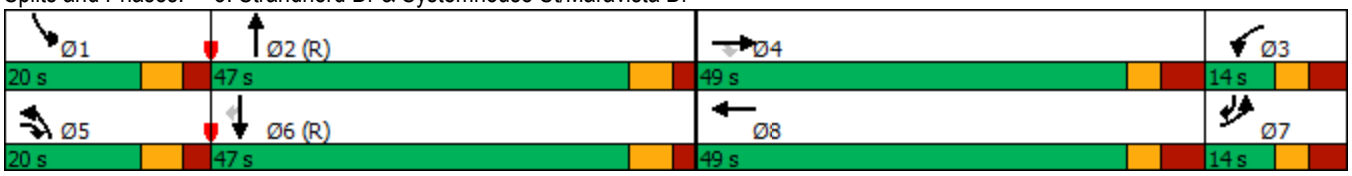
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	20.0	14.0	49.0		20.0	47.0		20.0	47.0	14.0
Total Split (%)	10.8%	37.7%	15.4%	10.8%	37.7%		15.4%	36.2%		15.4%	36.2%	10.8%
Maximum Green (s)	6.8	41.5	13.1	6.8	41.5		13.1	40.4		13.1	40.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	6.9	16.3	29.7	13.6	23.1		12.9	70.0		9.7	64.3	70.6
Actuated g/C Ratio	0.05	0.13	0.23	0.10	0.18		0.10	0.54		0.07	0.49	0.54
v/c Ratio	0.34	0.10	0.16	0.15	0.43		0.72	0.66		0.46	0.45	0.01
Control Delay	69.4	46.1	2.0	53.2	31.7		67.5	31.7		68.8	27.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	69.4	46.1	2.0	53.2	31.7		67.5	31.7		68.8	27.3	0.0
LOS	E	D	A	D	C		E	C		E	C	A
Approach Delay		27.5			35.3			37.5			29.9	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	7.5	5.6	0.0	6.6	22.7		29.8	91.9		14.7	61.1	0.0
Queue Length 95th (m)	17.7	10.7	3.2	16.7	33.6		#45.6	#224.7		28.4	111.1	0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	93	569	419	182	540		335	1799		170	1676	855
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	0.32	0.04	0.16	0.15	0.26		0.69	0.66		0.35	0.45	0.01

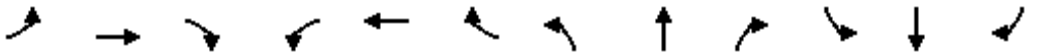
Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 94 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	

Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 84.0%	ICU Level of Service E
Analysis Period (min) 15	

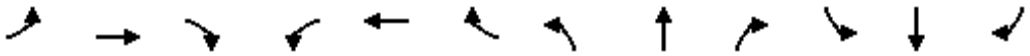
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	5	23	77	19	66	72	1326	96	31	728	71
Future Volume (vph)	31	5	23	77	19	66	72	1326	96	31	728	71
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.884			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1531	0	3288	3351	0	1695	3390	1517
Flt Permitted	0.702			0.754			0.950			0.950		
Satd. Flow (perm)	1251	1784	1496	1318	1531	0	3288	3351	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		66			8				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		342.2			439.9			933.3			268.5	
Travel Time (s)		24.6			39.6			48.0			13.8	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	31	5	23	77	19	66	72	1326	96	31	728	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	5	23	77	85	0	72	1422	0	31	728	71
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

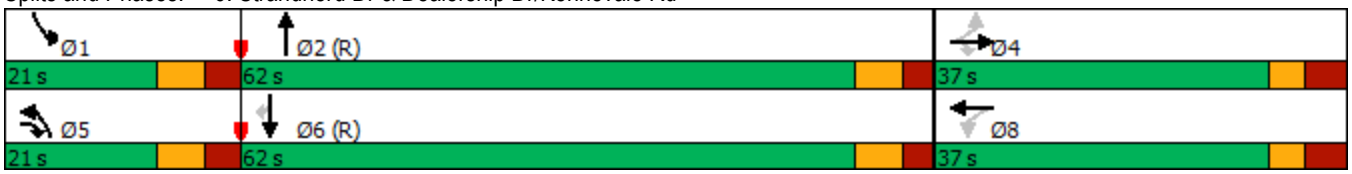


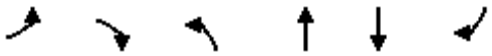
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	21.0	37.0	37.0		21.0	62.0		21.0	62.0	62.0
Total Split (%)	30.8%	30.8%	17.5%	30.8%	30.8%		17.5%	51.7%		17.5%	51.7%	51.7%
Maximum Green (s)	29.8	29.8	13.6	29.8	29.8		13.6	54.9		13.6	54.9	54.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	15.2	15.2	23.1	15.2	15.2		8.0	80.7		7.7	77.7	77.7
Actuated g/C Ratio	0.13	0.13	0.19	0.13	0.13		0.07	0.67		0.06	0.65	0.65
v/c Ratio	0.20	0.02	0.07	0.46	0.34		0.33	0.63		0.29	0.33	0.07
Control Delay	46.4	40.4	4.1	55.5	18.2		56.9	15.9		59.5	11.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.4	40.4	4.1	55.5	18.2		56.9	15.9		59.5	11.9	1.2
LOS	D	D	A	E	B		E	B		E	B	A
Approach Delay		29.4			35.9			17.8			12.8	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	6.8	1.1	0.0	17.5	4.1		8.5	97.3		7.1	37.2	0.0
Queue Length 95th (m)	13.9	4.2	3.2	28.1	16.2		15.6	183.0		16.7	71.8	3.2
Internal Link Dist (m)		318.2			415.9			909.3			244.5	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	310	443	387	327	429		372	2256		192	2195	1019
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	0.10	0.01	0.06	0.24	0.20		0.19	0.63		0.16	0.33	0.07

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	

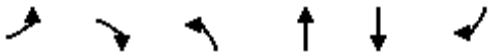
Intersection Signal Delay: 17.6	Intersection LOS: B
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd





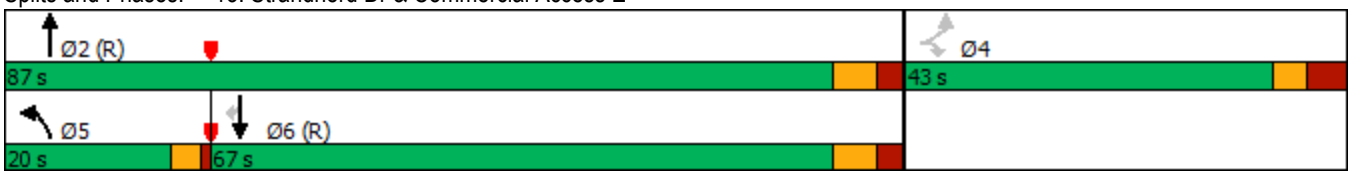
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	47	37	94	1376	790	51
Future Volume (vph)	47	37	94	1376	790	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						48
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	47	37	94	1376	790	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	37	94	1376	790	51
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6



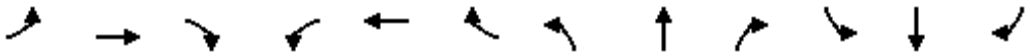
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	43.0	43.0	20.0	87.0	67.0	67.0
Total Split (%)	33.1%	33.1%	15.4%	66.9%	51.5%	51.5%
Maximum Green (s)	35.6	35.6	16.0	80.1	60.1	60.1
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	14.9	14.9	12.5	105.7	87.8	87.8
Actuated g/C Ratio	0.11	0.11	0.10	0.81	0.68	0.68
v/c Ratio	0.24	0.21	0.58	0.50	0.35	0.05
Control Delay	52.2	51.6	69.6	7.1	12.9	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	51.6	69.6	7.1	12.9	3.6
LOS	D	D	E	A	B	A
Approach Delay	51.9			11.1	12.3	
Approach LOS	D			B	B	
Queue Length 50th (m)	11.7	9.1	23.4	47.1	77.0	4.2
Queue Length 95th (m)	19.1	16.3	39.8	130.7	130.6	10.3
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	464	415	212	2755	2289	1039
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.09	0.44	0.50	0.35	0.05

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: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	27	7	84	52	459	5	1587	67	546	899	121
Future Volume (vph)	72	27	7	84	52	459	5	1587	67	546	899	121
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.969				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1299	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2917	1299	0	1628	1504	1517	1330	3293	1517	3195	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				367			225			121
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)			2	2								
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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	72	27	7	84	52	459	5	1587	67	546	899	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	34	0	84	52	459	5	1587	67	546	899	121
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

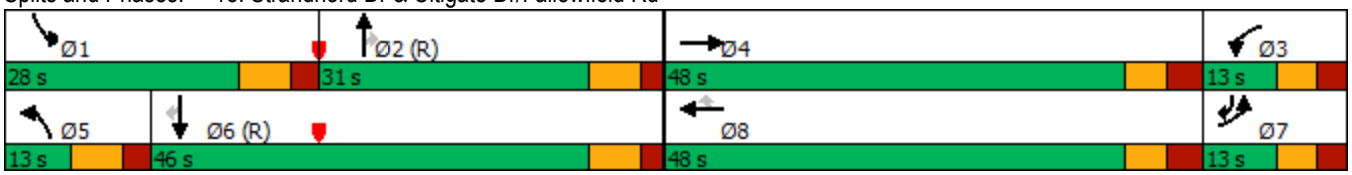


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.0	48.0		13.0	48.0	48.0	13.0	31.0	31.0	28.0	46.0	13.0
Total Split (%)	10.8%	40.0%		10.8%	40.0%	40.0%	10.8%	25.8%	25.8%	23.3%	38.3%	10.8%
Maximum Green (s)	6.5	41.0		6.5	41.0	41.0	5.9	24.1	24.1	20.9	39.1	6.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			1	1		1	1		0	
Act Effct Green (s)	7.5	10.3		23.5	19.5	19.5	5.8	39.8	39.8	25.6	70.0	83.1
Actuated g/C Ratio	0.06	0.09		0.20	0.16	0.16	0.05	0.33	0.33	0.21	0.58	0.69
v/c Ratio	0.40	0.29		0.26	0.21	0.83	0.08	1.45	0.10	0.80	0.48	0.12
Control Delay	60.6	49.6		42.2	40.8	22.7	80.0	236.1	0.4	54.8	19.3	2.4
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	60.6	49.6		42.2	40.8	22.7	80.0	236.1	0.4	54.8	19.3	2.4
LOS	E	D		D	D	C	E	F	A	D	B	A
Approach Delay		57.0			27.1			226.1			30.3	
Approach LOS		E			C			F			C	
Queue Length 50th (m)	8.5	6.1		18.8	11.3	20.9	1.2	~266.5	0.0	61.8	52.4	0.0
Queue Length 95th (m)	16.2	16.2		27.3	17.4	47.8	m2.3	#362.9	m0.0	#101.7	129.7	8.4
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	185	448		319	513	759	66	1092	653	682	1884	972
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	0.39	0.08		0.26	0.10	0.60	0.08	1.45	0.10	0.80	0.48	0.12

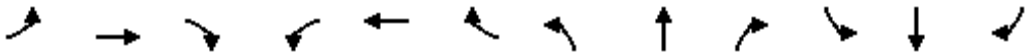
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.45			
Intersection Signal Delay: 113.3		Intersection LOS: F	

Intersection Capacity Utilization 97.5% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	20	8	25	36	204	14	1359	23	47	874	69
Future Volume (vph)	94	20	8	25	36	204	14	1359	23	47	874	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1647	1784	1517	1695	1784	1517	3288	3293	1517	1631	3202	1488
Flt Permitted	0.734			0.744			0.950			0.950		
Satd. Flow (perm)	1269	1784	1483	1314	1784	1495	3284	3293	1479	1630	3202	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			164			105			105
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	2%	2%	2%	2%	2%	2%	5%	2%	6%	8%	4%
Adj. Flow (vph)	94	20	8	25	36	204	14	1359	23	47	874	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	20	8	25	36	204	14	1359	23	47	874	69
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

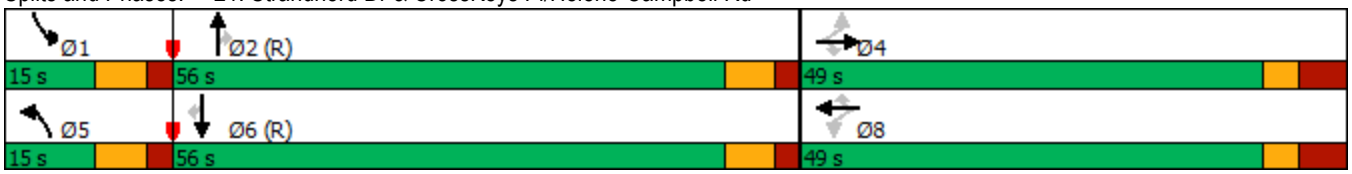


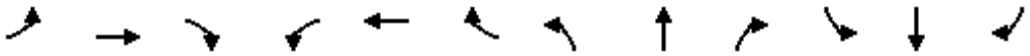
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1		1	1		1	1
Act Effct Green (s)	18.8	18.8	18.8	18.8	18.8	18.8	6.0	74.2	74.2	8.1	81.3	81.3
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.62	0.62	0.07	0.68	0.68
v/c Ratio	0.47	0.07	0.03	0.12	0.13	0.55	0.08	0.67	0.02	0.43	0.40	0.07
Control Delay	51.1	37.8	0.1	39.3	39.6	15.3	55.1	20.4	0.0	67.2	13.5	6.0
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	51.1	37.8	0.1	39.3	39.6	15.3	55.1	20.4	0.0	67.2	13.5	6.0
LOS	D	D	A	D	D	B	E	C	A	E	B	A
Approach Delay		45.5			20.9			20.4			15.6	
Approach LOS		D			C			C			B	
Queue Length 50th (m)	21.4	4.3	0.0	5.4	7.7	8.7	1.6	99.0	0.0	11.9	20.5	0.0
Queue Length 95th (m)	28.8	8.6	0.0	10.2	13.1	23.6	5.0	#218.4	0.0	24.7	85.6	11.4
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	436	613	574	452	613	622	221	2036	954	118	2169	1026
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	0.22	0.03	0.01	0.06	0.06	0.33	0.06	0.67	0.02	0.40	0.40	0.07

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 19.8	Intersection LOS: B

Intersection Capacity Utilization 82.1% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

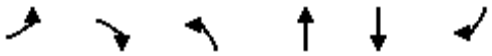




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	28	23	8	95	204	11	4	4	85	8	15
Future Volume (Veh/h)	15	28	23	8	95	204	11	4	4	85	8	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	28	23	8	95	204	11	4	4	85	8	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)					156							
pX, platoon unblocked												
vC, conflicting volume	299			51			200	384	40	186	192	95
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	299			51			200	384	40	186	192	95
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			98	99	100	89	99	98
cM capacity (veh/h)	1262			1555			731	540	1032	757	691	962

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	66	103	204	19	108
Volume Left	15	8	0	11	85
Volume Right	23	0	204	4	15
cSH	1262	1555	1700	722	774
Volume to Capacity	0.01	0.01	0.12	0.03	0.14
Queue Length 95th (m)	0.3	0.1	0.0	0.6	3.7
Control Delay (s)	1.9	0.6	0.0	10.1	10.4
Lane LOS	A	A		B	B
Approach Delay (s)	1.9	0.2		10.1	10.4
Approach LOS				B	B

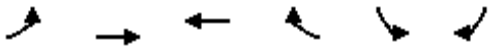
Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	30.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	27	0	1377	821	26
Future Volume (Veh/h)	0	27	0	1377	821	26
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	27	0	1377	821	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)				138	119	
pX, platoon unblocked	0.93	0.85	0.85			
vC, conflicting volume	1522	424	847			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	698	0	479			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	347	926	922			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	27	688	688	547	300
Volume Left	0	0	0	0	0
Volume Right	27	0	0	0	26
cSH	926	1700	1700	1700	1700
Volume to Capacity	0.03	0.41	0.41	0.32	0.18
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0
Control Delay (s)	9.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.0	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	43.5%	ICU Level of Service		A
Analysis Period (min)	15			

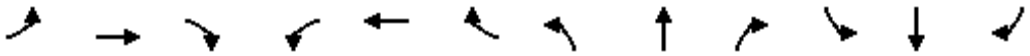


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	62	59	59	1
Future Volume (Veh/h)	2	7	62	59	59	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	7	62	59	59	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	208	118	119	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208	118	119	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	99	92	95	96	
cM capacity (veh/h)	645	744	743	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	9	121	60
Volume Left	2	0	59
Volume Right	0	59	1
cSH	719	878	1623
Volume to Capacity	0.01	0.14	0.04
Queue Length 95th (m)	0.3	3.6	0.9
Control Delay (s)	10.1	9.8	7.2
Lane LOS	B	A	A
Approach Delay (s)	10.1	9.8	7.2
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	17.4%	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)	59	71	295	18	72	42	367	1036	27	121	1256	14
Future Volume (vph)	59	71	295	18	72	42	367	1036	27	121	1256	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1652	0	3257	3340	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1674	1784	1492	1688	1652	0	3251	3340	0	1687	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99		27			2				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	59	71	295	18	72	42	367	1036	27	121	1256	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	71	295	18	114	0	367	1063	0	121	1256	14
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



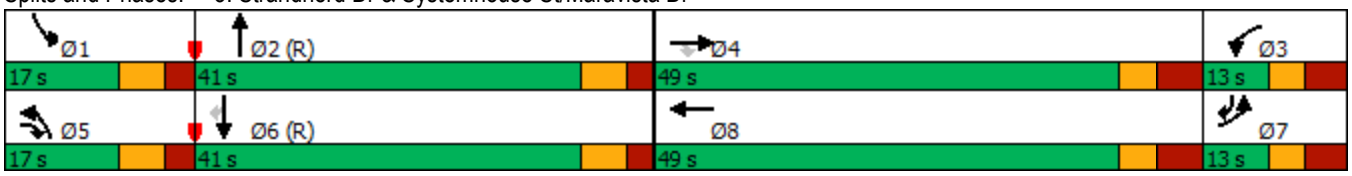
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	7.7	23.6	44.3	12.0	22.8		20.1	52.4		11.8	44.0	51.1
Actuated g/C Ratio	0.06	0.20	0.37	0.10	0.19		0.17	0.44		0.10	0.37	0.43
v/c Ratio	0.55	0.20	0.48	0.11	0.34		0.67	0.73		0.73	1.01	0.02
Control Delay	74.1	39.2	15.1	49.0	30.8		57.7	31.2		63.1	75.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	74.1	39.2	15.1	49.0	30.8		57.7	31.2		63.1	75.5	0.1
LOS	E	D	B	D	C		E	C		E	E	A
Approach Delay		27.3			33.3			38.0			73.7	
Approach LOS		C			C			D			E	
Queue Length 50th (m)	13.4	13.2	26.3	4.1	19.8		39.8	116.2		22.9	166.4	0.0
Queue Length 95th (m)	#34.6	22.0	35.2	11.7	27.8		#87.5	#193.7		m#58.6	#248.6	m0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	108	616	617	169	588		546	1458		166	1243	695
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	0.55	0.12	0.48	0.11	0.19		0.67	0.73		0.73	1.01	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	

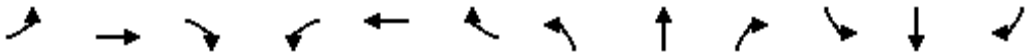
Intersection Signal Delay: 51.2	Intersection LOS: D
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

\# 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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	19	67	144	12	53	47	1277	107	56	1592	47
Future Volume (vph)	106	19	67	144	12	53	47	1277	107	56	1592	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.878			0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1520	0	3288	3343	0	1695	3390	1517
Flt Permitted	0.715			0.745			0.950			0.950		
Satd. Flow (perm)	1274	1784	1496	1302	1520	0	3288	3343	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		53			9				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		342.2			439.9			933.3			268.5	
Travel Time (s)		24.6			39.6			48.0			13.8	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	106	19	67	144	12	53	47	1277	107	56	1592	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	19	67	144	65	0	47	1384	0	56	1592	47
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



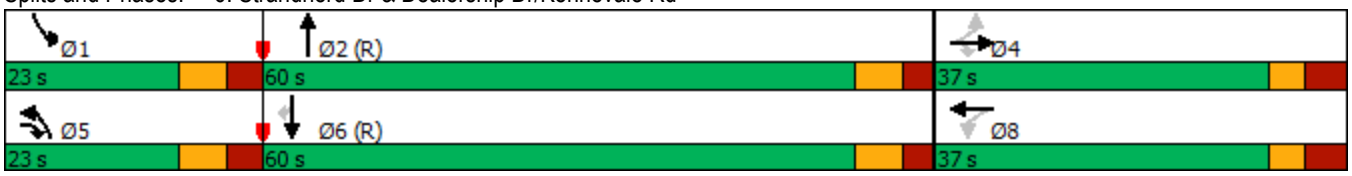
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	23.0	37.0	37.0		23.0	60.0		23.0	60.0	60.0
Total Split (%)	30.8%	30.8%	19.2%	30.8%	30.8%		19.2%	50.0%		19.2%	50.0%	50.0%
Maximum Green (s)	29.8	29.8	15.6	29.8	29.8		15.6	52.9		15.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	19.1	19.1	26.1	19.1	19.1		7.1	72.5		9.3	74.6	74.6
Actuated g/C Ratio	0.16	0.16	0.22	0.16	0.16		0.06	0.60		0.08	0.62	0.62
v/c Ratio	0.52	0.07	0.19	0.70	0.23		0.24	0.68		0.43	0.76	0.05
Control Delay	53.9	39.5	16.1	63.9	15.5		56.4	21.0		73.1	7.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.9	39.5	16.1	63.9	15.5		56.4	21.0		73.1	7.0	0.1
LOS	D	D	B	E	B		E	C		E	A	A
Approach Delay		39.3			48.8			22.2			9.0	
Approach LOS		D			D			C			A	
Queue Length 50th (m)	23.3	3.9	5.2	32.6	2.4		5.5	113.6		14.1	18.6	0.0
Queue Length 95th (m)	37.4	9.6	14.0	49.3	13.4		11.5	183.5		m18.7	#40.9	m0.1
Internal Link Dist (m)		318.2			415.9			909.3			244.5	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	316	443	459	323	417		427	2022		220	2108	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	0.04	0.15	0.45	0.16		0.11	0.68		0.25	0.76	0.05

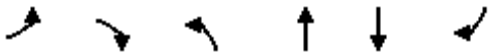
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	

Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 77.4%	ICU Level of Service D
Analysis Period (min) 15	

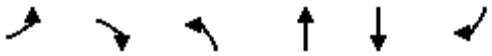
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	115	178	1279	1511	101
Future Volume (vph)	149	115	178	1279	1511	101
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						53
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	149	115	178	1279	1511	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	115	178	1279	1511	101
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	41.4	41.4	17.0	78.6	61.6	61.6
Total Split (%)	34.5%	34.5%	14.2%	65.5%	51.3%	51.3%
Maximum Green (s)	34.0	34.0	13.0	71.7	54.7	54.7
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	18.3	18.3	18.2	87.4	65.2	65.2
Actuated g/C Ratio	0.15	0.15	0.15	0.73	0.54	0.54
v/c Ratio	0.58	0.50	0.69	0.52	0.82	0.12
Control Delay	54.3	51.9	63.9	9.0	47.0	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	51.9	63.9	9.0	47.0	20.6
LOS	D	D	E	A	D	C
Approach Delay	53.2			15.7	45.4	
Approach LOS	D			B	D	
Queue Length 50th (m)	33.8	25.8	43.3	36.6	193.8	14.6
Queue Length 95th (m)	45.7	36.9	m#86.2	93.1	m#202.6	m19.4
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	480	429	257	2467	1840	848
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.27	0.69	0.52	0.82	0.12

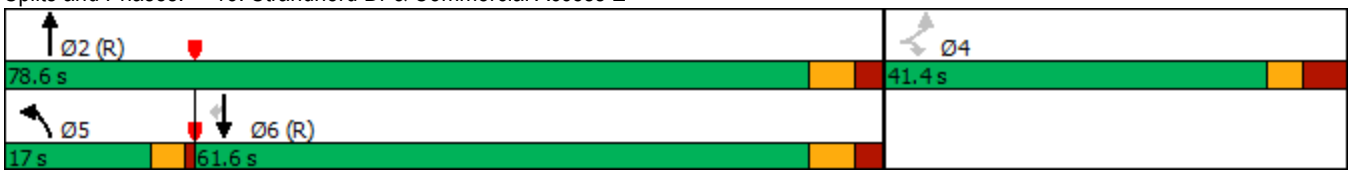
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 33.0		Intersection LOS: C	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

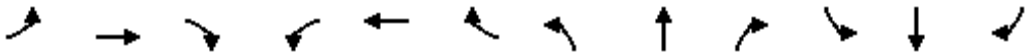
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	83	12	178	90	496	8	1211	161	440	1366	219
Future Volume (vph)	227	83	12	178	90	496	8	1211	161	440	1366	219
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1671	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1671	0	1692	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				359			160			149
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	227	83	12	178	90	496	8	1211	161	440	1366	219
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	95	0	178	90	496	8	1211	161	440	1366	219
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

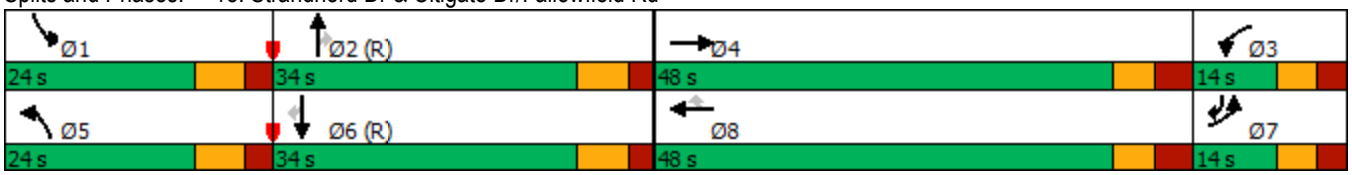


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	14.0	48.0		14.0	48.0	48.0	24.0	34.0	34.0	24.0	34.0	14.0
Total Split (%)	11.7%	40.0%		11.7%	40.0%	40.0%	20.0%	28.3%	28.3%	20.0%	28.3%	11.7%
Maximum Green (s)	7.5	41.0		7.5	41.0	41.0	16.9	27.1	27.1	16.9	27.1	7.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	21.3	11.8		30.5	21.0	21.0	6.5	30.1	30.1	20.1	54.3	81.1
Actuated g/C Ratio	0.18	0.10		0.25	0.18	0.18	0.05	0.25	0.25	0.17	0.45	0.68
v/c Ratio	0.40	0.56		0.41	0.30	0.89	0.12	1.47	0.32	0.80	0.89	0.21
Control Delay	49.1	59.6		41.3	41.9	31.2	78.2	243.0	4.4	59.8	39.3	3.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	59.6		41.3	41.9	31.2	78.2	243.0	4.4	59.8	39.3	3.9
LOS	D	E		D	D	C	E	F	A	E	D	A
Approach Delay		52.2			34.8			214.2			40.0	
Approach LOS		D			C			F			D	
Queue Length 50th (m)	26.0	20.1		37.6	18.8	34.0	2.1	~200.6	3.2	50.4	128.6	4.3
Queue Length 95th (m)	#44.2	35.9		55.3	28.3	67.5	m3.3	#255.6	m4.3	#84.4	#263.5	17.8
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	566	575		431	581	744	173	824	499	552	1533	1054
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	0.40	0.17		0.41	0.15	0.67	0.05	1.47	0.32	0.80	0.89	0.21

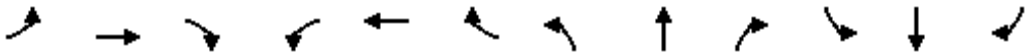
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.47	
Intersection Signal Delay: 93.5	Intersection LOS: F

Intersection Capacity Utilization 91.6% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	117	30	37	114	126	41	1083	23	122	1228	194
Future Volume (vph)	210	117	30	37	114	126	41	1083	23	122	1228	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1695	1784	1502	1679	1784	1517	3288	3202	1517	1695	3357	1517
Flt Permitted	0.684			0.682			0.950			0.950		
Satd. Flow (perm)	1218	1784	1468	1194	1784	1495	3286	3202	1479	1693	3357	1494
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			126			105			156
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	3%	3%	2%	2%	2%	8%	2%	2%	3%	2%
Adj. Flow (vph)	210	117	30	37	114	126	41	1083	23	122	1228	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	117	30	37	114	126	41	1083	23	122	1228	194
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

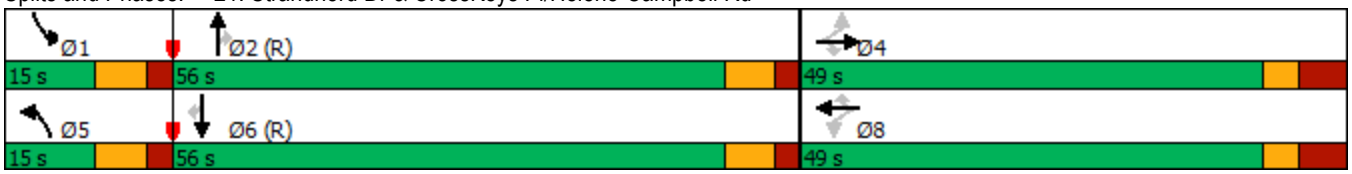


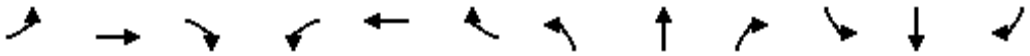
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	26.2	26.2	26.2	26.2	26.2	26.2	7.0	56.3	56.3	16.1	67.9	67.9
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.47	0.47	0.13	0.57	0.57
v/c Ratio	0.79	0.30	0.08	0.14	0.29	0.30	0.22	0.72	0.03	0.54	0.65	0.21
Control Delay	64.1	39.2	0.4	35.7	39.1	7.4	80.7	14.7	0.0	57.5	24.0	10.6
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	64.1	39.2	0.4	35.7	39.1	7.4	80.7	14.7	0.0	57.5	24.0	10.6
LOS	E	D	A	D	D	A	F	B	A	E	C	B
Approach Delay		50.6			24.2			16.8			24.9	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	47.0	23.2	0.0	7.1	22.5	0.0	5.2	126.8	0.0	29.2	47.9	1.1
Queue Length 95th (m)	67.5	35.6	0.0	14.7	34.8	13.5	m7.6	162.5	m0.0	m35.1	m147.4	m28.1
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	419	613	568	410	613	597	223	1502	749	226	1899	913
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	0.50	0.19	0.05	0.09	0.19	0.21	0.18	0.72	0.03	0.54	0.65	0.21

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 24.8	Intersection LOS: C

Intersection Capacity Utilization 81.8% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

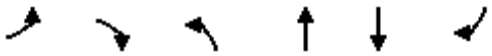




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	87	40	13	88	346	45	15	15	320	13	15
Future Volume (Veh/h)	15	87	40	13	88	346	45	15	15	320	13	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	87	40	13	88	346	45	15	15	320	13	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)					156							
pX, platoon unblocked												
vC, conflicting volume	434			127			272	597	107	274	271	88
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	434			127			272	597	107	274	271	88
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			93	96	98	50	98	98
cM capacity (veh/h)	1126			1459			648	407	947	638	622	970

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	142	101	346	75	348
Volume Left	15	13	0	45	320
Volume Right	40	0	346	15	15
cSH	1126	1459	1700	614	647
Volume to Capacity	0.01	0.01	0.20	0.12	0.54
Queue Length 95th (m)	0.3	0.2	0.0	3.2	24.4
Control Delay (s)	1.0	1.0	0.0	11.7	16.8
Lane LOS	A	A		B	C
Approach Delay (s)	1.0	0.2		11.7	16.8
Approach LOS				B	C

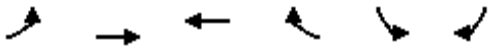
Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	48.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	91	0	1408	1567	51
Future Volume (Veh/h)	0	91	0	1408	1567	51
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	91	0	1408	1567	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				138	119	
pX, platoon unblocked	0.76	0.68	0.68			
vC, conflicting volume	2296	809	1618			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1085	0	960			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	100			
cM capacity (veh/h)	161	734	483			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	91	704	704	1045	573
Volume Left	0	0	0	0	0
Volume Right	91	0	0	0	51
cSH	734	1700	1700	1700	1700
Volume to Capacity	0.12	0.41	0.41	0.61	0.34
Queue Length 95th (m)	3.2	0.0	0.0	0.0	0.0
Control Delay (s)	10.6	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.6	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

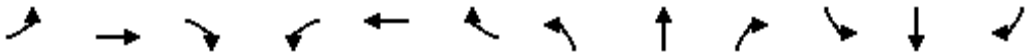


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	25	26	122	117	1
Future Volume (Veh/h)	3	25	26	122	117	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	25	26	122	117	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	370	234	235	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370	234	235	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	99	96	96	89	93	
cM capacity (veh/h)	477	618	618	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	28	148	118
Volume Left	3	0	117
Volume Right	0	122	1
cSH	599	958	1623
Volume to Capacity	0.05	0.15	0.07
Queue Length 95th (m)	1.1	4.1	1.8
Control Delay (s)	11.3	9.4	7.3
Lane LOS	B	A	A
Approach Delay (s)	11.3	9.4	7.3
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	23.0%	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)	72	70	335	19	87	52	465	871	25	120	1154	12
Future Volume (vph)	72	70	335	19	87	52	465	871	25	120	1154	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.99		1.00	1.00		0.99		0.98
Frt			0.850		0.944			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1644	0	3288	3373	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1661	1784	1488	1685	1644	0	3282	3373	0	1685	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		29			2				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	70	335	19	87	52	465	871	25	120	1154	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	70	335	19	139	0	465	896	0	120	1154	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.6	37.8	59.0	6.5	28.7		20.6	42.0		11.3	32.7	39.7
Actuated g/C Ratio	0.07	0.33	0.51	0.06	0.25		0.18	0.37		0.10	0.28	0.35
v/c Ratio	0.65	0.12	0.40	0.20	0.32		0.79	0.73		0.72	1.20	0.02
Control Delay	78.8	23.4	7.3	56.5	26.2		63.4	36.3		74.6	136.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.8	23.4	7.3	56.5	26.2		63.4	36.3		74.6	136.8	0.1
LOS	E	C	A	E	C		E	D		E	F	A
Approach Delay		20.5			29.8			45.6			129.7	
Approach LOS		C			C			D			F	
Queue Length 50th (m)	16.2	8.2	15.2	4.2	17.0		~68.0	~126.2		26.4	~188.7	0.0
Queue Length 95th (m)	#38.1	20.5	28.3	11.8	31.9		#106.1	#160.8		#51.5	#229.7	0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	111	730	841	102	611		589	1233		178	962	586
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	0.65	0.10	0.40	0.19	0.23		0.79	0.73		0.67	1.20	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 74.1	Intersection LOS: E

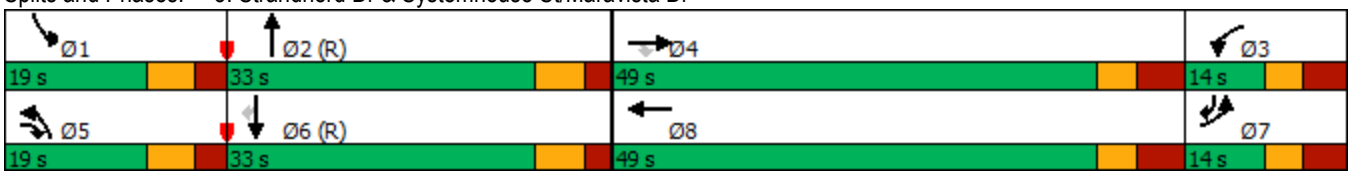
Intersection Capacity Utilization 100.0% ICU Level of Service G

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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	8	33	95	18	76	55	1253	106	49	1264	32
Future Volume (vph)	69	8	33	95	18	76	55	1253	106	49	1264	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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			0.99	1.00			1.00	1.00		1.00		0.99
Frt			0.850		0.879			0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1568	0	3288	3344	0	1695	3390	1517
Flt Permitted	0.696			0.752			0.950			0.950		
Satd. Flow (perm)	1242	1784	1497	1340	1568	0	3286	3344	0	1695	3390	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		76			11				115
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		342.2			439.9			933.3			268.5	
Travel Time (s)		24.6			39.6			48.0			13.8	
Confl. Peds. (#/hr)			1	1			2		1	1		2
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
Adj. Flow (vph)	69	8	33	95	18	76	55	1253	106	49	1264	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	8	33	95	94	0	55	1359	0	49	1264	32
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	38.0	38.0	12.0	38.0	38.0		12.0	60.0		12.0	60.0	60.0
Total Split (%)	34.5%	34.5%	10.9%	34.5%	34.5%		10.9%	54.5%		10.9%	54.5%	54.5%
Maximum Green (s)	30.8	30.8	4.6	30.8	30.8		4.6	52.9		4.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		0	0			1			0	0
Act Effct Green (s)	15.7	15.7	22.2	15.7	15.7		6.7	67.3		8.0	68.5	68.5
Actuated g/C Ratio	0.14	0.14	0.20	0.14	0.14		0.06	0.61		0.07	0.62	0.62
v/c Ratio	0.39	0.03	0.10	0.50	0.33		0.27	0.66		0.40	0.60	0.03
Control Delay	46.9	35.6	6.3	50.7	14.8		52.7	18.2		58.8	16.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.9	35.6	6.3	50.7	14.8		52.7	18.2		58.8	16.2	0.1
LOS	D	D	A	D	B		D	B		E	B	A
Approach Delay		33.9			32.8			19.5			17.4	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	14.0	1.6	0.0	19.6	3.5		5.8	95.7		10.1	80.6	0.0
Queue Length 95th (m)	23.4	5.2	4.9	30.4	15.3		12.4	160.0		#24.5	142.0	0.0
Internal Link Dist (m)		318.2			415.9			909.3			244.5	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	347	499	336	375	493		201	2051		122	2110	974
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	0.20	0.02	0.10	0.25	0.19		0.27	0.66		0.40	0.60	0.03

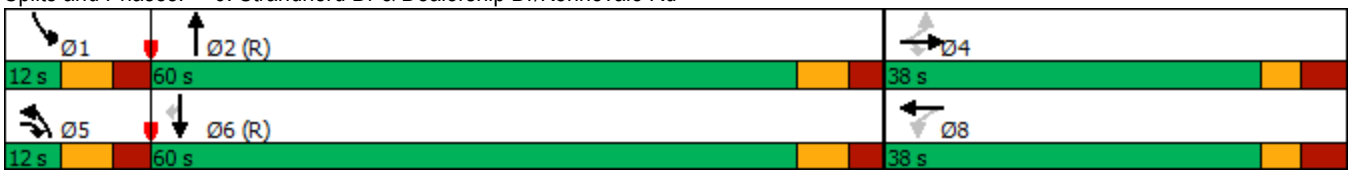
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	

Analysis Period (min) 15

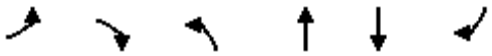
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	106	215	1197	1447	101
Future Volume (vph)	159	106	215	1197	1447	101
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						55
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	159	106	215	1197	1447	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	106	215	1197	1447	101
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	41.4	41.4	18.0	73.6	55.6	55.6
Total Split (%)	36.0%	36.0%	15.7%	64.0%	48.3%	48.3%
Maximum Green (s)	34.0	34.0	14.0	66.7	48.7	48.7
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	18.5	18.5	21.2	82.2	57.0	57.0
Actuated g/C Ratio	0.16	0.16	0.18	0.71	0.50	0.50
v/c Ratio	0.58	0.44	0.69	0.49	0.86	0.13
Control Delay	51.7	46.8	57.0	9.4	18.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	46.8	57.0	9.4	18.0	2.1
LOS	D	D	E	A	B	A
Approach Delay	49.7			16.6	17.0	
Approach LOS	D			B	B	
Queue Length 50th (m)	34.4	22.3	44.6	50.4	51.0	0.1
Queue Length 95th (m)	46.0	32.5	#99.3	107.3	m52.5	m0.6
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	501	448	313	2423	1679	779
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.24	0.69	0.49	0.86	0.13

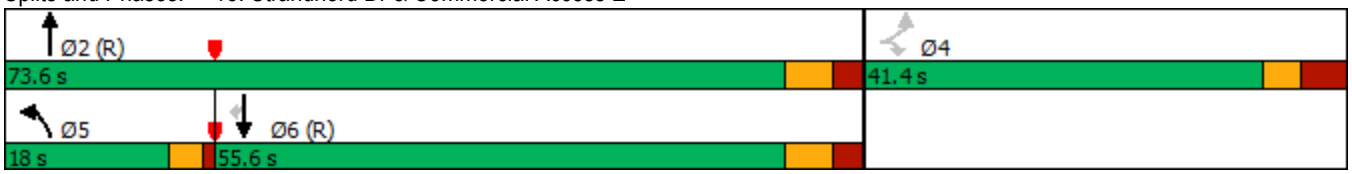
Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 115			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

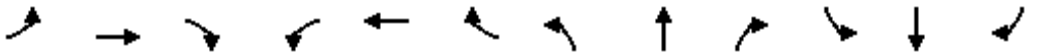
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	81	10	123	87	170	8	1237	148	202	1201	174
Future Volume (vph)	146	81	10	123	87	170	8	1237	148	202	1201	174
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.98	1.00					0.97
Frt		0.984				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2819	1589	0	1662	1717	1459	1383	3390	1473	3225	3293	1446
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2807	1589	0	1662	1717	1435	1381	3390	1473	3225	3293	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				174			175			143
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)	6					6	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 (%)	19%	9%	43%	4%	6%	6%	25%	2%	5%	4%	5%	7%
Adj. Flow (vph)	146	81	10	123	87	170	8	1237	148	202	1201	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	91	0	123	87	170	8	1237	148	202	1201	174
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

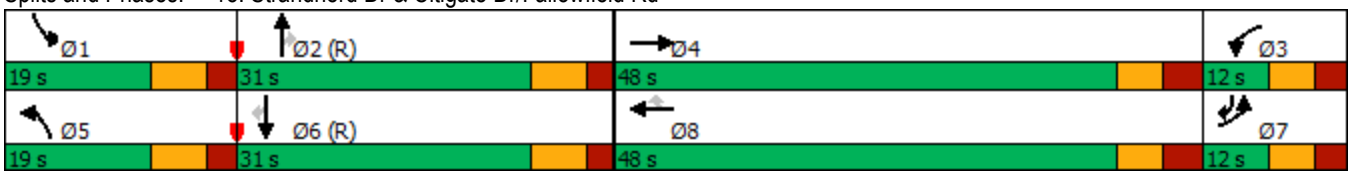


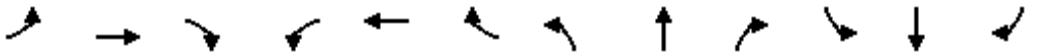
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	12.0	48.0		12.0	48.0	48.0	19.0	31.0	31.0	19.0	31.0	12.0
Total Split (%)	10.9%	43.6%		10.9%	43.6%	43.6%	17.3%	28.2%	28.2%	17.3%	28.2%	10.9%
Maximum Green (s)	5.5	41.0		5.5	41.0	41.0	11.9	24.1	24.1	11.9	24.1	5.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	17.2	12.2		20.2	11.8	11.8	6.3	41.3	41.3	12.2	57.6	75.2
Actuated g/C Ratio	0.16	0.11		0.18	0.11	0.11	0.06	0.38	0.38	0.11	0.52	0.68
v/c Ratio	0.33	0.51		0.40	0.47	0.55	0.10	0.97	0.22	0.57	0.70	0.17
Control Delay	43.0	52.3		45.6	54.3	13.5	53.2	46.1	4.5	52.4	24.4	1.7
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	43.0	52.3		45.6	54.3	13.5	53.2	46.1	4.5	52.4	24.4	1.7
LOS	D	D		D	D	B	D	D	A	D	C	A
Approach Delay		46.6			33.2			41.7			25.5	
Approach LOS		D			C			D			C	
Queue Length 50th (m)	14.4	17.6		24.2	18.0	0.0	1.9	55.4	0.0	21.5	91.1	1.2
Queue Length 95th (m)	23.6	32.4		42.1	32.5	18.0	m3.3	#210.4	m8.4	32.0	#181.6	6.6
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	440	596		305	639	644	149	1274	662	382	1725	1011
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	0.33	0.15		0.40	0.14	0.26	0.05	0.97	0.22	0.53	0.70	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 34.0		Intersection LOS: C	

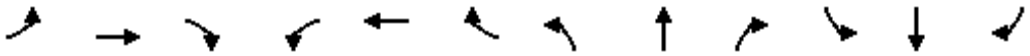
Intersection Capacity Utilization 77.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	147	80	43	137	139	91	984	16	72	1013	247
Future Volume (vph)	259	147	80	43	137	139	91	984	16	72	1013	247
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.96	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)	1695	1784	1517	1695	1784	1517	3288	3232	1517	1695	3390	1517
Flt Permitted	0.669			0.663			0.950			0.950		
Satd. Flow (perm)	1193	1784	1488	1178	1784	1497	3287	3232	1463	1688	3390	1497
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			139			115			241
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		7	7		1	1		7	7		1
Confl. Bikes (#/hr)			2									
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%	2%	2%	7%	2%	2%	2%	2%
Adj. Flow (vph)	259	147	80	43	137	139	91	984	16	72	1013	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	147	80	43	137	139	91	984	16	72	1013	247
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	44.5%	44.5%	44.5%	44.5%	44.5%	44.5%	13.6%	41.8%	41.8%	13.6%	41.8%	41.8%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	39.2	39.2	8.1	39.2	39.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	8.1	52.5	52.5	9.2	53.6	53.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.48	0.48	0.08	0.49	0.49
v/c Ratio	0.81	0.31	0.17	0.14	0.29	0.28	0.38	0.64	0.02	0.51	0.61	0.29
Control Delay	55.9	31.9	3.1	28.1	31.4	5.6	52.8	27.1	0.1	67.1	17.1	4.8
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	55.9	31.9	3.1	28.1	31.4	5.6	52.8	27.1	0.1	67.1	17.1	4.8
LOS	E	C	A	C	C	A	D	C	A	E	B	A
Approach Delay		39.9			19.7			28.9			17.5	
Approach LOS		D			B			C			B	
Queue Length 50th (m)	51.9	25.2	0.0	7.0	23.3	0.0	9.7	87.0	0.0	15.4	32.3	0.2
Queue Length 95th (m)	71.9	36.4	5.8	13.9	34.2	12.3	17.7	128.7	0.0	m23.5	79.0	m27.0
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	447	669	624	442	669	648	257	1543	758	147	1650	852
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	0.22	0.13	0.10	0.20	0.21	0.35	0.64	0.02	0.49	0.61	0.29

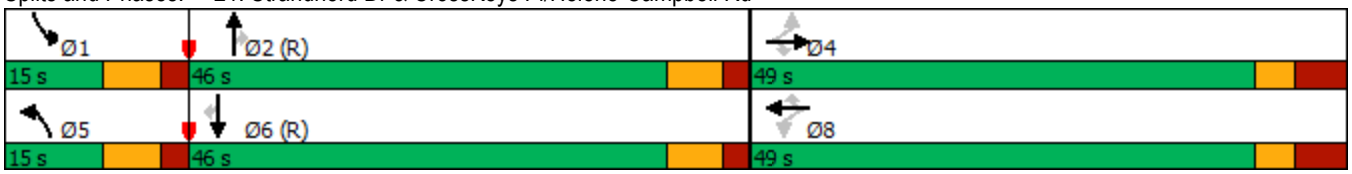
Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 108 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81

Intersection Signal Delay: 25.0	Intersection LOS: C
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

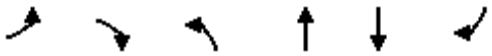
Splits and Phases: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	68	51	17	89	448	49	16	16	388	17	15
Future Volume (Veh/h)	15	68	51	17	89	448	49	16	16	388	17	15
Sign Control		Free			Free			Stop			Stop	
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)	15	68	51	17	89	448	49	16	16	388	17	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)					156							
pX, platoon unblocked												
vC, conflicting volume	537			119			270	694	94	270	272	89
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	537			119			270	694	94	270	272	89
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			92	96	98	39	97	98
cM capacity (veh/h)	1031			1469			645	357	963	635	618	969

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	134	106	448	81	420
Volume Left	15	17	0	49	388
Volume Right	51	0	448	16	15
cSH	1031	1469	1700	589	642
Volume to Capacity	0.01	0.01	0.26	0.14	0.65
Queue Length 95th (m)	0.3	0.3	0.0	3.6	36.7
Control Delay (s)	1.1	1.3	0.0	12.1	20.6
Lane LOS	A	A		B	C
Approach Delay (s)	1.1	0.2		12.1	20.6
Approach LOS				B	C

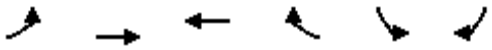
Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	52.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	90	0	1343	1213	51
Future Volume (Veh/h)	0	90	0	1343	1213	51
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	90	0	1343	1213	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				138	119	
pX, platoon unblocked	0.85	0.77	0.77			
vC, conflicting volume	1910	632	1264			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892	0	759			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	89	100			
cM capacity (veh/h)	240	840	657			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	90	672	672	809	455
Volume Left	0	0	0	0	0
Volume Right	90	0	0	0	51
cSH	840	1700	1700	1700	1700
Volume to Capacity	0.11	0.40	0.40	0.48	0.27
Queue Length 95th (m)	2.7	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.8	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

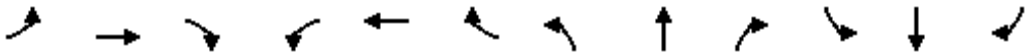


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	22	46	107	112	0
Future Volume (Veh/h)	2	22	46	107	112	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	22	46	107	112	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	354	224	224	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	354	224	224	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	96	93	90	93	
cM capacity (veh/h)	485	628	628	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	153	112
Volume Left	2	0	112
Volume Right	0	107	0
cSH	613	890	1623
Volume to Capacity	0.04	0.17	0.07
Queue Length 95th (m)	0.9	4.7	1.7
Control Delay (s)	11.1	9.9	7.4
Lane LOS	B	A	A
Approach Delay (s)	11.1	9.9	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	22.7%	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)	36	25	71	27	78	74	270	1364	34	59	924	53
Future Volume (vph)	36	25	71	27	78	74	270	1364	34	59	924	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.927			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1609	0	3257	3340	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1673	1784	1491	1687	1609	0	3247	3340	0	1689	3390	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91		39			2				96
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	36	25	71	27	78	74	270	1364	34	59	924	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	25	71	27	152	0	270	1398	0	59	924	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



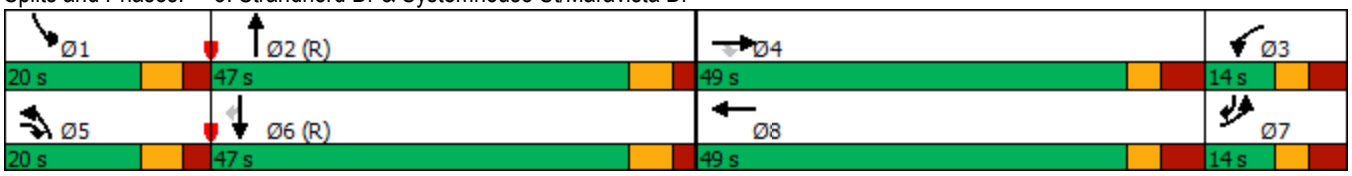
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	20.0	14.0	49.0		20.0	47.0		20.0	47.0	14.0
Total Split (%)	10.8%	37.7%	15.4%	10.8%	37.7%		15.4%	36.2%		15.4%	36.2%	10.8%
Maximum Green (s)	6.8	41.5	13.1	6.8	41.5		13.1	40.4		13.1	40.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	7.0	19.4	33.9	14.1	23.7		13.9	66.4		9.7	59.7	66.1
Actuated g/C Ratio	0.05	0.15	0.26	0.11	0.18		0.11	0.51		0.07	0.46	0.51
v/c Ratio	0.40	0.09	0.16	0.15	0.47		0.78	0.82		0.46	0.59	0.07
Control Delay	72.1	45.0	2.3	52.7	36.5		66.9	36.7		68.8	32.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	72.1	45.0	2.3	52.7	36.5		66.9	36.7		68.8	32.2	0.5
LOS	E	D	A	D	D		E	D		E	C	A
Approach Delay		29.4			38.9			41.6			32.7	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	9.0	6.1	0.0	6.4	28.2		34.5	119.7		14.7	87.0	0.0
Queue Length 95th (m)	20.4	11.1	4.1	16.7	39.2		#58.0	#286.1		28.4	#147.8	0.9
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	94	569	460	188	540		353	1707		170	1555	807
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	0.38	0.04	0.15	0.14	0.28		0.76	0.82		0.35	0.59	0.07

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 94 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	

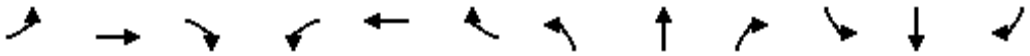
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	9	34	77	45	66	149	1570	96	31	843	139
Future Volume (vph)	41	9	34	77	45	66	149	1570	96	31	843	139
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.911			0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1582	0	3288	3355	0	1695	3390	1517
Flt Permitted	0.685			0.752			0.950			0.950		
Satd. Flow (perm)	1221	1784	1496	1314	1582	0	3288	3355	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		59			7				139
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		342.2			439.9			933.3			268.5	
Travel Time (s)		24.6			39.6			48.0			13.8	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	41	9	34	77	45	66	149	1570	96	31	843	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	9	34	77	111	0	149	1666	0	31	843	139
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



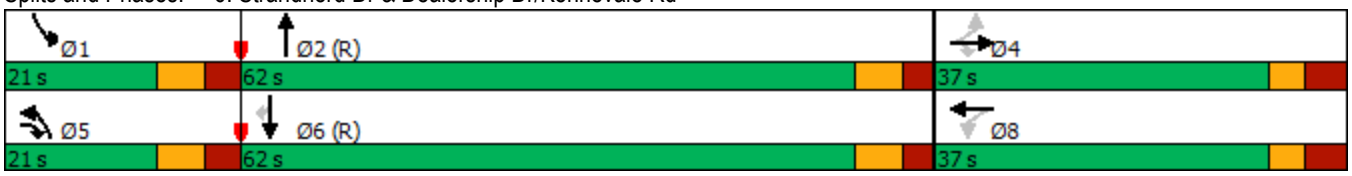
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	21.0	37.0	37.0		21.0	62.0		21.0	62.0	62.0
Total Split (%)	30.8%	30.8%	17.5%	30.8%	30.8%		17.5%	51.7%		17.5%	51.7%	51.7%
Maximum Green (s)	29.8	29.8	13.6	29.8	29.8		13.6	54.9		13.6	54.9	54.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	15.2	15.2	25.8	15.2	15.2		10.8	80.7		7.7	72.3	72.3
Actuated g/C Ratio	0.13	0.13	0.22	0.13	0.13		0.09	0.67		0.06	0.60	0.60
v/c Ratio	0.27	0.04	0.10	0.46	0.44		0.51	0.74		0.29	0.41	0.14
Control Delay	48.6	41.2	7.6	55.5	28.0		57.8	18.6		59.5	14.9	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	48.6	41.2	7.6	55.5	28.0		57.8	18.6		59.5	14.9	3.0
LOS	D	D	A	E	C		E	B		E	B	A
Approach Delay		31.2			39.3			21.8			14.6	
Approach LOS		C			D			C			B	
Queue Length 50th (m)	9.1	1.9	0.0	17.5	11.6		17.5	130.8		7.1	48.4	0.0
Queue Length 95th (m)	17.2	5.9	5.7	28.1	24.8		27.3	#259.3		16.7	91.4	10.7
Internal Link Dist (m)		318.2			415.9			909.3			244.5	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	303	443	387	326	437		373	2259		192	2042	969
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	0.14	0.02	0.09	0.24	0.25		0.40	0.74		0.16	0.41	0.14

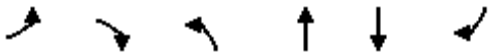
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	

Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 82.9%	ICU Level of Service E
Analysis Period (min) 15	

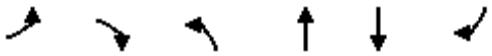
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	47	37	94	1637	977	51
Future Volume (vph)	47	37	94	1637	977	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						41
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	47	37	94	1637	977	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	37	94	1637	977	51
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6

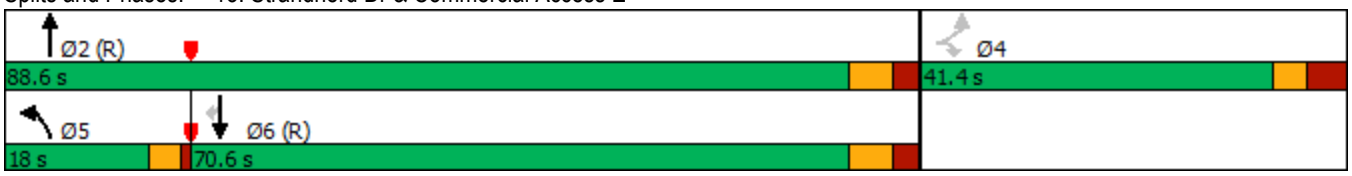


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	41.4	41.4	18.0	88.6	70.6	70.6
Total Split (%)	31.8%	31.8%	13.8%	68.2%	54.3%	54.3%
Maximum Green (s)	34.0	34.0	14.0	81.7	63.7	63.7
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	14.9	14.9	11.8	105.7	88.5	88.5
Actuated g/C Ratio	0.11	0.11	0.09	0.81	0.68	0.68
v/c Ratio	0.24	0.21	0.61	0.59	0.42	0.05
Control Delay	52.2	51.6	73.4	8.4	13.0	3.0
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	52.2	51.6	73.4	8.7	13.0	3.0
LOS	D	D	E	A	B	A
Approach Delay	51.9			12.2	12.5	
Approach LOS	D			B	B	
Queue Length 50th (m)	11.7	9.1	23.4	64.4	108.4	3.2
Queue Length 95th (m)	19.1	16.3	41.0	177.8	158.6	m7.6
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	443	396	183	2755	2307	1045
Starvation Cap Reductn	0	0	0	391	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.09	0.51	0.69	0.42	0.05

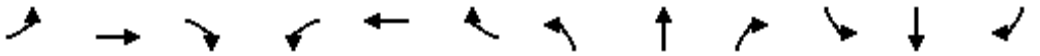
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 68.0%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	31	7	107	83	459	5	1826	71	546	1109	243
Future Volume (vph)	89	31	7	107	83	459	5	1826	71	546	1109	243
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.972				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1310	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2917	1310	0	1628	1504	1517	1330	3293	1517	3195	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				357			225			233
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)			2	2								
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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	89	31	7	107	83	459	5	1826	71	546	1109	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	38	0	107	83	459	5	1826	71	546	1109	243
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

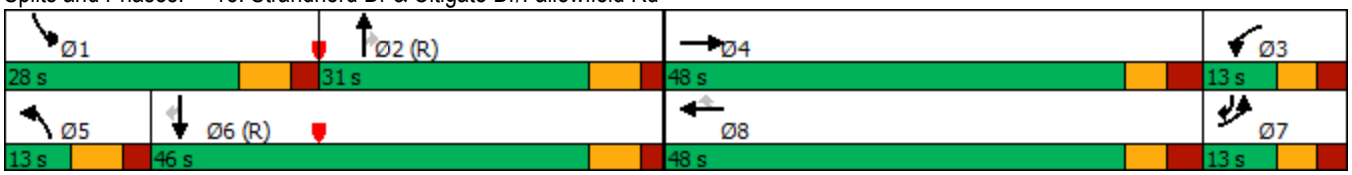


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.0	48.0		13.0	48.0	48.0	13.0	31.0	31.0	28.0	46.0	13.0
Total Split (%)	10.8%	40.0%		10.8%	40.0%	40.0%	10.8%	25.8%	25.8%	23.3%	38.3%	10.8%
Maximum Green (s)	6.5	41.0		6.5	41.0	41.0	5.9	24.1	24.1	20.9	39.1	6.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			1	1		1	1		0	
Act Effct Green (s)	8.3	10.4		24.5	19.9	19.9	5.8	38.7	38.7	25.6	68.8	82.7
Actuated g/C Ratio	0.07	0.09		0.20	0.17	0.17	0.05	0.32	0.32	0.21	0.57	0.69
v/c Ratio	0.44	0.32		0.32	0.33	0.84	0.08	1.72	0.11	0.80	0.60	0.24
Control Delay	60.9	51.1		42.6	44.0	24.1	79.0	352.4	0.5	54.8	21.9	2.4
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	60.9	51.1		42.6	44.0	24.1	79.0	352.4	0.5	54.8	21.9	2.4
LOS	E	D		D	D	C	E	F	A	D	C	A
Approach Delay		57.9			29.7			338.5			28.9	
Approach LOS		E			C			F			C	
Queue Length 50th (m)	10.3	7.0		23.6	18.2	23.8	1.2	~339.6	0.0	61.8	76.7	0.5
Queue Length 95th (m)	19.4	17.9		33.7	25.5	50.4	m1.9	#424.6	m0.0	#101.7	#191.2	12.5
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	202	452		333	513	753	66	1061	641	682	1853	1003
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	0.44	0.08		0.32	0.16	0.61	0.08	1.72	0.11	0.80	0.60	0.24

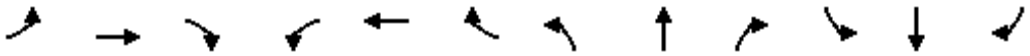
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.72	
Intersection Signal Delay: 158.5	Intersection LOS: F

Intersection Capacity Utilization 104.4% ICU Level of Service G
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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	27	8	25	43	204	14	1585	23	47	1101	73
Future Volume (vph)	98	27	8	25	43	204	14	1585	23	47	1101	73
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1647	1784	1517	1695	1784	1517	3288	3293	1517	1631	3202	1488
Flt Permitted	0.729			0.740			0.950			0.950		
Satd. Flow (perm)	1260	1784	1483	1307	1784	1495	3285	3293	1479	1630	3202	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			159			105			105
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	2%	2%	2%	2%	2%	2%	5%	2%	6%	8%	4%
Adj. Flow (vph)	98	27	8	25	43	204	14	1585	23	47	1101	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	27	8	25	43	204	14	1585	23	47	1101	73
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

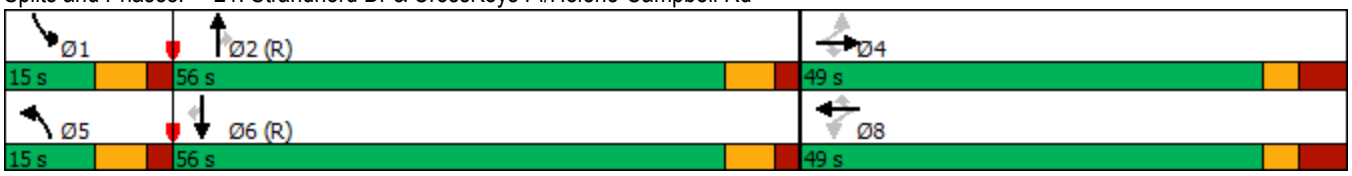


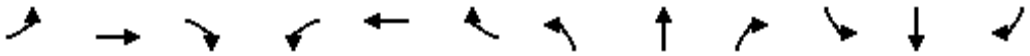
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1		1	1		1	1
Act Effct Green (s)	19.1	19.1	19.1	19.1	19.1	19.1	6.0	73.9	73.9	8.1	81.0	81.0
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.62	0.62	0.07	0.68	0.68
v/c Ratio	0.49	0.10	0.03	0.12	0.15	0.55	0.08	0.78	0.02	0.43	0.51	0.07
Control Delay	51.4	38.4	0.1	39.0	39.9	16.2	55.1	23.7	0.0	65.3	15.6	6.2
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	51.4	38.4	0.1	39.0	39.9	16.2	55.1	23.7	0.0	65.3	15.6	6.2
LOS	D	D	A	D	D	B	E	C	A	E	B	A
Approach Delay		45.7			22.0			23.7			16.9	
Approach LOS		D			C			C			B	
Queue Length 50th (m)	22.3	5.8	0.0	5.3	9.2	9.7	1.6	132.1	0.0	11.8	25.8	0.0
Queue Length 95th (m)	29.9	10.7	0.0	10.2	15.0	24.7	5.0	#277.2	0.0	m19.8	111.1	m10.5
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	433	613	574	449	613	618	221	2028	951	118	2162	1023
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	0.23	0.04	0.01	0.06	0.07	0.33	0.06	0.78	0.02	0.40	0.51	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 21.9		Intersection LOS: C	

Intersection Capacity Utilization 88.7% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

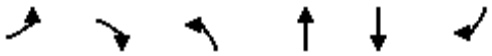




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	41	23	8	189	204	11	4	4	85	8	15
Future Volume (Veh/h)	15	41	23	8	189	204	11	4	4	85	8	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	41	23	8	189	204	11	4	4	85	8	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)					156							
pX, platoon unblocked												
vC, conflicting volume	393			64			306	492	52	294	299	189
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	393			64			306	492	52	294	299	189
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			98	99	100	87	99	98
cM capacity (veh/h)	1166			1538			619	469	1015	643	602	853

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	79	197	204	19	108
Volume Left	15	8	0	11	85
Volume Right	23	0	204	4	15
cSH	1166	1538	1700	629	662
Volume to Capacity	0.01	0.01	0.12	0.03	0.16
Queue Length 95th (m)	0.3	0.1	0.0	0.7	4.4
Control Delay (s)	1.6	0.3	0.0	10.9	11.5
Lane LOS	A	A		B	B
Approach Delay (s)	1.6	0.2		10.9	11.5
Approach LOS				B	B

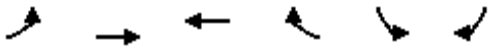
Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	33.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	27	0	1635	1009	26
Future Volume (Veh/h)	0	27	0	1635	1009	26
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	27	0	1635	1009	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)				138	119	
pX, platoon unblocked	0.89	0.79	0.79			
vC, conflicting volume	1840	518	1035			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	660	0	514			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	354	857	828			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	27	818	818	673	362
Volume Left	0	0	0	0	0
Volume Right	27	0	0	0	26
cSH	857	1700	1700	1700	1700
Volume to Capacity	0.03	0.48	0.48	0.40	0.21
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0
Control Delay (s)	9.3	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.3	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	51.0%	ICU Level of Service		A
Analysis Period (min)	15			

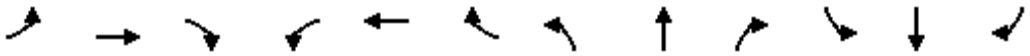


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	62	59	59	1
Future Volume (Veh/h)	2	7	62	59	59	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	7	62	59	59	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	208	118	119	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208	118	119	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	99	92	95	96	
cM capacity (veh/h)	645	744	743	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	9	121	60
Volume Left	2	0	59
Volume Right	0	59	1
cSH	719	878	1623
Volume to Capacity	0.01	0.14	0.04
Queue Length 95th (m)	0.3	3.6	0.9
Control Delay (s)	10.1	9.8	7.2
Lane LOS	B	A	A
Approach Delay (s)	10.1	9.8	7.2
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	17.4%	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)	95	83	327	18	74	42	372	1276	27	121	1487	20
Future Volume (vph)	95	83	327	18	74	42	372	1276	27	121	1487	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.946			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1654	0	3257	3344	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1674	1784	1492	1688	1654	0	3253	3344	0	1689	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		26			2				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	95	83	327	18	74	42	372	1276	27	121	1487	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	83	327	18	116	0	372	1303	0	121	1487	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	11.7	30.6	51.3	11.8	22.8		20.1	45.5		11.8	37.2	48.3
Actuated g/C Ratio	0.10	0.26	0.43	0.10	0.19		0.17	0.38		0.10	0.31	0.40
v/c Ratio	0.58	0.18	0.47	0.11	0.35		0.68	1.03		0.73	1.41	0.03
Control Delay	68.0	36.8	14.8	49.2	31.5		56.8	63.5		55.5	230.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	68.0	36.8	14.8	49.2	31.5		56.8	63.5		55.5	230.2	0.5
LOS	E	D	B	D	C		E	E		E	F	A
Approach Delay		28.4			33.9			62.0			214.4	
Approach LOS		C			C			E			F	
Queue Length 50th (m)	21.1	14.7	28.8	4.1	20.5		39.4	162.4		23.8	~239.5	0.0
Queue Length 95th (m)	#59.0	25.1	41.1	11.7	28.6		#88.9	#259.0		m#42.4	#309.8	m0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	165	616	698	167	589		545	1269		166	1051	664
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	0.58	0.13	0.47	0.11	0.20		0.68	1.03		0.73	1.41	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 54 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.41	

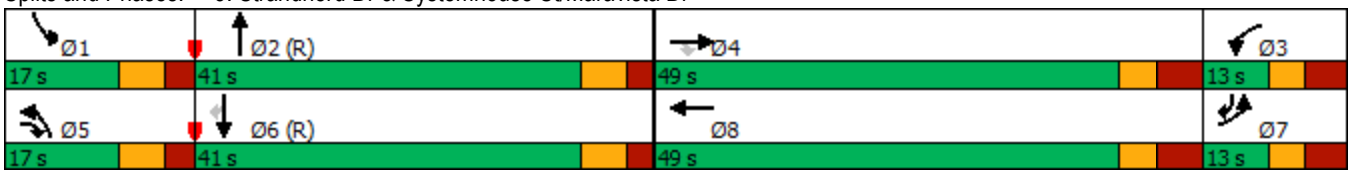
Intersection Signal Delay: 119.7	Intersection LOS: F
Intersection Capacity Utilization 91.6%	ICU Level of Service F
Analysis Period (min) 15	

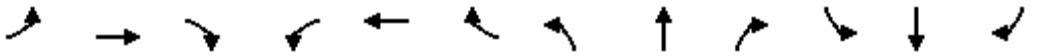
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

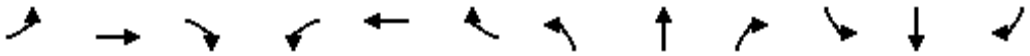
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	41	133	144	16	53	58	1474	107	56	1858	57
Future Volume (vph)	165	41	133	144	16	53	58	1474	107	56	1858	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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		0.99	1.00	0.99			1.00		1.00		
Frt			0.850		0.885			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1662	1533	0	3288	3351	0	1695	3390	1517
Flt Permitted	0.712			0.730			0.950			0.950		
Satd. Flow (perm)	1269	1784	1496	1276	1533	0	3288	3351	0	1694	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			37		53			8				105
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		342.2			439.9			933.3			268.5	
Travel Time (s)		24.6			39.6			48.0			13.8	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Confl. Bikes (#/hr)			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%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	165	41	133	144	16	53	58	1474	107	56	1858	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	41	133	144	69	0	58	1581	0	56	1858	57
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



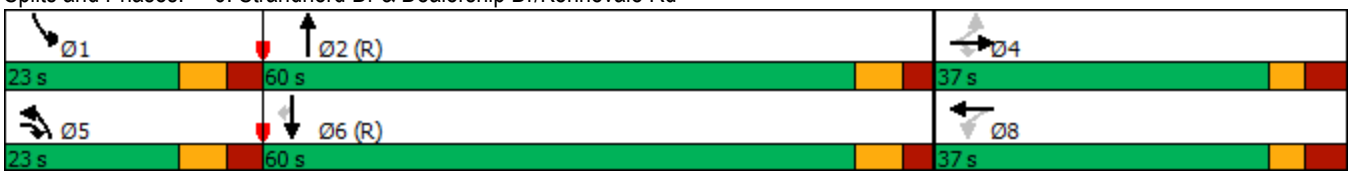
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	37.0	37.0	23.0	37.0	37.0		23.0	60.0		23.0	60.0	60.0
Total Split (%)	30.8%	30.8%	19.2%	30.8%	30.8%		19.2%	50.0%		19.2%	50.0%	50.0%
Maximum Green (s)	29.8	29.8	15.6	29.8	29.8		15.6	52.9		15.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		1	1			2			0	0
Act Effct Green (s)	20.8	20.8	28.1	20.8	20.8		7.5	70.8		9.3	70.0	70.0
Actuated g/C Ratio	0.17	0.17	0.23	0.17	0.17		0.06	0.59		0.08	0.58	0.58
v/c Ratio	0.75	0.13	0.35	0.65	0.22		0.28	0.80		0.43	0.94	0.06
Control Delay	67.0	40.0	24.1	59.0	15.9		56.7	25.7		66.9	14.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	67.0	40.0	24.1	59.0	15.9		56.7	25.7		66.9	14.0	0.2
LOS	E	D	C	E	B		E	C		E	B	A
Approach Delay		46.9			45.1			26.8			15.1	
Approach LOS		D			D			C			B	
Queue Length 50th (m)	37.3	8.3	17.0	31.9	3.2		6.8	151.9		14.1	41.4	0.0
Queue Length 95th (m)	56.7	16.8	29.0	49.5	14.6		13.4	#246.9		m15.1	m#249.5	m0.2
Internal Link Dist (m)		318.2			415.9			909.3			244.5	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	315	443	479	316	420		427	1980		220	1977	928
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	0.52	0.09	0.28	0.46	0.16		0.14	0.80		0.25	0.94	0.06

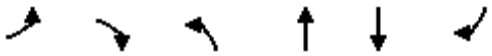
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	

Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

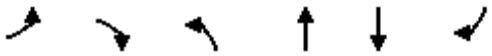
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	115	178	1544	1789	101
Future Volume (vph)	149	115	178	1544	1789	101
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						47
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	149	115	178	1544	1789	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	115	178	1544	1789	101
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	41.4	41.4	14.0	78.6	64.6	64.6
Total Split (%)	34.5%	34.5%	11.7%	65.5%	53.8%	53.8%
Maximum Green (s)	34.0	34.0	10.0	71.7	57.7	57.7
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	18.3	18.3	21.3	87.4	62.0	62.0
Actuated g/C Ratio	0.15	0.15	0.18	0.73	0.52	0.52
v/c Ratio	0.58	0.50	0.59	0.63	1.02	0.13
Control Delay	54.3	51.9	56.2	9.7	63.1	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	51.9	56.2	9.7	63.1	22.7
LOS	D	D	E	A	E	C
Approach Delay	53.2			14.5	60.9	
Approach LOS	D			B	E	
Queue Length 50th (m)	33.8	25.8	42.6	45.2	235.6	15.8
Queue Length 95th (m)	45.7	36.9	m#80.6	102.8	m184.8	m15.1
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	480	429	301	2467	1752	806
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.27	0.59	0.63	1.02	0.13

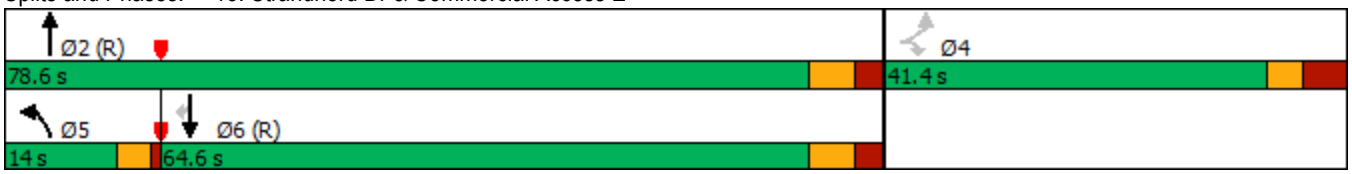
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 39.8		Intersection LOS: D	
Intersection Capacity Utilization 86.6%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

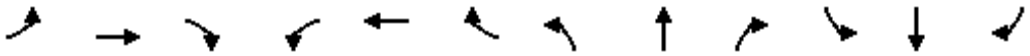
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	333	109	12	182	94	496	8	1500	185	440	1611	237
Future Volume (vph)	333	109	12	182	94	496	8	1500	185	440	1611	237
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.985				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1681	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1681	0	1693	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				358			160			136
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	333	109	12	182	94	496	8	1500	185	440	1611	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	333	121	0	182	94	496	8	1500	185	440	1611	237
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

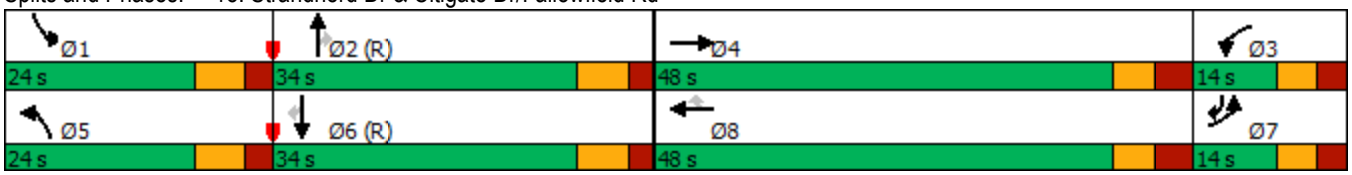


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	14.0	48.0		14.0	48.0	48.0	24.0	34.0	34.0	24.0	34.0	14.0
Total Split (%)	11.7%	40.0%		11.7%	40.0%	40.0%	20.0%	28.3%	28.3%	20.0%	28.3%	11.7%
Maximum Green (s)	7.5	41.0		7.5	41.0	41.0	16.9	27.1	27.1	16.9	27.1	7.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	24.5	13.7		31.9	21.1	21.1	6.5	28.0	28.0	18.9	51.0	81.0
Actuated g/C Ratio	0.20	0.11		0.27	0.18	0.18	0.05	0.23	0.23	0.16	0.42	0.68
v/c Ratio	0.51	0.62		0.40	0.31	0.89	0.12	1.96	0.39	0.85	1.12	0.23
Control Delay	48.2	61.3		40.4	42.2	31.3	80.5	456.0	5.4	65.3	96.5	4.7
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	48.2	61.3		40.4	42.2	31.3	80.5	456.0	5.4	65.3	96.5	4.7
LOS	D	E		D	D	C	F	F	A	E	F	A
Approach Delay		51.7			34.8			405.0			81.0	
Approach LOS		D			C			F			F	
Queue Length 50th (m)	36.8	26.4		36.4	19.7	34.3	2.1	~288.3	4.6	50.7	~200.7	6.4
Queue Length 95th (m)	#74.8	43.7		58.6	29.2	67.6	m2.7	m#318.8	m4.0	#84.4	#327.2	22.5
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	651	577		450	581	744	173	767	476	519	1439	1049
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	0.51	0.21		0.40	0.16	0.67	0.05	1.96	0.39	0.85	1.12	0.23

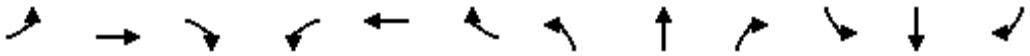
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.96	
Intersection Signal Delay: 177.0	Intersection LOS: F

Intersection Capacity Utilization 103.2% ICU Level of Service G
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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	162	30	37	121	126	41	1361	23	122	1463	198
Future Volume (vph)	234	162	30	37	121	126	41	1361	23	122	1463	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.99	1.00		0.98	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)	1695	1784	1502	1679	1784	1517	3288	3202	1517	1695	3357	1517
Flt Permitted	0.679			0.624			0.950			0.950		
Satd. Flow (perm)	1209	1784	1468	1093	1784	1495	3286	3202	1479	1694	3357	1494
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			126			105			134
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	3		12	12		3	2		2	2		2
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%	3%	3%	2%	2%	2%	8%	2%	2%	3%	2%
Adj. Flow (vph)	234	162	30	37	121	126	41	1361	23	122	1463	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	162	30	37	121	126	41	1361	23	122	1463	198
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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	

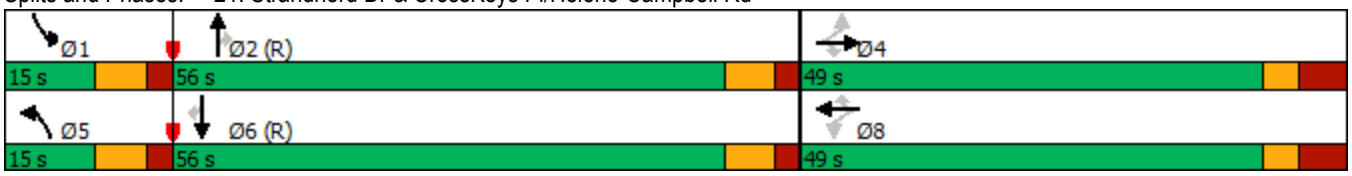


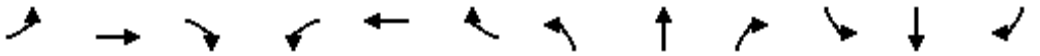
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	56.0	56.0	15.0	56.0	56.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	40.8%	40.8%	12.5%	46.7%	46.7%	12.5%	46.7%	46.7%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	49.2	49.2	8.1	49.2	49.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	28.7	28.7	28.7	28.7	28.7	28.7	7.0	54.6	54.6	15.2	65.4	65.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.46	0.46	0.13	0.54	0.54
v/c Ratio	0.81	0.38	0.07	0.14	0.28	0.28	0.22	0.93	0.03	0.57	0.80	0.23
Control Delay	63.2	39.1	0.3	33.8	37.0	6.8	79.1	20.1	0.0	52.7	30.9	15.3
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	63.2	39.1	0.3	33.8	37.0	6.8	79.1	20.1	0.0	52.7	30.9	15.3
LOS	E	D	A	C	D	A	E	C	A	D	C	B
Approach Delay		49.6			23.2			21.5			30.6	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	52.2	32.0	0.0	6.9	23.4	0.0	5.2	177.3	0.0	29.4	100.3	12.4
Queue Length 95th (m)	73.5	45.9	0.0	14.2	35.4	13.1	m5.7	m#183.1	m0.0	m29.2	m142.3	m23.9
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	416	613	568	376	613	597	223	1457	730	215	1829	875
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	0.26	0.05	0.10	0.20	0.21	0.18	0.93	0.03	0.57	0.80	0.23

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 28.8	Intersection LOS: C

Intersection Capacity Utilization 96.7% 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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

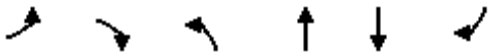




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	168	40	13	101	346	45	15	15	320	13	15
Future Volume (Veh/h)	15	168	40	13	101	346	45	15	15	320	13	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	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)	15	168	40	13	101	346	45	15	15	320	13	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)					156							
pX, platoon unblocked												
vC, conflicting volume	447			208			366	691	188	368	365	101
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	447			208			366	691	188	368	365	101
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			92	96	98	42	98	98
cM capacity (veh/h)	1113			1363			560	359	854	550	550	954

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	223	114	346	75	348
Volume Left	15	13	0	45	320
Volume Right	40	0	346	15	15
cSH	1113	1363	1700	537	561
Volume to Capacity	0.01	0.01	0.20	0.14	0.62
Queue Length 95th (m)	0.3	0.2	0.0	3.7	32.2
Control Delay (s)	0.7	0.9	0.0	12.8	21.4
Lane LOS	A	A		B	C
Approach Delay (s)	0.7	0.2		12.8	21.4
Approach LOS				B	C

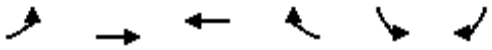
Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	53.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	91	0	1671	1848	51
Future Volume (Veh/h)	0	91	0	1671	1848	51
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	91	0	1671	1848	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				138	119	
pX, platoon unblocked	0.85	0.73	0.73			
vC, conflicting volume	2709	950	1899			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1403	206	1500			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	84	100			
cM capacity (veh/h)	112	587	325			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	91	836	836	1232	667
Volume Left	0	0	0	0	0
Volume Right	91	0	0	0	51
cSH	587	1700	1700	1700	1700
Volume to Capacity	0.16	0.49	0.49	0.72	0.39
Queue Length 95th (m)	4.1	0.0	0.0	0.0	0.0
Control Delay (s)	12.3	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.3	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

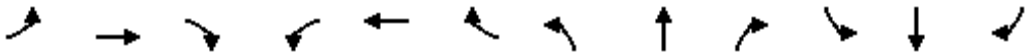


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	25	26	122	117	1
Future Volume (Veh/h)	3	25	26	122	117	1
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	25	26	122	117	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	370	234	235	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370	234	235	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	99	96	96	89	93	
cM capacity (veh/h)	477	618	618	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	28	148	118
Volume Left	3	0	117
Volume Right	0	122	1
cSH	599	958	1623
Volume to Capacity	0.05	0.15	0.07
Queue Length 95th (m)	1.1	4.1	1.8
Control Delay (s)	11.3	9.4	7.3
Lane LOS	B	A	A
Approach Delay (s)	11.3	9.4	7.3
Approach LOS	B	A	

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	23.0%	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)	72	70	335	19	87	52	465	941	25	120	1246	12
Future Volume (vph)	72	70	335	19	87	52	465	941	25	120	1246	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.99		1.00	1.00		0.99		0.98
Frt			0.850		0.944			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1644	0	3288	3373	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1661	1784	1488	1685	1644	0	3283	3373	0	1686	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		29			2				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	70	335	19	87	52	465	941	25	120	1246	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	70	335	19	139	0	465	966	0	120	1246	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.6	37.8	59.0	6.5	28.7		20.6	42.0		11.3	32.7	39.7
Actuated g/C Ratio	0.07	0.33	0.51	0.06	0.25		0.18	0.37		0.10	0.28	0.35
v/c Ratio	0.65	0.12	0.40	0.20	0.32		0.79	0.78		0.72	1.30	0.02
Control Delay	78.8	23.4	7.3	56.5	26.2		63.9	38.4		74.6	175.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.8	23.4	7.3	56.5	26.2		63.9	38.4		74.6	175.4	0.1
LOS	E	C	A	E	C		E	D		E	F	A
Approach Delay		20.5			29.8			46.7			165.1	
Approach LOS		C			C			D			F	
Queue Length 50th (m)	16.2	8.2	15.2	4.2	17.0		~68.6	~122.1		26.4	~211.4	0.0
Queue Length 95th (m)	#38.1	20.5	28.3	11.8	31.9		#106.1	#179.1		#51.5	#252.9	0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	111	730	841	102	611		589	1233		178	962	586
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	0.65	0.10	0.40	0.19	0.23		0.79	0.78		0.67	1.30	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.30	
Intersection Signal Delay: 89.7	Intersection LOS: F

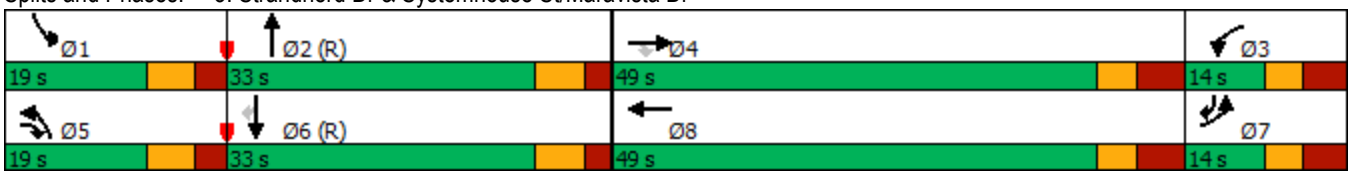
Intersection Capacity Utilization 102.7% ICU Level of Service G

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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	8	33	95	18	76	55	1340	106	49	1357	32
Future Volume (vph)	69	8	33	95	18	76	55	1340	106	49	1357	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	70.0		70.0	60.0		0.0	70.0		0.0	50.0		110.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	30.0			20.0			70.0			60.0		
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			0.99	1.00			1.00	1.00		1.00		0.99
Frt			0.850		0.879			0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1568	0	3288	3347	0	1695	3390	1517
Flt Permitted	0.696			0.752			0.950			0.950		
Satd. Flow (perm)	1242	1784	1497	1340	1568	0	3286	3347	0	1695	3390	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		76			10				115
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		342.2			439.9			933.3			268.5	
Travel Time (s)		24.6			39.6			48.0			13.8	
Confl. Peds. (#/hr)			1	1			2		1	1		2
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
Adj. Flow (vph)	69	8	33	95	18	76	55	1340	106	49	1357	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	8	33	95	94	0	55	1446	0	49	1357	32
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	30.5	6.1	6.1	30.5		6.1	30.5		6.1	30.5	6.1
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)	6.1	1.8	6.1	6.1	1.8		6.1	1.8		6.1	1.8	6.1
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	5	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	36.2	36.2	12.4	36.2	36.2		12.4	32.1		12.4	32.1	32.1
Total Split (s)	38.0	38.0	12.0	38.0	38.0		12.0	60.0		12.0	60.0	60.0
Total Split (%)	34.5%	34.5%	10.9%	34.5%	34.5%		10.9%	54.5%		10.9%	54.5%	54.5%
Maximum Green (s)	30.8	30.8	4.6	30.8	30.8		4.6	52.9		4.6	52.9	52.9
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	4.2
All-Red Time (s)	3.9	3.9	3.2	3.9	3.9		3.2	2.9		3.2	2.9	2.9
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)	7.2	7.2	7.4	7.2	7.2		7.4	7.1		7.4	7.1	7.1
Lead/Lag			Lead				Lead	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
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
Flash Dont Walk (s)	22.0	22.0		22.0	22.0			18.0			18.0	18.0
Pedestrian Calls (#/hr)	1	1		0	0			1			0	0
Act Effct Green (s)	15.7	15.7	22.2	15.7	15.7		6.7	67.3		8.0	68.5	68.5
Actuated g/C Ratio	0.14	0.14	0.20	0.14	0.14		0.06	0.61		0.07	0.62	0.62
v/c Ratio	0.39	0.03	0.10	0.50	0.33		0.27	0.70		0.40	0.64	0.03
Control Delay	46.9	35.6	6.3	50.7	14.8		52.7	19.4		58.8	17.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.9	35.6	6.3	50.7	14.8		52.7	19.4		58.8	17.2	0.1
LOS	D	D	A	D	B		D	B		E	B	A
Approach Delay		33.9			32.8			20.6			18.2	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	14.0	1.6	0.0	19.6	3.5		5.8	106.7		10.1	90.6	0.0
Queue Length 95th (m)	23.4	5.2	4.9	30.4	15.3		12.4	#180.3		#24.5	159.1	0.0
Internal Link Dist (m)		318.2			415.9			909.3			244.5	
Turn Bay Length (m)	70.0		70.0	60.0			70.0			50.0		110.0
Base Capacity (vph)	347	499	336	375	493		201	2052		122	2110	974
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	0.20	0.02	0.10	0.25	0.19		0.27	0.70		0.40	0.64	0.03

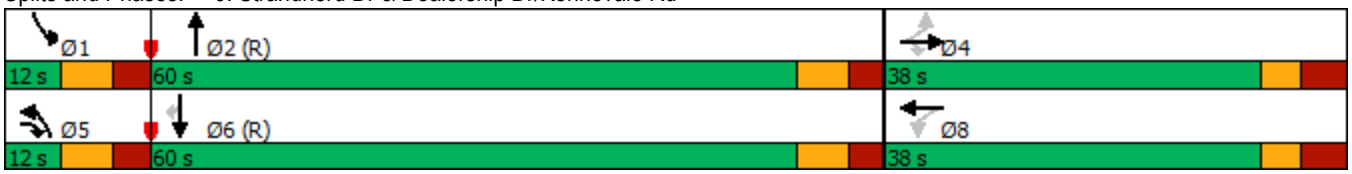
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	

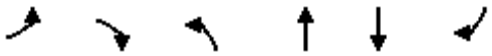
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

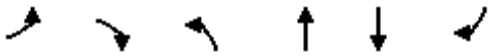
Queue shown is maximum after two cycles.

Splits and Phases: 6: Strandherd Dr & Dealership Dr/Kennevale Rd





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	106	215	1291	1556	101
Future Volume (vph)	159	106	215	1291	1556	101
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						51
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	159	106	215	1291	1556	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	106	215	1291	1556	101
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	41.4	41.4	18.0	73.6	55.6	55.6
Total Split (%)	36.0%	36.0%	15.7%	64.0%	48.3%	48.3%
Maximum Green (s)	34.0	34.0	14.0	66.7	48.7	48.7
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	18.5	18.5	21.2	82.2	57.0	57.0
Actuated g/C Ratio	0.16	0.16	0.18	0.71	0.50	0.50
v/c Ratio	0.58	0.44	0.69	0.53	0.93	0.13
Control Delay	51.7	46.8	57.0	9.9	22.3	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	46.8	57.0	9.9	22.3	2.1
LOS	D	D	E	A	C	A
Approach Delay	49.7			16.6	21.1	
Approach LOS	D			B	C	
Queue Length 50th (m)	34.4	22.3	44.6	56.7	67.5	0.1
Queue Length 95th (m)	46.0	32.5	#99.3	120.6	m51.7	m0.5
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	501	448	313	2423	1679	777
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.24	0.69	0.53	0.93	0.13

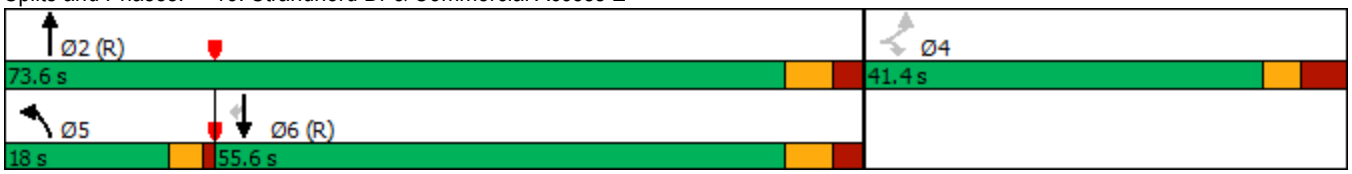
Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 82.5%	ICU Level of Service E
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.

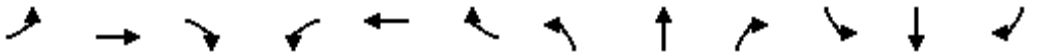
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	81	10	123	87	170	8	1330	148	202	1299	174
Future Volume (vph)	146	81	10	123	87	170	8	1330	148	202	1299	174
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.98	1.00					0.97
Frt		0.984				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2819	1589	0	1662	1717	1459	1383	3390	1473	3225	3293	1446
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2807	1589	0	1662	1717	1435	1381	3390	1473	3225	3293	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				174			175			132
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)	6					6	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 (%)	19%	9%	43%	4%	6%	6%	25%	2%	5%	4%	5%	7%
Adj. Flow (vph)	146	81	10	123	87	170	8	1330	148	202	1299	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	91	0	123	87	170	8	1330	148	202	1299	174
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

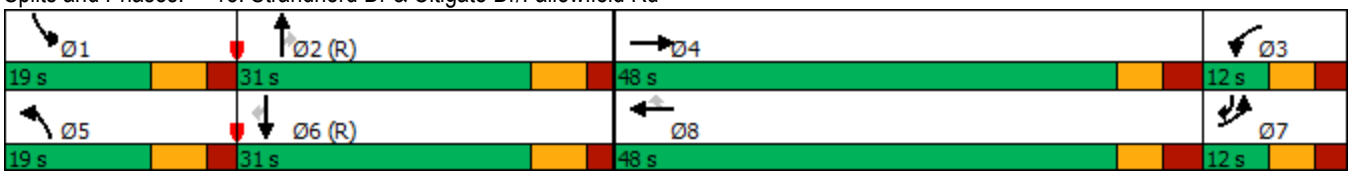


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	12.0	48.0		12.0	48.0	48.0	19.0	31.0	31.0	19.0	31.0	12.0
Total Split (%)	10.9%	43.6%		10.9%	43.6%	43.6%	17.3%	28.2%	28.2%	17.3%	28.2%	10.9%
Maximum Green (s)	5.5	41.0		5.5	41.0	41.0	11.9	24.1	24.1	11.9	24.1	5.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	17.2	12.2		20.2	11.8	11.8	6.3	41.3	41.3	12.2	57.6	75.2
Actuated g/C Ratio	0.16	0.11		0.18	0.11	0.11	0.06	0.38	0.38	0.11	0.52	0.68
v/c Ratio	0.33	0.51		0.40	0.47	0.55	0.10	1.04	0.22	0.57	0.75	0.17
Control Delay	43.0	52.3		45.6	54.3	13.5	54.4	64.3	4.8	52.4	26.1	1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	52.3		45.6	54.3	13.5	54.4	64.3	4.8	52.4	26.1	1.9
LOS	D	D		D	D	B	D	E	A	D	C	A
Approach Delay		46.6			33.2			58.3			26.7	
Approach LOS		D			C			E			C	
Queue Length 50th (m)	14.4	17.6		24.2	18.0	0.0	1.8	~161.4	0.0	21.5	103.2	1.7
Queue Length 95th (m)	23.6	32.4		42.1	32.5	18.0	m3.1	#232.4	m7.7	32.0	#205.2	7.3
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	440	596		305	639	644	149	1274	662	382	1725	1008
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	0.33	0.15		0.40	0.14	0.26	0.05	1.04	0.22	0.53	0.75	0.17

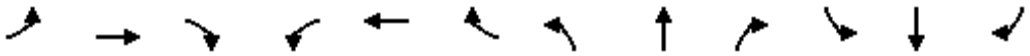
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 41.0	Intersection LOS: D

Intersection Capacity Utilization 79.9% ICU Level of Service D
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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	147	80	43	137	139	91	1060	16	72	1098	247
Future Volume (vph)	259	147	80	43	137	139	91	1060	16	72	1098	247
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	20.0			40.0			50.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.96	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)	1695	1784	1517	1695	1784	1517	3288	3232	1517	1695	3390	1517
Flt Permitted	0.669			0.663			0.950			0.950		
Satd. Flow (perm)	1193	1784	1488	1178	1784	1497	3287	3232	1463	1689	3390	1497
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			139			115			222
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		257.3			212.4			445.2			253.1	
Travel Time (s)		18.5			15.3			32.1			18.2	
Confl. Peds. (#/hr)	1		7	7		1	1		7	7		1
Confl. Bikes (#/hr)			2									
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%	2%	2%	7%	2%	2%	2%	2%
Adj. Flow (vph)	259	147	80	43	137	139	91	1060	16	72	1098	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	147	80	43	137	139	91	1060	16	72	1098	247
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
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												



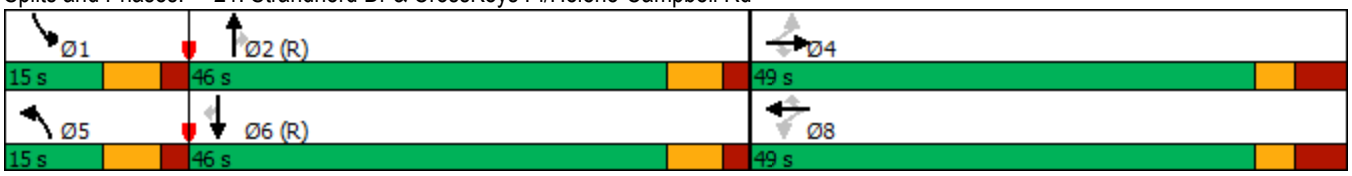
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	48.7	48.7	48.7	48.7	48.7	48.7	11.9	31.8	31.8	11.9	31.8	31.8
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	44.5%	44.5%	44.5%	44.5%	44.5%	44.5%	13.6%	41.8%	41.8%	13.6%	41.8%	41.8%
Maximum Green (s)	41.3	41.3	41.3	41.3	41.3	41.3	8.1	39.2	39.2	8.1	39.2	39.2
Yellow Time (s)	3.3	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)	4.4	4.4	4.4	4.4	4.4	4.4	2.3	2.2	2.2	2.3	2.2	2.2
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)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							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	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	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)	34.0	34.0	34.0	34.0	34.0	34.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	8.1	52.5	52.5	9.2	53.6	53.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.48	0.48	0.08	0.49	0.49
v/c Ratio	0.81	0.31	0.17	0.14	0.29	0.28	0.38	0.69	0.02	0.51	0.67	0.29
Control Delay	55.9	31.9	3.1	28.1	31.4	5.6	52.8	28.5	0.1	66.3	17.7	5.2
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	55.9	31.9	3.1	28.1	31.4	5.6	52.8	28.5	0.1	66.3	17.7	5.2
LOS	E	C	A	C	C	A	D	C	A	E	B	A
Approach Delay		39.9			19.7			30.0			18.0	
Approach LOS		D			B			C			B	
Queue Length 50th (m)	51.9	25.2	0.0	7.0	23.3	0.0	9.7	97.0	0.0	15.5	34.4	0.2
Queue Length 95th (m)	71.9	36.4	5.8	13.9	34.2	12.3	17.7	#153.9	0.0	m22.1	#148.8	m25.4
Internal Link Dist (m)		233.3			188.4			421.2			229.1	
Turn Bay Length (m)	60.0		60.0	30.0		70.0	150.0		90.0	80.0		70.0
Base Capacity (vph)	447	669	624	442	669	648	257	1543	758	147	1650	842
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	0.22	0.13	0.10	0.20	0.21	0.35	0.69	0.02	0.49	0.67	0.29

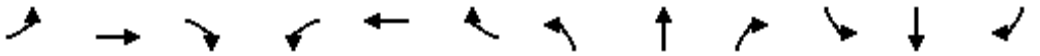
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 108 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	

Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 84.8%	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: 21: Strandherd Dr & CrossKeys Pl/Helene-Campbell Rd

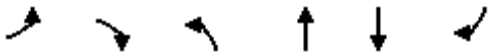




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	68	51	17	89	448	49	16	16	388	17	15
Future Volume (Veh/h)	15	68	51	17	89	448	49	16	16	388	17	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	68	51	17	89	448	49	16	16	388	17	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)					156							
pX, platoon unblocked												
vC, conflicting volume	537			119			270	694	94	270	272	89
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	537			119			270	694	94	270	272	89
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			92	96	98	39	97	98
cM capacity (veh/h)	1031			1469			645	357	963	635	618	969

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	134	106	448	81	420
Volume Left	15	17	0	49	388
Volume Right	51	0	448	16	15
cSH	1031	1469	1700	589	642
Volume to Capacity	0.01	0.01	0.26	0.14	0.65
Queue Length 95th (m)	0.3	0.3	0.0	3.6	36.7
Control Delay (s)	1.1	1.3	0.0	12.1	20.6
Lane LOS	A	A		B	C
Approach Delay (s)	1.1	0.2		12.1	20.6
Approach LOS				B	C

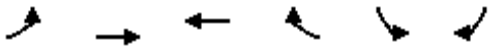
Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	52.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	90	0	1437	1310	51
Future Volume (Veh/h)	0	90	0	1437	1310	51
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	90	0	1437	1310	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				138	119	
pX, platoon unblocked	0.86	0.77	0.77			
vC, conflicting volume	2054	680	1361			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	971	6	884			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	89	100			
cM capacity (veh/h)	216	833	590			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	90	718	718	873	488
Volume Left	0	0	0	0	0
Volume Right	90	0	0	0	51
cSH	833	1700	1700	1700	1700
Volume to Capacity	0.11	0.42	0.42	0.51	0.29
Queue Length 95th (m)	2.8	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.8	0.0		0.0	
Approach LOS	A				

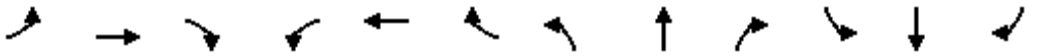
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		



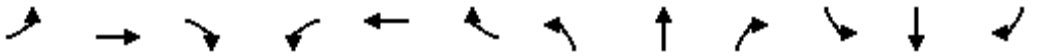
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	22	46	107	112	0
Future Volume (Veh/h)	2	22	46	107	112	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	22	46	107	112	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	354	224	224	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	354	224	224	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	96	93	90	93	
cM capacity (veh/h)	485	628	628	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	153	112
Volume Left	2	0	112
Volume Right	0	107	0
cSH	613	890	1623
Volume to Capacity	0.04	0.17	0.07
Queue Length 95th (m)	0.9	4.7	1.7
Control Delay (s)	11.1	9.9	7.4
Lane LOS	B	A	A
Approach Delay (s)	11.1	9.9	7.4
Approach LOS	B	A	

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	22.7%	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)	89	31	7	107	83	459	5	1153	71	546	1109	243
Future Volume (vph)	89	31	7	107	83	459	5	1153	71	546	1109	243
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.972				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2917	1310	0	1631	1504	1517	1330	3293	1517	3195	3232	1369
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2917	1310	0	1628	1504	1517	1330	3293	1517	3195	3232	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				254			180			230
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)			2	2								
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 (%)	15%	29%	60%	6%	21%	2%	30%	5%	2%	5%	7%	13%
Adj. Flow (vph)	89	31	7	107	83	459	5	1153	71	546	1109	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	38	0	107	83	459	5	1153	71	546	1109	243
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

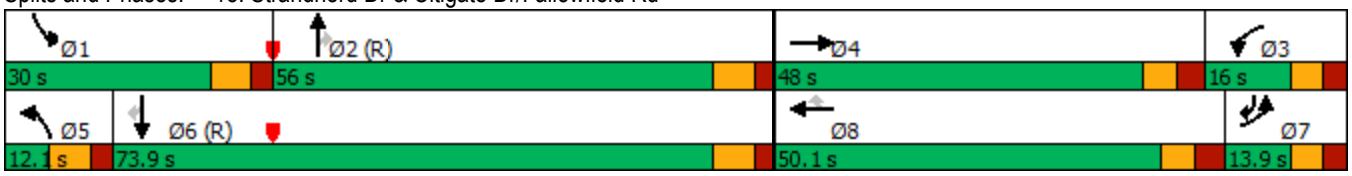


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	13.9	48.0		16.0	50.1	50.1	12.1	56.0	56.0	30.0	73.9	13.9
Total Split (%)	9.3%	32.0%		10.7%	33.4%	33.4%	8.1%	37.3%	37.3%	20.0%	49.3%	9.3%
Maximum Green (s)	7.4	41.0		9.5	43.1	43.1	5.0	49.1	49.1	22.9	67.0	7.4
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	8.9	9.2		31.4	29.2	29.2	5.7	52.3	52.3	32.1	89.1	103.6
Actuated g/C Ratio	0.06	0.06		0.21	0.19	0.19	0.04	0.35	0.35	0.21	0.59	0.69
v/c Ratio	0.52	0.44		0.31	0.28	0.92	0.10	1.00	0.11	0.80	0.58	0.24
Control Delay	79.2	72.6		51.7	50.6	49.5	74.0	75.6	0.3	65.6	23.1	2.2
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	79.2	72.6		51.7	50.6	49.5	74.0	75.6	0.3	65.6	23.1	2.2
LOS	E	E		D	D	D	E	E	A	E	C	A
Approach Delay		77.2			50.0			71.3			32.7	
Approach LOS		E			D			E			C	
Queue Length 50th (m)	13.4	9.1		27.4	21.2	66.2	1.5	~199.3	0.0	79.1	101.7	1.0
Queue Length 95th (m)	#24.4	21.0		43.1	32.9	102.3	6.3	#241.7	0.0	#132.5	171.8	11.8
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	174	363		341	432	616	50	1148	646	682	1919	1007
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	0.51	0.10		0.31	0.19	0.75	0.10	1.00	0.11	0.80	0.58	0.24

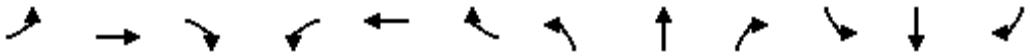
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 115 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 49.2		Intersection LOS: D	

Intersection Capacity Utilization 84.8% 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	83	327	18	74	42	372	1248	27	121	1056	20
Future Volume (vph)	95	83	327	18	74	42	372	1248	27	121	1056	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.98
Frt			0.850		0.946			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1654	0	3257	3344	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1674	1784	1492	1688	1654	0	3249	3344	0	1689	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103		26			2				104
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	17		5	5		17	4		9	9		4
Confl. Bikes (#/hr)									2			2
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%	5%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	95	83	327	18	74	42	372	1248	27	121	1056	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	83	327	18	116	0	372	1275	0	121	1056	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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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												



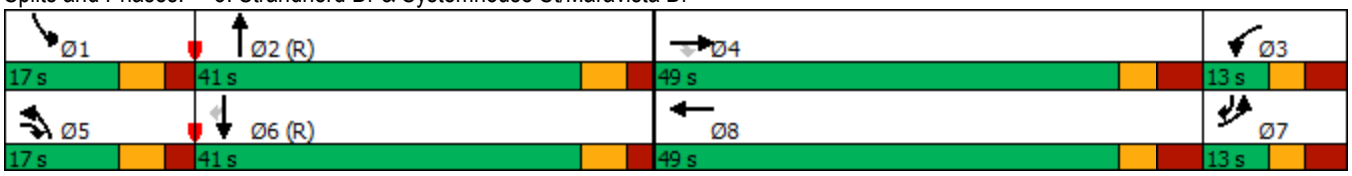
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	13.0	49.0	17.0	13.0	49.0		17.0	41.0		17.0	41.0	13.0
Total Split (%)	10.8%	40.8%	14.2%	10.8%	40.8%		14.2%	34.2%		14.2%	34.2%	10.8%
Maximum Green (s)	5.8	41.5	10.1	5.8	41.5		10.1	34.4		10.1	34.4	5.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		5			15			9			4	
Act Effct Green (s)	11.7	30.6	51.3	11.8	22.8		20.1	45.5		11.8	37.2	48.3
Actuated g/C Ratio	0.10	0.26	0.43	0.10	0.19		0.17	0.38		0.10	0.31	0.40
v/c Ratio	0.58	0.18	0.47	0.11	0.35		0.68	1.00		0.73	1.00	0.03
Control Delay	68.0	36.8	14.4	49.2	31.5		54.5	63.2		60.3	80.7	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	68.0	36.8	14.4	49.2	31.5		54.5	63.2		60.3	80.7	1.2
LOS	E	D	B	D	C		D	E		E	F	A
Approach Delay		28.1			33.9			61.2			77.3	
Approach LOS		C			C			E			E	
Queue Length 50th (m)	21.1	14.7	28.0	4.1	20.5		36.7	131.0		29.1	119.6	0.0
Queue Length 95th (m)	#59.0	25.1	40.4	11.7	28.6		#89.0	#245.2		m#42.0	#194.3	m0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	165	616	701	167	589		545	1269		166	1051	664
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	0.58	0.13	0.47	0.11	0.20		0.68	1.00		0.73	1.00	0.03

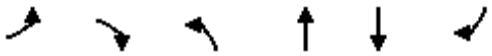
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	

Intersection Signal Delay: 60.9	Intersection LOS: E
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

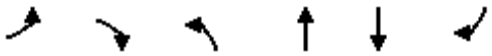
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Strandherd Dr & Systemhouse St/Maravista Dr





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	115	178	1544	1760	101
Future Volume (vph)	149	115	178	1544	1760	101
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	100.0			50.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1517	1695	3390	3390	1517
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1695	1517	1695	3390	3390	1517
Right Turn on Red		No				Yes
Satd. Flow (RTOR)						48
Link Speed (k/h)	50			70	70	
Link Distance (m)	90.1			268.5	138.0	
Travel Time (s)	6.5			13.8	7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	149	115	178	1544	1760	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	115	178	1544	1760	101
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	41.4	41.4	9.0	16.9	30.9	30.9
Total Split (s)	41.4	41.4	14.0	78.6	64.6	64.6
Total Split (%)	34.5%	34.5%	11.7%	65.5%	53.8%	53.8%
Maximum Green (s)	34.0	34.0	10.0	71.7	57.7	57.7
Yellow Time (s)	3.3	3.3	3.0	4.2	4.2	4.2
All-Red Time (s)	4.1	4.1	1.0	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	4.0	6.9	6.9	6.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	27.0	27.0			17.0	17.0
Pedestrian Calls (#/hr)	5	5			5	5
Act Effct Green (s)	18.3	18.3	21.3	87.4	62.0	62.0
Actuated g/C Ratio	0.15	0.15	0.18	0.73	0.52	0.52
v/c Ratio	0.58	0.50	0.59	0.63	1.00	0.13
Control Delay	54.3	51.9	53.3	11.4	36.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	51.9	53.3	11.4	36.6	3.3
LOS	D	D	D	B	D	A
Approach Delay	53.2			15.8	34.8	
Approach LOS	D			B	C	
Queue Length 50th (m)	33.8	25.8	41.2	56.9	76.2	1.3
Queue Length 95th (m)	45.7	36.9	m#80.2	120.3	m#254.8	m3.0
Internal Link Dist (m)	66.1			244.5	114.0	
Turn Bay Length (m)			100.0			50.0
Base Capacity (vph)	480	429	301	2467	1752	807
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.27	0.59	0.63	1.00	0.13

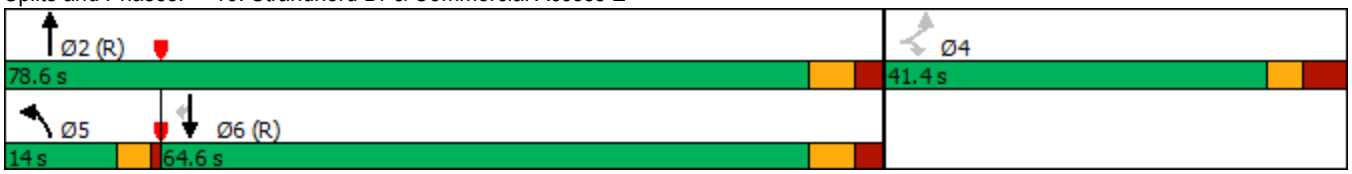
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 41 (34%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 27.5		Intersection LOS: C	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

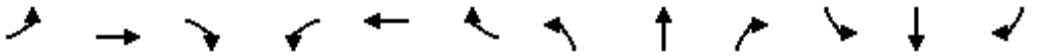
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Strandherd Dr & Commercial Access E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	333	109	12	182	94	496	8	1020	185	440	1611	237
Future Volume (vph)	333	109	12	182	94	496	8	1020	185	440	1611	237
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00		1.00								
Frt		0.985				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3195	1681	0	1695	1701	1488	1235	3293	1517	3288	3390	1488
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3195	1681	0	1692	1701	1488	1235	3293	1517	3288	3390	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				201			180			158
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)			2	2								
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%	6%	11%	2%	7%	4%	40%	5%	2%	2%	2%	4%
Adj. Flow (vph)	333	109	12	182	94	496	8	1020	185	440	1611	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	333	121	0	182	94	496	8	1020	185	440	1611	237
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	

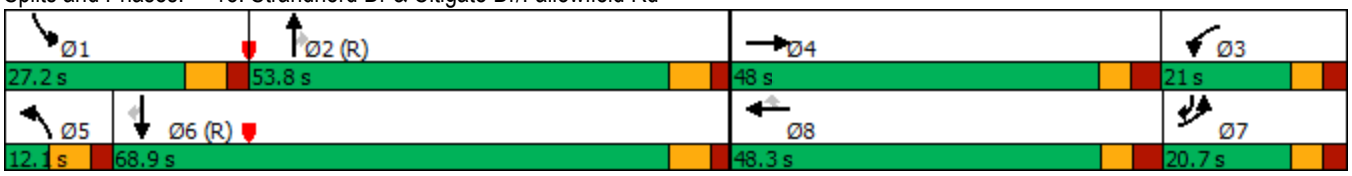


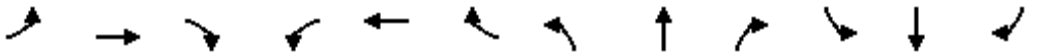
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	20.7	48.0		21.0	48.3	48.3	12.1	53.8	53.8	27.2	68.9	20.7
Total Split (%)	13.8%	32.0%		14.0%	32.2%	32.2%	8.1%	35.9%	35.9%	18.1%	45.9%	13.8%
Maximum Green (s)	14.2	41.0		14.5	41.3	41.3	5.0	46.9	46.9	20.1	62.0	14.2
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	17.7	15.9		39.1	37.3	37.3	5.1	46.9	46.9	20.6	72.2	95.5
Actuated g/C Ratio	0.12	0.11		0.26	0.25	0.25	0.03	0.31	0.31	0.14	0.48	0.64
v/c Ratio	0.88	0.67		0.41	0.22	0.95	0.19	0.99	0.31	0.98	0.99	0.24
Control Delay	88.4	79.4		50.4	44.8	61.6	81.1	76.9	6.8	100.5	57.8	4.5
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	88.4	79.4		50.4	44.8	61.6	81.1	76.9	6.8	100.5	57.8	4.5
LOS	F	E		D	D	E	F	E	A	F	E	A
Approach Delay		86.0			56.9			66.2			60.5	
Approach LOS		F			E			E			E	
Queue Length 50th (m)	~57.7	34.0		44.9	21.6	92.2	2.4	159.4	1.0	68.5	238.5	8.6
Queue Length 95th (m)	#89.2	53.6		72.4	37.0	#158.0	8.4	#205.8	18.7	#104.1	#337.6	19.5
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	377	462		442	468	555	42	1029	598	451	1630	1005
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	0.26		0.41	0.20	0.89	0.19	0.99	0.31	0.98	0.99	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 63.8		Intersection LOS: E	

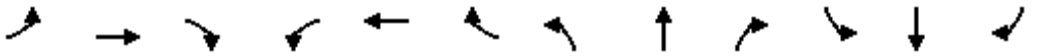
Intersection Capacity Utilization 93.3% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	70	335	19	87	52	465	941	25	120	966	12
Future Volume (vph)	72	70	335	19	87	52	465	941	25	120	966	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	80.0		0.0	20.0		0.0	125.0		0.0	150.0		60.0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (m)	40.0			40.0			70.0			40.0		
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	0.98		0.98	0.99	0.99		1.00	1.00		0.99		0.98
Frt			0.850		0.944			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1784	1517	1695	1644	0	3288	3373	0	1695	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1661	1784	1488	1685	1644	0	3281	3373	0	1686	3390	1490
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151		29			2				108
Link Speed (k/h)		50			40			70			70	
Link Distance (m)		156.5			408.1			119.6			445.2	
Travel Time (s)		11.3			36.7			6.2			22.9	
Confl. Peds. (#/hr)	29		8	8		29	4		9	9		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%	5%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	72	70	335	19	87	52	465	941	25	120	966	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	70	335	19	139	0	465	966	0	120	966	12
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)		3.7			3.7			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
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)	6.1	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)	6.1	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	

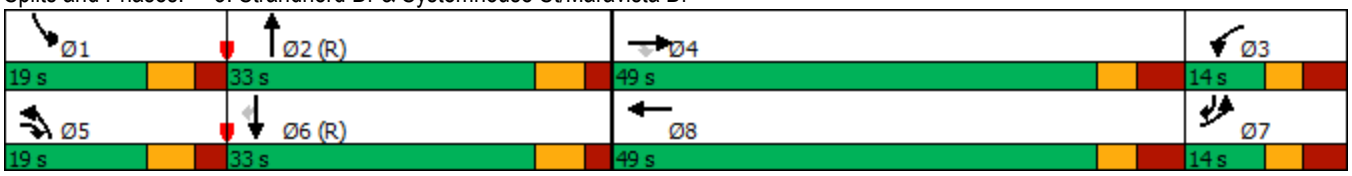


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	12.2	48.5	11.9	12.2	48.5		11.9	31.6		11.9	31.6	12.2
Total Split (s)	14.0	49.0	19.0	14.0	49.0		19.0	33.0		19.0	33.0	14.0
Total Split (%)	12.2%	42.6%	16.5%	12.2%	42.6%		16.5%	28.7%		16.5%	28.7%	12.2%
Maximum Green (s)	6.8	41.5	12.1	6.8	41.5		12.1	26.4		12.1	26.4	6.8
Yellow Time (s)	3.3	3.3	4.2	3.3	3.3		4.2	4.2		4.2	4.2	3.3
All-Red Time (s)	3.9	4.2	2.7	3.9	4.2		2.7	2.4		2.7	2.4	3.9
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)	7.2	7.5	6.9	7.2	7.5		6.9	6.6		6.9	6.6	7.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead		Lead	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
Recall Mode	None	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)		34.0			34.0			18.0			18.0	
Pedestrian Calls (#/hr)		8			20			9			4	
Act Effct Green (s)	7.6	37.8	59.0	6.5	28.7		20.6	42.0		11.3	32.7	39.7
Actuated g/C Ratio	0.07	0.33	0.51	0.06	0.25		0.18	0.37		0.10	0.28	0.35
v/c Ratio	0.65	0.12	0.40	0.20	0.32		0.79	0.78		0.72	1.00	0.02
Control Delay	78.8	23.4	7.3	56.5	26.2		64.3	38.5		74.6	72.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.8	23.4	7.3	56.5	26.2		64.3	38.5		74.6	72.4	0.1
LOS	E	C	A	E	C		E	D		E	E	A
Approach Delay		20.4			29.8			46.9			71.9	
Approach LOS		C			C			D			E	
Queue Length 50th (m)	16.2	8.2	15.0	4.2	17.0		~68.6	~123.3		26.4	~142.3	0.0
Queue Length 95th (m)	#38.1	20.5	28.2	11.8	31.9		#106.0	#179.1		#51.5	#182.1	0.0
Internal Link Dist (m)		132.5			384.1			95.6			421.2	
Turn Bay Length (m)	80.0			20.0			125.0			150.0		60.0
Base Capacity (vph)	111	730	842	102	611		589	1233		178	962	586
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	0.65	0.10	0.40	0.19	0.23		0.79	0.78		0.67	1.00	0.02

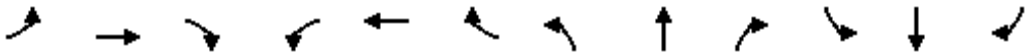
Intersection Summary	
Area Type:	Other
Cycle Length: 115	
Actuated Cycle Length: 115	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 50.7	Intersection LOS: D

Intersection Capacity Utilization 94.6% 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: 3: Strandherd Dr & Systemhouse St/Maravista Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	81	10	123	87	170	8	1280	148	202	1299	174
Future Volume (vph)	146	81	10	123	87	170	8	1280	148	202	1299	174
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	65.0		0.0	125.0		100.0	70.0		90.0	120.0		80.0
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (m)	60.0			50.0			50.0			80.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.98	1.00					0.97
Frt		0.984				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2819	1589	0	1662	1717	1459	1383	3390	1473	3225	3293	1446
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2807	1589	0	1662	1717	1435	1381	3390	1473	3225	3293	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				174			175			132
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		255.8			268.7			253.1			238.6	
Travel Time (s)		18.4			19.3			18.2			17.2	
Confl. Peds. (#/hr)	6					6	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 (%)	19%	9%	43%	4%	6%	6%	25%	2%	5%	4%	5%	7%
Adj. Flow (vph)	146	81	10	123	87	170	8	1280	148	202	1299	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	91	0	123	87	170	8	1280	148	202	1299	174
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)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		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
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	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
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	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.5	48.0		11.5	48.0	48.0	12.1	29.9	29.9	12.1	29.9	11.5
Total Split (s)	12.0	48.0		12.0	48.0	48.0	19.0	31.0	31.0	19.0	31.0	12.0
Total Split (%)	10.9%	43.6%		10.9%	43.6%	43.6%	17.3%	28.2%	28.2%	17.3%	28.2%	10.9%
Maximum Green (s)	5.5	41.0		5.5	41.0	41.0	11.9	24.1	24.1	11.9	24.1	5.5
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	3.7
All-Red Time (s)	2.8	3.3		2.8	3.3	3.3	2.5	2.3	2.3	2.5	2.3	2.8
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)	6.5	7.0		6.5	7.0	7.0	7.1	6.9	6.9	7.1	6.9	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		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	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			34.0	34.0		16.0	16.0		16.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	17.2	12.2		20.2	11.8	11.8	6.3	41.3	41.3	12.2	57.6	75.2
Actuated g/C Ratio	0.16	0.11		0.18	0.11	0.11	0.06	0.38	0.38	0.11	0.52	0.68
v/c Ratio	0.33	0.51		0.40	0.47	0.55	0.10	1.00	0.22	0.57	0.75	0.17
Control Delay	43.0	52.3		45.6	54.3	13.5	52.8	53.0	4.8	52.4	26.1	1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	52.3		45.6	54.3	13.5	52.8	53.0	4.8	52.4	26.1	1.9
LOS	D	D		D	D	B	D	D	A	D	C	A
Approach Delay		46.6			33.2			48.1			26.7	
Approach LOS		D			C			D			C	
Queue Length 50th (m)	14.4	17.6		24.2	18.0	0.0	1.9	~55.7	0.0	21.5	103.2	1.7
Queue Length 95th (m)	23.6	32.4		42.1	32.5	18.0	m2.9	#220.5	m7.9	32.0	#205.2	7.3
Internal Link Dist (m)		231.8			244.7			229.1			214.6	
Turn Bay Length (m)	65.0			125.0		100.0	70.0		90.0	120.0		80.0
Base Capacity (vph)	440	596		305	639	644	149	1274	662	382	1725	1008
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	0.33	0.15		0.40	0.14	0.26	0.05	1.00	0.22	0.53	0.75	0.17

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 36.9	Intersection LOS: D

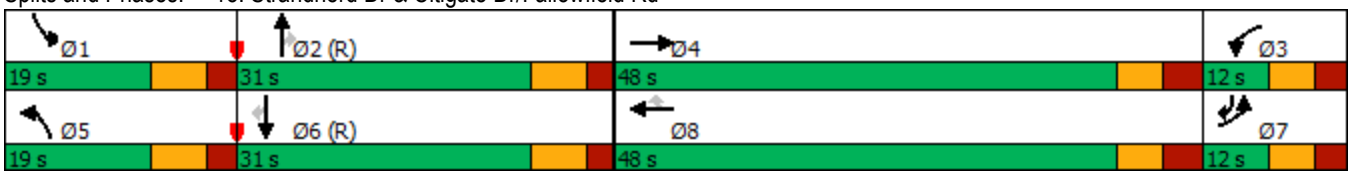
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

~ 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: 18: Strandherd Dr & Citigate Dr/Fallowfield Rd



APPENDIX K

TDM Measures

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)*	☒
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 L

MMLOS Review

Intersection MMLOS Analysis

The following is a review of the MMLOS of the signalized intersections within the study area, using complete streets principles. Strandherd Drive/Citigate Drive/Fallowfield Road, Strandherd Drive/CrossKeys Place/Hélène-Campbell Road, Strandherd Drive/Systemhouse Street/Maravista Drive and Strandherd Drive/Dealership Drive/Kennevale Drive have been evaluated using the MMLOS targets for intersections in an Employment Area.

Exhibit 5 of the Addendum to the MMLOS Guidelines has been used to evaluate the existing PLOS at the intersections listed above. Exhibit 22 of the MMLOS Guidelines suggests a target PLOS C for all roadways within an Employment Area. The results of the intersection PLOS analysis are summarized in **Tables 1, 2, 3,** and **4**.

Exhibit 12 of the MMLOS Guidelines has been used to evaluate the existing BLOS at the intersection listed above. As per Exhibit 22 of the MMLOS Guidelines suggest a target BLOS B for arterial crosstown bikeway routes within an Employment Area. The results of the intersection BLOS analysis are summarized in **Table 5**.

Exhibit 16 of the MMLOS Guidelines has been used to evaluate the existing TLOS at the intersection listed above. Exhibit 22 of the MMLOS Guidelines does not identify a target TLOS for roads without transit priority measures. The TLOS has been evaluated for every approach that is currently used by transit. The results of the intersection TLOS analysis are summarized in **Table 6**.

Exhibit 21 of the MMLOS Guidelines has been used to evaluate the existing TkLOS at the intersection listed above. Exhibit 22 of the MMLOS Guidelines identifies a target TkLOS B for truck arterial truck routes in the Employment Area and a TkLOS D for collector roads without a truck route designation in an Employment Area. The results of the intersection TkLOS analysis are summarized in **Table 7**.

Table 1: PLOS Intersection Analysis – Strandherd Drive/Citigate Drive/Fallowfield Road

Criteria	North Approach		South Approach		East Approach		West Approach	
Strandherd Drive/Citigate Drive/Fallowfield Road								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	-10	No	6	No	55	No	55
Lanes Crossed (3.5m Lane Width)	10 +		9		6		6	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Protected	0	Protected	0	Protected	0	Protected	0
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Perm + Prot	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 25m	-9	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	Conventional with Receiving	-3	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	> 10m to 15m	-6	> 15m to 25m	-8	> 25m	-9	> 10m to 15m	-6
Perpendicular Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	Conventional with Receiving	-3	No Right Turn Channel	-4
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETSI SCORE		**-49**		**-33**		**14**		**0**
LOS		**F**		**F**		**F**		**F**
DELAY SCORE								
Cycle Length		120		120		120		120
Pedestrian Walk Time		7		7		11.1		11.1
DELAY SCORE		**53.2**		**53.2**		**49.4**		**49.4**
LOS		**E**		**E**		**E**		**E**
OVERALL		**F**		**F**		**F**		**F**

Table 2: PLOS Intersection Analysis – Strandherd Drive/CrossKeys Place/Hélène-Campbell Road

Criteria	North Approach		South Approach		East Approach		West Approach	
Strandherd Drive/CrossKeys Place/Hélène-Campbell Road								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	6	No	-10	No	55	No	39
Lanes Crossed (3.5m Lane Width)	9		10 +		6		7	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Protected	0	Protected	0
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Perm + Prot	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 15m to 25m	-8	> 15m to 25m	-8	> 10m to 15m	-6	> 10m to 15m	-6
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8
Perpendicular Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETSI SCORE		**-41**		**-57**		**16**		**0**
LOS		**F**		**F**		**F**		**F**
DELAY SCORE								
Cycle Length		120		120		120		120
Pedestrian Walk Time		11.1		11.1		7		7
DELAY SCORE		**49.4**		**49.4**		**53.2**		**53.2**
LOS		**E**		**E**		**E**		**E**
OVERALL		**F**		**F**		**F**		**F**

Table 3: PLOS Intersection Analysis – Strandherd Drive/Systemhouse Street/Maravista Drive

Criteria	North Approach		South Approach		East Approach		West Approach	
Strandherd Drive/Systemhouse Street/Maravista Drive								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	6	No	6	No	55	No	39
Lanes Crossed (3.5m Lane Width)	9		9		6		7	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Protected	0	Protected	0	Protected	0	Protected	0
Right Turn Conflict	Permissive or Yield	-5	Perm + Prot	-5	Permissive or Yield	-5	Perm + Prot	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 15m to 25m	-8	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	> 10m to 15m	-6
Perpendicular Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETSI SCORE		**-27**		**-25**		**22**		**0**
LOS		**F**		**F**		**F**		**F**
DELAY SCORE								
Cycle Length		130		130		130		130
Pedestrian Walk Time		7.5		7.5		16.4		16.4
DELAY SCORE		**57.7**		**57.7**		**49.6**		**49.6**
LOS		**E**		**E**		**E**		**E**
OVERALL		**F**		**F**		**F**		**F**

Table 4: PLOS Intersection Analysis – Strandherd Drive/Dealership Drive/Kennevale Road

Criteria	North Approach		South Approach		East Approach		West Approach	
Strandherd Drive/Dealership Drive/Kennevale Road								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	23	No	39	No	72	No	39
Lanes Crossed (3.5m Lane Width)	8		7		5		7	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Protected	0	Protected	0
Right Turn Conflict	Permissive or Yield	-5	Perm + Prot	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 15m to 25m	-8	> 15m to 25m	-8	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	> 15m to 25m	-8	> 15m to 25m	-8	> 15m to 25m	-8	> 15m to 25m	-8
Perpendicular Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
CROSSING TREATMENT								
Treatment	Zebra Stripe	-4	Zebra Stripe	-4	Standard	-7	Zebra Stripe	-4
PETSI SCORE		**-23**		**-7**		**31**		**1**
LOS		**F**		**F**		**E**		**F**
DELAY SCORE								
Cycle Length		120		120		120		120
Pedestrian Walk Time		7.8		7.8		34.9		34.9
DELAY SCORE		**52.5**		**52.5**		**30.2**		**30.2**
LOS		**E**		**E**		**D**		**D**
OVERALL		**F**		**F**		**E**		**F**

Table 5: BLOS Intersection Analysis

Approach	Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Strandherd Drive/Citigate Drive/Fallowfield Road				
North Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two-stage, left turn bike box ≤ 50km/h	A
South Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two-stage, left turn bike box ≤ 50km/h	A
East Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	One lane crossed ≥ 60km/h	**E**
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Dual left-turn lanes	**F**
Strandherd Drive/CrossKeys Place/Hélène-Campbell Road				
North Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two-stage, left turn bike box ≤ 50km/h	A
South Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two-stage, left turn bike box ≤ 50km/h	A
East Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right Turn Lane > 50m long	**D**
		Left Turn Accommodation	One lane crossed ≥ 60km/h	**E**
West Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right Turn Lane > 50m long	**D**
		Left Turn Accommodation	One lane crossed ≥ 60km/h	**E**
Strandherd Drive/Systemhouse Street/Maravista Drive				
North Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two-stage, left turn bike box ≤ 50km/h	A
South Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two-stage, left turn bike box ≤ 50km/h	A
East Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	One lane crossed ≤ 50km/h	C
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	One lane crossed ≥ 60km/h	**F**
Strandherd Drive/Dealership Drive/Kennevale Road				
North Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A

Approach	Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
		Left Turn Accommodation	Protected Corner	A
South Approach	Cycle Track	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Protected Corner	A
East Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Protected Corner	A
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Protected Corner	A

Table 6: TLOS Intersection Analysis

Approach	Delay[1]		TLOS
	PM Peak	SAT Peak	
Strandherd Drive/Citigate Drive/Fallowfield Road			
North Approach	31 sec	18 sec	E
South Approach	91 sec	21 sec	F
East Approach	46 sec	37 sec	F
West Approach	112 sec	77 sec	F
Strandherd Drive/CrossKeys Place/Hélène-Campbell Road			
North Approach	25 sec	19 sec	D
South Approach	45 sec	45 sec	F
East Approach	23 sec	19 sec	D
Strandherd Drive/Systemhouse Street/Maravista Drive			
North Approach	80 sec	169 sec	F
South Approach	34 sec	48 sec	F
East Approach	31 sec	28 sec	E
West Approach	27 sec	21 sec	D
Strandherd Drive/Dealership Drive/Kennevale Road			
North Approach	20 sec	16 sec	C
South Approach	21 sec	19 sec	D
East Approach	50 sec	33 sec	F

1. Delay based on outputs from Synchro analysis of existing conditions

Table 7: TkLOS Intersection Analysis

Approach	Effective Corner Radius	Number of Receiving Lanes Departing Intersection	TkLOS
Strandherd Drive/Citigate Drive/Fallowfield Road			
North Approach	> 15m	1	**C**
South Approach	> 15m	2	A
East Approach	> 15m	2	A
West Approach	10 to 15m	2	B
Strandherd Drive/CrossKeys Place/Hélène-Campbell Road			
North Approach	10 to 15m	2	B
South Approach	10 to 15m	1	**E**
East Approach	> 15m	2	A

Approach	Effective Corner Radius	Number of Receiving Lanes Departing Intersection	TkLOS
West Approach	> 15m	2	A
Strandherd Drive/Systemhouse Street/Maravista Drive			
North Approach	> 15m	2	A
South Approach	> 15m	1	**C**
East Approach	> 15m	2	A
West Approach	> 15m	2	A
Strandherd Drive/Dealership Drive/Kennevale Road			
North Approach	> 15m	2	A
South Approach	> 15m	1	**C**
East Approach	> 15m	2	A
West Approach	> 15m	2	A

Segment MMLOS Analysis

This section provides a review of the boundary streets Strandherd Drive and Systemhouse Street using complete streets principles. The *Multi-Modal Level of Service (MMLOS) Guidelines*, produced by IBI Group in October 2015 and the 2017 MMLOS Addendum, were used to evaluate the levels of service for each alternative mode of transportation, based on the targets for areas within an 'Employment Area'.

Exhibit 4 of the *MMLOS Guidelines* has been used to evaluate the segment pedestrian level of service (PLOS) of Strandherd Drive and Systemhouse Street. Exhibit 22 suggests a target PLOS C for all roadways within Employment Areas. The results of the segment PLOS analysis are summarized in **Table 1**.

Exhibit 11 of the *MMLOS Guidelines* has been used to evaluate the segment bicycle level of service (BLOS) of Strandherd Drive and Systemhouse Street. Within Employment Areas, Exhibit 22 suggests a target BLOS B for arterial roadways with a crosstown bikeway designation and BLOS E for collector roadways with no cycling designation. The results of the segment BLOS analysis are summarized in **Table 2**.

Exhibit 15 of the *MMLOS Guidelines* has been used to evaluate the segment transit level of service (TLOS) of Strandherd Drive and Systemhouse Street. Within Employment Areas, Exhibit 22 does not identify a target TLOS for roadways that are not in the City's Transit Priority Network. As the boundary streets have existing transit routes, the TLOS has been identified. The results of the segment TLOS analysis are summarized in **Table 3**.

Exhibit 20 of the *MMLOS Guidelines* has been used to evaluate the segment truck level of service (TkLOS) of Strandherd Drive and Systemhouse Street. Within Employment Areas, Exhibit 22 suggests a target TkLOS B for arterial roadways with a truck route designation and TkLOS D for collector roadways with no truck route designation. The results of the segment TkLOS analysis are summarized in **Table 4**.

Table 1: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed[1]	PLOS
Strandherd Dr (east side, Systemhouse St/Maravista Dr to Dealership Dr/Kennevale Dr)					
1.8m	3.8m	> 3,000 vpd	No	80 km/h	E
Strandherd Dr (west side, Systemhouse St/Maravista Dr to Dealership Dr/Kennevale Dr)					
1.8m	3.8m	> 3,000 vpd	No	80 km/h	E
Systemhouse St (north side, Strandherd Dr to Citigate Dr)					
2.0m	0m	< 3,000 vpd	N/a	60 km/h	C
Systemhouse St (south side, Strandherd Dr to Citigate Dr)					
2.0m	0m	< 3,000 vpd	N/a	60 km/h	C

1. Operating speed taken as the speed limit plus 10 km/h.

Table 2: BLOS Segment Analysis

Road Class	Type of Route	Type of Bikeway	Travel Lanes	Operating Speed	BLOS
Strandherd Dr (Systemhouse St/Maravista Dr to Dealership Dr/Kennevale Dr)					
Arterial	Crosstown	Cycle track	4	80 km/h	A
Systemhouse St (Strandherd Dr to Citigate Dr)					
Collector	N/A	Mixed Traffic	2	60 km/h	**F**

Table 3: TLOS Segment Analysis

Facility Type	Exposure to Congestion Delay, Friction, and Incidents			TLOS
	Congestion	Friction	Incident Potential	
Strandherd Dr (Systemhouse St/Maravista Dr to Dealership Dr/Kennevale Dr)				
Mixed Traffic; Limited Parking/Driveway Friction	Yes	Low	Medium	D
Systemhouse St (Strandherd Dr to Citigate Dr)				
Mixed Traffic; Limited Parking/Driveway Friction	Yes	Low	Medium	D

Table 4: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes Per Direction	TkLOS
Strandherd Dr (both sides, Systemhouse St/Maravista Dr to Dealership Dr/Kennevale Dr)		
> 3.7m	2	A
Systemhouse St (Strandherd Dr to Citigate Dr)		
> 3.7m	1	B

APPENDIX M

Signalization Warrant

NOVATECH
Engineers, Planners & Landscape Architects

TRAFFIC SIGNAL JUSTIFICATION USING PROJECTED VOLUMES

LOCATION: Strandherd **at** Access

YEAR: 2030

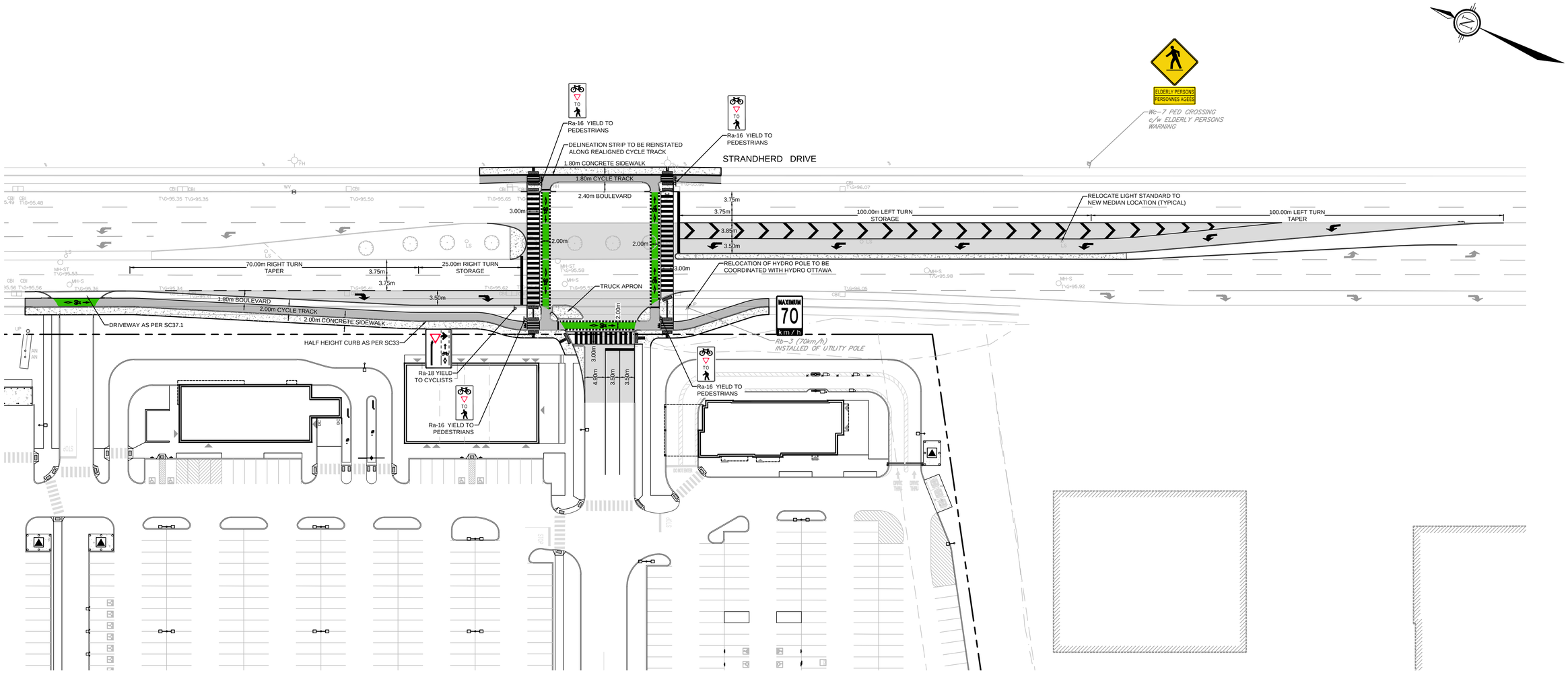
JUSTIFICATION	DESCRIPTION	MINIMUM REQUIREMENT		COMPLIANCE		
		FREE FLOW	RESTRICTED FLOW	SECTIONAL		ENTIRE % (2)
		OPERATING SPEED ≥ 70KM/H	OPERATING SPEED < 70 KM/H	NUMERICAL	PERCENT	
1. MINIMUM VEHICULAR WARRANT	A. Vehicle volume, all approaches (average hour)	480 600 (2 or more lane approach	720 900 (2 or more lane approach	1680	280%	48%
	B. Vehicle volume along minor street (average hour)	120 180 (tee intersection)	170 255 (tee intersection)	87	48%	
2. DELAY TO CROSS TRAFFIC	A. Vehicle volume along major street (average hour)	480 600 (2 or more lane approach)	720 900 (2 or more lane approach	1555	259%	166%
	B (1). Combined vehicle and pedestrian volume crossing the major street (average hour)	50	75	83	166%	

NOTES

1) For definition of crossing volume refer to the Ontario Traffic Manual Book 12, Section 4.5 (Nov. 2007).
2) The lowest sectional percentage governs the entire Justification.
3) Average hourly volumes estimated from peak hour volumes, AHV = PM / 2 or AHV = (AM + PM) / 4.

APPENDIX N

Functional Design



NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

LEGEND

- PROPOSED ASPHALT
- PROPOSED CONCRETE
- DC — PROPOSED DEPRESSED CURB
- LS — EXISTING LIGHT STANDARD
- MH-S — EXISTING SANITARY MANHOLE
- MH-ST — EXISTING STORM MANHOLE
- CBI — EXISTING CURB INLET CATCHBASIN

No.	REVISION	DATE	BY
1.	ISSUED FOR CITY REVIEW	JAN 16/26	BJB

SCALE: 1:500 (1:500, 0 5 10 15 20)

DESIGN: RCH
CHECKED: TVW
DRAWN: RCH
CHECKED: TVW
APPROVED: BJB

FOR REVIEW ONLY

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Website www.novatech-eng.com

LOCATION
CITY of OTTAWA
4175 STRANDHERD DRIVE

DRAWING NAME
ROADWAY MODIFICATION
FUNCTIONAL DESIGN

PROJECT No. 125050
REV REV # 1
DRAWING No. 125050-FD

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