

1009 Trim Road

TIA Strategy Report

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TIA Plan Reports

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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.

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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
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Strategy Report

Parsons has been retained by 9378-0633 Quebec Inc. to prepare a Transportation Impact Assessment (TIA) in support of a Zoning By-Law Amendment (ZBLA) for a residential development located at 1009 Trim Road in Orléans. This document follows the new TIA process, as outlined in the City Transportation Impact Assessment (TIA) Guidelines (2017). The following report represents Step 4 – Strategy Report.

1. Screening Form

The screening form confirmed the need for a TIA Report based on the Trip Generation trigger, given that the proposed development consists of three 24 to 32-storey buildings with approximately 795 residential units anticipated; The Location trigger given that the development is located within a Transit Oriented Development Zone (TOD) and within 600m of the future Trim LRT Station; and Safety trigger given that the proposed driveway is in the influence area of an adjacent intersection and there is documented safety concerns on boundary streets within 500m of the development. The Screening Form as well as City Comments and correspondence has been provided in **Appendix A**.

2. Scoping Report

2.1. Existing and Planned Conditions

2.1.1. PROPOSED DEVELOPMENT

The proposed development is located at the municipal address of 1009 Trim Road at the north-east corner of the Trim Road and Jeanne D'Arc Boulevard intersection. The proposed study area includes the intersections of Trim/Jeanne D'Arc, Trim/Hwy 174, future realigned New Trim/Jeanne D'arc intersection and roadway segments adjacent to site or between intersections as shown in **Figure 1**. More details regarding the study area found in **Section 2.1.2**.

The site is located approximately within 250m of Highway 174, where there is an at-grade signalized intersection with Trim Road. It has a developable area of approximately 3.3 acres next to Jeanne D'Arc Boulevard. The land elevation was raised above the floodplain with necessary approvals from Rideau Valley Conservation Authority and is now above the floodplain. The site has full servicing capabilities from Jeanne D'Arc Boulevard and has road access from Jeanne D'Arc Boulevard and Trim Road.

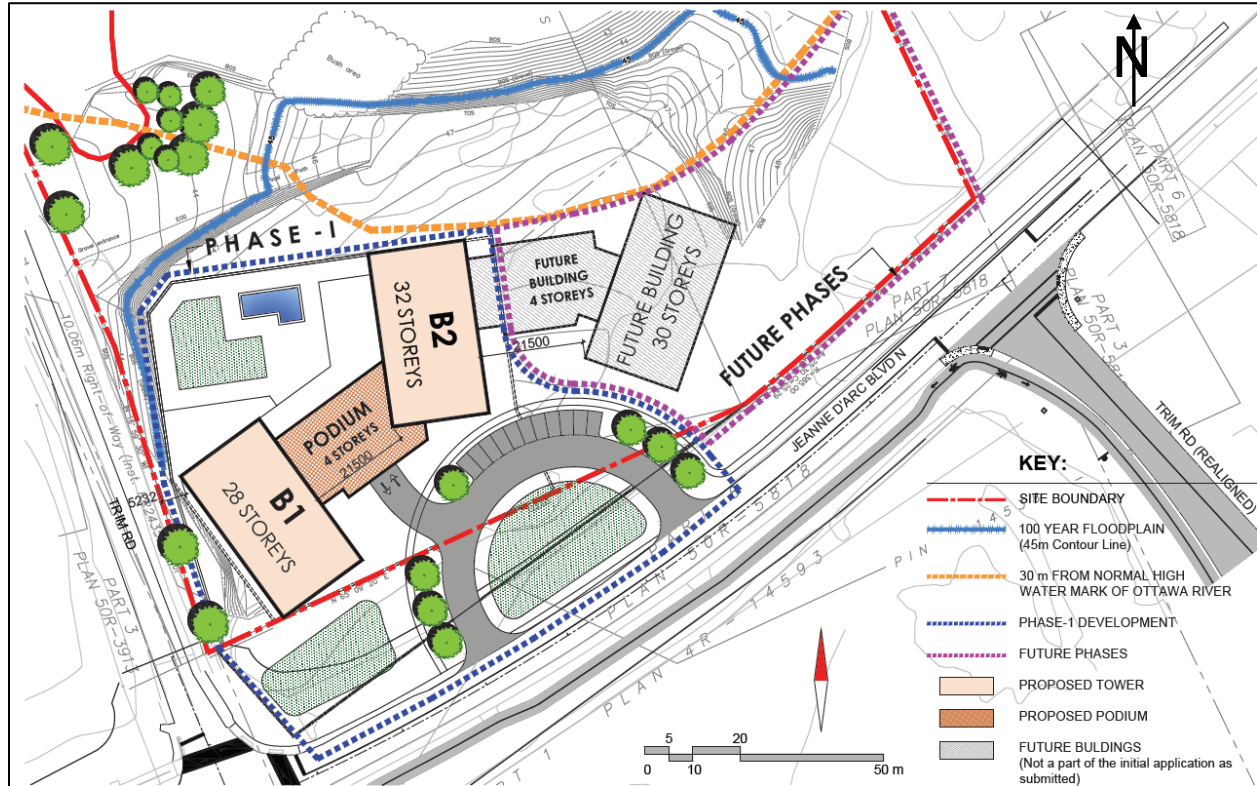
Figure 1: Local Context



The existing site is vacant, and the property is currently zoned as DR (Development Reserve), which triggers the re-zoning application to allow high rise residential buildings. The owners are currently seeking planning approvals for two apartment buildings of 28 to 32-storeys each connected by a 4-storey podium. Ultimately, a third building has been shown representing desired development that may be pursued through an amendment to the current application upon confirmation of additional lands that may be able to be developed. The ultimate plan contains 795 residential units combined. For the purposes of this study, full buildout of the site has been assumed by 2024. Note, this estimate is highly dependent on market forces, but is considered the earliest possible date.

The proposed plan provides two two-way accesses off Jeanne D'arc, leading to a driveway loop. There will be 11 surface parking spaces within the driveway loop. Access to resident parking is provided from an internal access road leading to the podium. The type of parking facility has yet to be confirmed, whether below grade and/or within the podium. Approximately 700 parking spaces are expected at this time. Onsite parking and design components have yet to be finalized and will be confirmed during the Site Plan Application. The current site plan concept is shown in **Figure 2**.

Figure 2: Proposed Site Plan



2.1.2. EXISTING CONDITIONS

Area Road Network

Ottawa Regional Road 174 (Hwy 174) is an east-west City-owned freeway, which extends from Hwy 417 in the west to Trim Road and continues east. Within the study area, Hwy 174 has a four-lane cross section and auxiliary turn lanes are provided at its intersection with Trim Road. The posted speed limit within the study area is 90 km/h.

Trim Road is classified as an arterial roadway south of Hwy 174 and as a major collector roadway between Hwy 174 and Jeanne D'Arc Boulevard (formerly known as North Service Road). North of Jeanne D'Arc Boulevard, Trim Road is classified as a local roadway. Within the study area, Trim Road has a two-lane cross section. The posted speed limit is 50 km/h.

Jeanne D'Arc Boulevard is a major collector roadway west of Trim Road. East of Trim Road, Jeanne D'Arc Boulevard continues as Inlet Private. It is assumed that once Trim Road is realigned further east, it will then extend Jeanne D'Arc Boulevard further east with it too, finishing at the New Trim Road and Jeanne D'Arc Boulevard intersection. Within the study area, Jeanne D'Arc Boulevard has a two-lane cross section. The posted speed limit is 60 km/h.

Inlet Private is the continuation of Jeanne D'Arc Boulevard east of Trim Road and extends for about 400m to the east to Brigil Petrie's Landing I Towers. It is assumed that once Trim Road is realigned further east, it will then extend Jeanne D'Arc Boulevard further east with it too, shortening Inlet Private and calling it such only east of the New Trim Road and Jeanne D'Arc Boulevard intersection. Inlet Private is a local roadway with an unposted speed limit assumed to be 50km/h.

Existing Study Area Intersections

Trim/Hwy 174

The Trim/ Hwy 174 intersection is a signalized four-legged intersection. The eastbound approach consists of a single left-turn lane, two through lanes and a single channelized right-turn lane. The westbound approach consists of a single left-turn lane, a through lane and a shared through/right-turn lane. The northbound approach consists of two left-turn lanes, a single through lane and a shared through/right-turn lane. The southbound approach consists of a single left-turn lane, a single through lane and a left-turn lane. A southbound pocket bike lane and curbside northbound bike lanes are provided on Trim Road. This intersection will be relocated further east within the LRT Stage 2 project and will be referred to as New Trim/Hwy 174.



Trim/Jeanne D'Arc

The Trim/Jeanne D'Arc intersection is a four-legged intersection with all-way STOP control. All approaches consist of a single full-movement lane. The northbound approach includes a bike lane. Curbside bike lanes are provided on the eastbound approach of Jeanne D'Arc Boulevard and on both sides of the road on Trim Road south of Jeanne D'Arc Boulevard. Once Trim Road is realigned, this intersection will be referred to as "Old Trim/Jeanne D'Arc". The realigned intersection will be referred to as "New Trim/Jeanne D'Arc".



Existing Driveways to Adjacent Developments

Within 200m of the proposed site, there are only 3 driveways. The existing driveways as shown in **Figure 3** include:

- Brigil sales center – located on the south side of Jeanne D'Arc Boulevard, approximately 50m west of the Trim/Jeanne D'Arc intersection. Assumed to be temporary.
- City of Ottawa Maintenance Facility – located on the east side of Trim Road, approximately 110m south of the Trim/Jeanne D'Arc intersection.
- Brigil Petrie's Landing I Towers – located on the north side of Inlet Private, approximately 160m east of the most eastern site point.

Figure 3: Existing Driveways Adjacent to Development



Existing Area Traffic Management Measures

Below are the existing area traffic management measures within the study area:

- Two “Prepare to Stop when Flashing” signals on Hwy 174, each approximately 600m to the west of Trim Road and 600m to the east of Trim Road; and,
- One High Deer Collision Corridor signal on Hwy 174 westbound approximately 300m to the west of Trim Road.

Pedestrian/Cycling Network

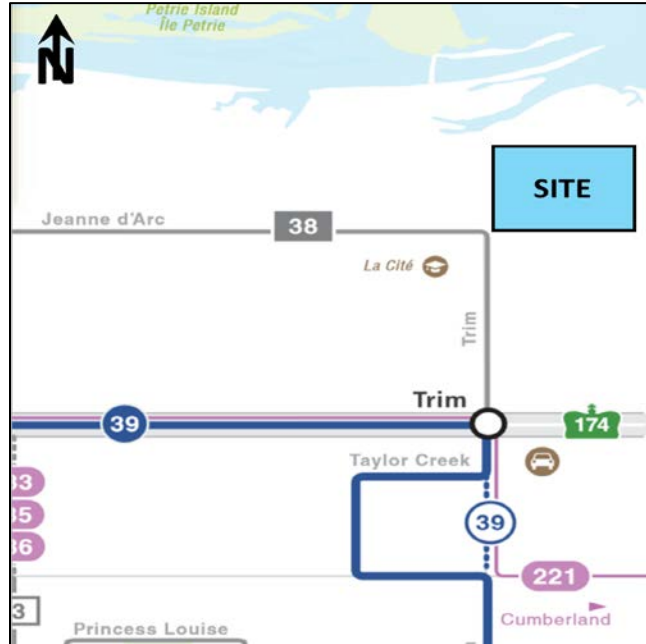
A sidewalk is provided on the south side of Jeanne D’Arc Boulevard and Inlet Private. The north side of Jeanne D’Arc Boulevard has a paved, separated multi-use pathway (MUP). Trim Road has sidewalk facilities on the west side of the roadway on the north side of Hwy 174. South of Hwy 174, the east and west sides of Trim Road have paved multi-use pathways (MUPs).

The Ultimate Cycling Plan classifies Trim Road as a spine route from Smith Road to Jeanne D’Arc Boulevard, and similarly Jeanne D’Arc Boulevard west of Trim Road. The links north of Jeanne D’Arc Boulevard and east of Trim Road are considered major pathways. The spine route segment of Trim Road includes a ‘cycle track’ which consists of a curbside paved bike lane with pocket bike lanes at some intersections. West of Trim Road, Jeanne D’Arc boulevard provides a curbside bike lane on the south side of the roadway and a paved shoulder on the north side. Within the study area, paved, physically separated MUPs are provided along most of the Jeanne D’Arc Boulevard and Trim Road frontages, on the north and east of roadways respectively.

Transit Network

The transit network for the study area is illustrated in **Figure 4**. The following OC Transpo routes currently operate within 600m radius of the site frontage:

Figure 4: Area Transit Network

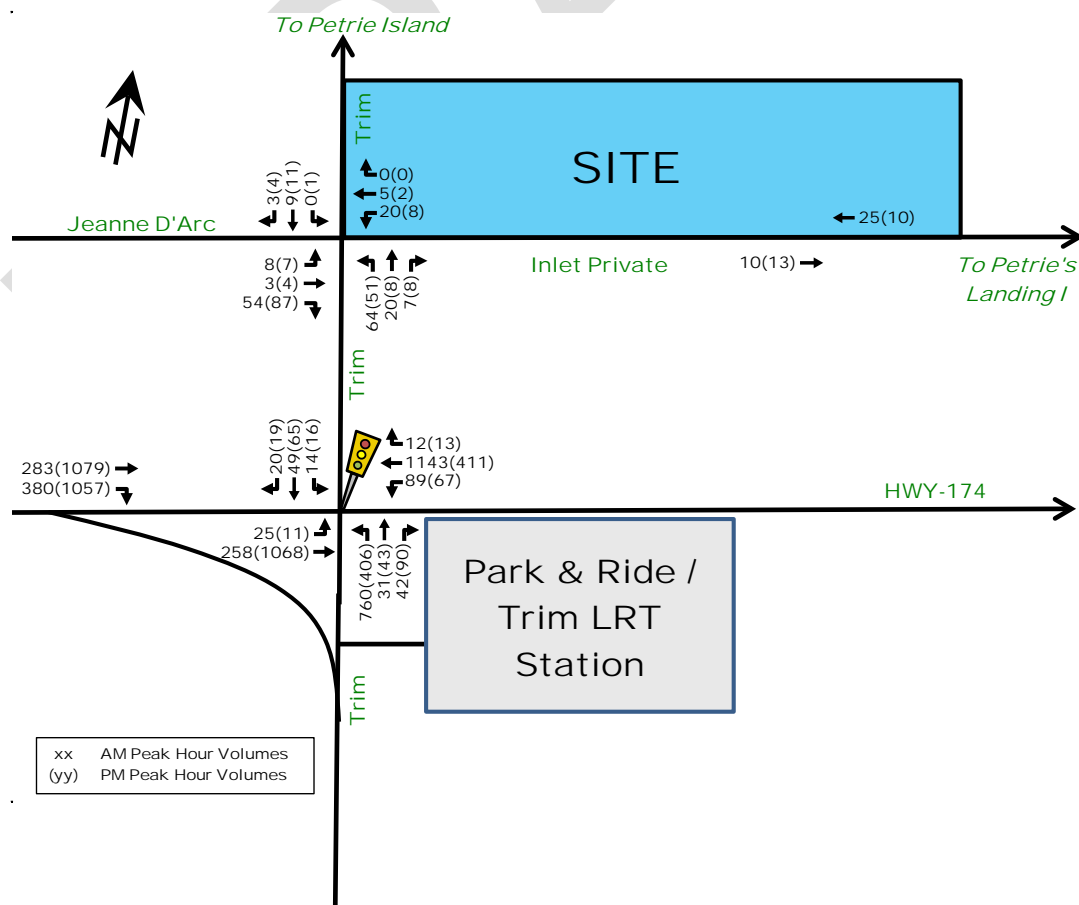


- **Route #38 (Blair <-> Jeanne D'Arc/Trim):** identified by OC Transpo as a “Local Route”, this route operates on customized routing and schedules, to serve local destinations with connection to the Confederation LRT Line. Route #38 operates at an average rate of every 30 minutes during weekdays. Bus stops for this route are available on both sides of Trim Road, approximately 100 to 190m south of Trim/Jeanne D'Arc.
- **Route #39 (Blair <-> Millenium):** identified by OC Transpo as a “Rapid Route”, this route operates at a high frequency with connection to the Confederation LRT Line. Route #39 operates 7 days a week, at an average rate of every 15 minutes or less during weekday peak hours. Bus stops for this route are available at Trim Station, located approximately 600m walk from the proposed site.

Peak Hour Travel Demands

The existing peak hour traffic volumes within the study area, as illustrated in **Figure 5**, were obtained from the City of Ottawa or conducted recently by Parsons. The peak hour traffic volume count data has been provided in Appendix B.

Figure 5: Existing Peak Hour Traffic Volumes



Existing Road Safety Conditions

A five-year collision history data (2014-2018, inclusive) was requested and obtained from the City of Ottawa for all intersections and road segments within the study area. Upon analyzing the collision data, the total number of collisions observed within the study area was determined to be 104 collisions within the past five-years. The majority of the collisions 85 (82%) resulted in property damage only, 18 (17%) resulted in non-fatal injury and 1 (1%) resulted in a fatal injury. The fatal injury occurred on a clear, dark, dry night when a single vehicle ran off the road near the intersection of Trim/Hwy 174. The types of impact were broken down into the following: 57 (55%) rear end, 18 (17%) sideswipes, 12 (12%) single vehicle (other), 10 (10%) angled, 4 (4%) turning movement, 2 (2%) other and 1 (1%) approaching.

To help quantify the relative safety risk at intersections within the study area, an industry standard unit of measure for assessing collisions at an intersection was used based on the number collisions per million entering vehicles (MEV). An MEV value greater than 1.00 indicates a relatively high frequency of collisions; however, it does not explain the type or severity of collision. A secondary analysis is done to determine the severity of collision by representing the number of personal injuries as a percentage of the total number of collisions at a given intersection.

Locations with more than 6 recorded collisions were evaluated for MEV's and/or personal injury rates. A high propensity (MEV > 1.00 or %PIR > 30%) would signal a potential intersection design deficiency or other contributing factor, such as poor intersection geometry, blind spots, poor lighting, excessive speeds, high amount of entry/exit driveways etc.

At intersections within the study area, reported collisions have historically taken place at a rate of:

- 0.99 Collisions/MEV with 15% causing injury and 2% causing a fatality at the intersection of Trim/Hwy 174 (total of 62 collisions with 43 or 69% of all collisions involving rear end, likely to do with high operating speeds on Hwy 174 and high vehicle volumes). Note that the fatality is included within this intersection; however, it actually occurred on Hwy 174 where a vehicle ran off the road
- 0.98 Collisions/MEV with 22% causing injury at the intersection of Trim/Dairy/Taylor Creek (total of 32 collisions with 11 of them being sideswipes and 7 being angle, for a total of 56% of all collisions at this intersection, a more common type of collision witnessed at roundabouts)
- No collisions were recorded at the intersection of Trim/Jeanne D'Arc
- Both Trim/Hwy 174 and Trim/Dairy/Taylor Creek experienced Collision/MEV approaching 1 which is considered medium to high risk. It is likely that the medium to high MEV are due to the quantity of vehicles entering the intersections, high turning movements and operating speeds. None of the intersections had high injury rates (above 30% of all collisions) meaning that most collisions were not severe

Other collisions within the study area include:

- There was a total of 10 collisions between intersections (mid-block segments)
- Out of all collisions, only 2 involved cyclists and they both occurred between intersections in mid-block segments on Trim Road
- There were no registered collisions with pedestrians

Overall, there are no safety concerns along the frontage of the proposed development and the planned Trim Road realignment is expected to significantly alter the roadway landscape within the broader study area. Therefore, no mitigation measures were considered. The source collision data as provided by the City of Ottawa and related analysis is provided as **Appendix C**.

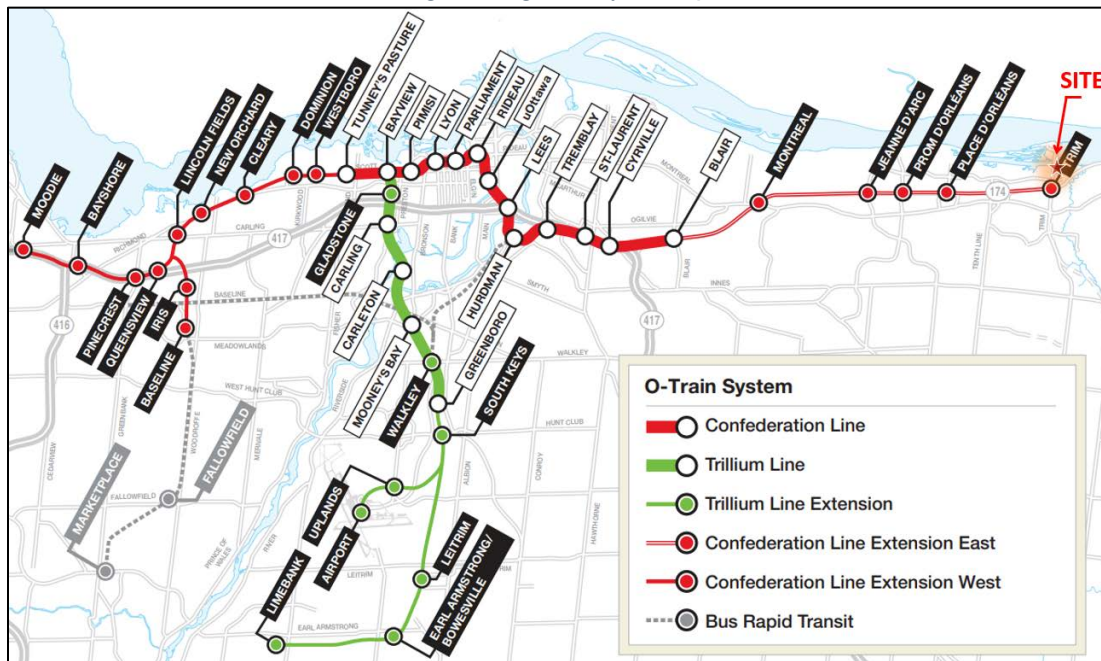
2.1.3. PLANNED CONDITIONS

Planned Study Area Transportation Network Changes

Stage 2 LRT and Hwy 174 Modifications

Stage 2 of the City of Ottawa LRT system is currently under construction. Stage 2, as shown in **Figure 6**, is a package of three extensions – south, east and west – totaling 44 km of new rail and 24 new LRT stations. The subject site will be located within 300m of Trim Station, the east-most station along Confederation Line.

Figure 6: Stage 2 LRT System Map



Schedule D of the Official Plan – Rapid Transit and Transit Priority Network identifies the light rail Confederation Line east extension to Trim Road. According to the Confederation Line East Functional Design Report, the Stage 2 LRT east extension proposes a new signalized intersection on Hwy 174, approximately 200m east of the existing Trim Road intersection. **Figure 7** illustrates the planned LRT station and interchange at Trim Road. This new intersection location accommodates the LRT rail tracks. Trim Road will be truncated both north and south of Hwy 174 to accommodate the new station. Trim Road to the south of Hwy 174 will be realigned at the existing Dairy Road roundabout to the new intersection.

The relocated at-grade intersection is expected to include pedestrian crosswalks and bi-directional cycling cross-ride facilities at grade on both the east and south legs. The Trim Road Park and Ride Facility will be modified to include a new bus loop, bus lay-bys, and bus station platforms. It is noteworthy that the subject site is located approximately 500m from the future Trim Road LRT Station and is therefore considered to be within the Trim Station TOD area.

Figure 7: Confederation Line East Extension Interchange at Trim Road

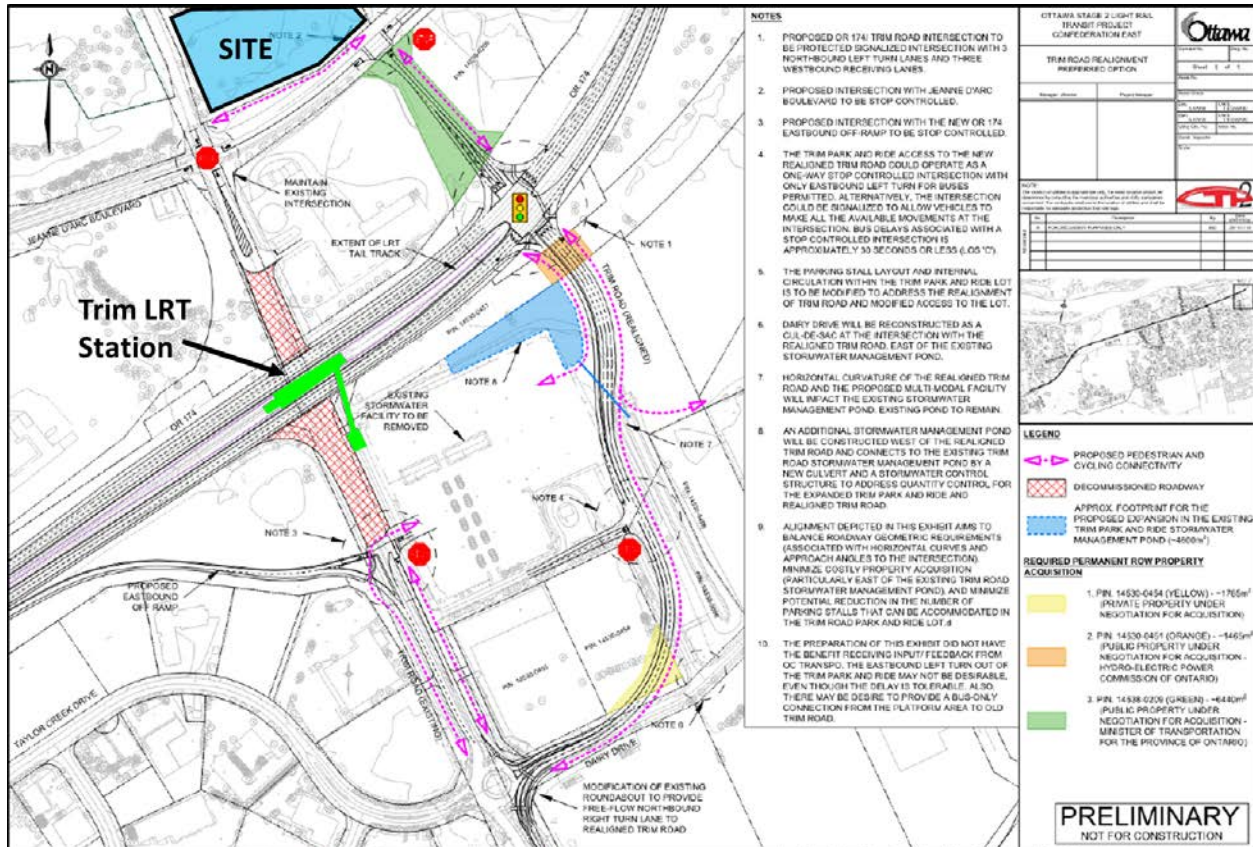
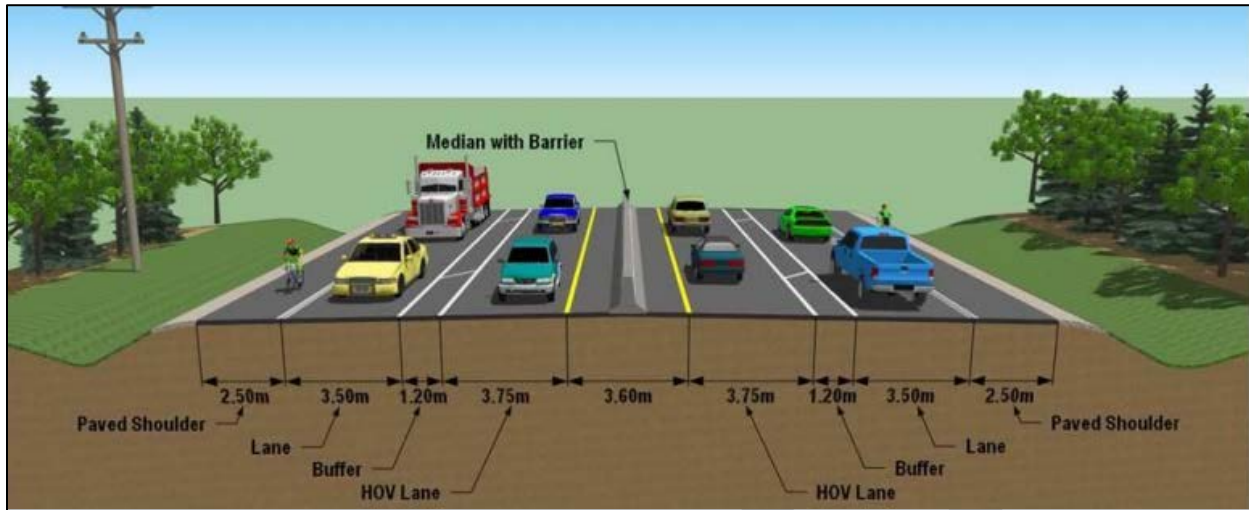


Figure 7 is only a preliminary design and subject to change as the detailed design of the realignment is still ongoing. However, it has been confirmed by the City of Ottawa that the required property to build the new interchange has been acquired. The precise location and types of facilities proposed by the new realigned Trim/Hwy 417 (referred as New Trim/Hwy 417 in this report) and New Trim/Jeanne D'Arc have yet to be finalized within the final detailed design plan.

Hwy 174 Widening

An Environmental Assessment for the potential widening of Hwy 174 was conducted by the Townships of Prescott-Russell/City of Ottawa. The widening of Hwy 174 to six-lanes from Hwy 417 to Trim Road and to four-lanes from Trim Road to the City boundary is identified as a road project in the current 2013 City of Ottawa Transportation Master Plan. However, the widening of Hwy 174 is not identified as part of the Affordable Network Plan within the TMP. Therefore, the road widening of Hwy 174 east of Trim Road is unlikely within the foreseeable future. A potential cross-section is illustrated in **Figure 8**.

Figure 8: Hwy 174 Widening Potential Cross-Section

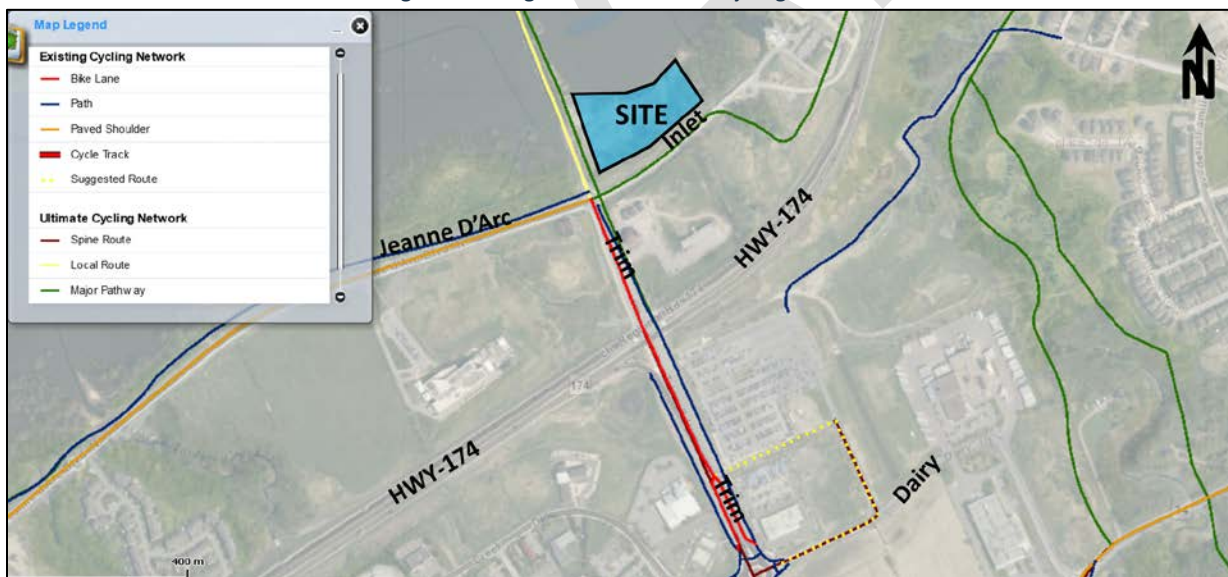


Source: <http://ottwatch.ca/meetings/file/366361>

Cycling Network

Within the Ottawa 2013 Cycling Plan, both Trim Road north of Jeanne D'Arc Boulevard and Jeanne D'Arc Boulevard/Inlet Private east of Trim Road are identified as major cycling pathways. To the north, the planned pathway will extend along Trim Road to Petrie Island Beach and to the east, the planned MUP will extend along Jeanne D'Arc Boulevard/Inlet Private to Cardinal Creek, bordering the northern edge of Hwy 174. Trim Road is classified as a Spine route south of Jeanne D'Arc Boulevard. **Figure 9** depicts the existing and future network.

Figure 9: Existing and Future 'Ultimate Cycling Network'

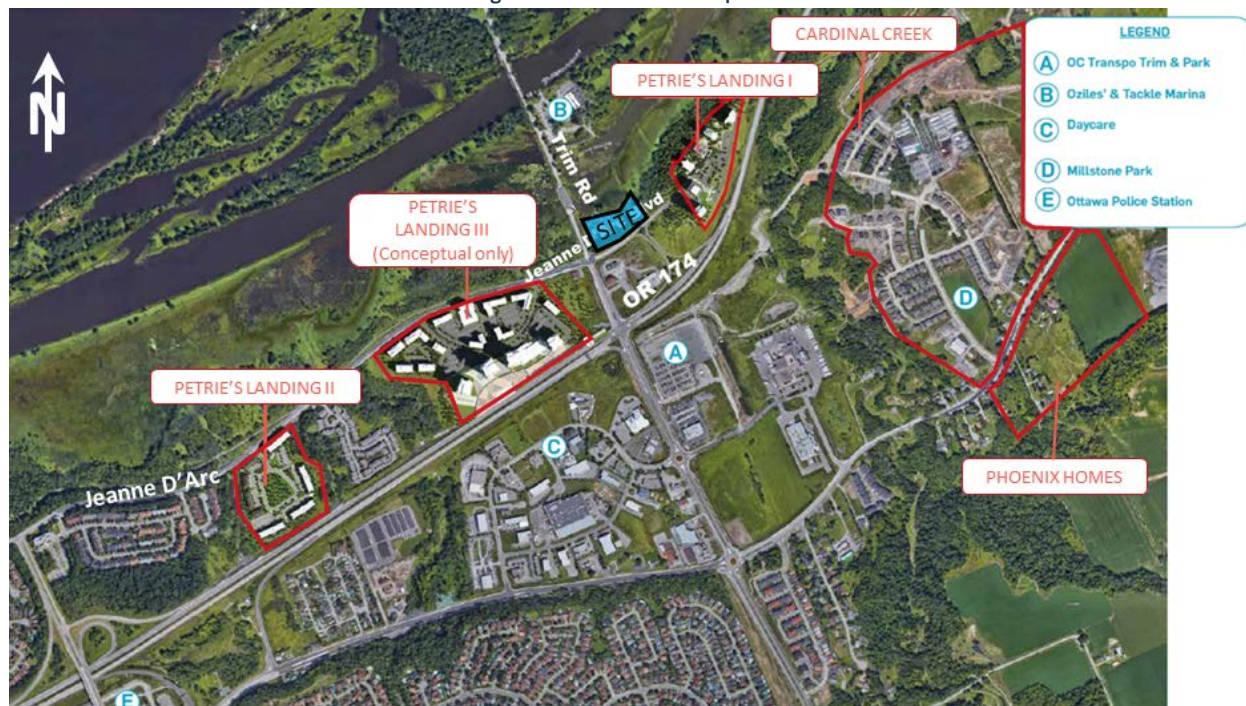


Source: Geoottawa.ca

Other Area Developments

The following section outlines adjacent developments in the general area that were considered in the TIA. The criteria for inclusion of other area developments are either approved developments or developments that have an active planning application in the City. **Figure 10** illustrates the location and relative size of relevant other area developments.

Figure 10: Other Area Developments



Note: The above image shows the previous Trim/Jeanne D'Arc design concept as part of Stage 2 LRT, which was an overpass. This has since been modified into an at-grade intersection. Refer to **Figure 7** for additional details.

Petrie's Landing I

Brigil is proposing the construction of a residential development consisting of approximately 1,085 residential units total within 5 towers. At the time this report was written, towers 1 and 2 are occupied and tower 3 is under construction; however, the most recent count reflects trip volumes from tower 1 only and will have the remainder tower volumes layered on separately. The proposed Petrie's Landing I is located off of Inlet Private and is located approximately 300m east of the subject site, as illustrated in **Figure 11**. The projected two-way vehicle trips to be layered on for this proposed residential development are approximately 280 to 245 veh/h during the AM and PM peak hours respectively according to a TIA prepared by Parsons (July 2019). The most recent site plan for Petrie's Landing I has been provided in **Appendix D**.

Petrie's Landing II

Brigil is proposing the construction of a residential development consisting of approximately 560 residential units total within 8 block buildings. At the time this report was written, blocks 1 through 5 are occupied, blocks 6 and 7 are under construction and block 8 has been increased from 93 to 214 units as per the latest update done by Parsons. The most recent count reflects trip volumes from blocks 1 through 5 only and will have the remainder block volumes layered on separately. The proposed Petrie's Landing II is located south of Jeanne D'Arc Boulevard, approximately 1.2 km west of the subject site, as illustrated in **Figure 11**. The projected two-way vehicle trips to be layered on for this proposed residential development are approximately 190 to 175 veh/h during the AM and PM peak hours, respectively according to a TIA prepared by Parsons (May 2020). The most recent site plan for Petrie's Landing II has been provided in **Appendix D**.

Petrie's Landing III

Brigil is proposing the construction of a mixed-use development consisting of approximately 370,000 ft² of office, 23,000 ft² of retail and up to 790 residential units. The proposed Petrie's Landing III is located south of Jeanne D'Arc Boulevard, approximately 600m west of the subject site, as illustrated in **Figure 11**. The projected two-way vehicle trips for this proposed mixed-use development is approximately 660 and 685 veh/h during the morning

and afternoon peak hours respectively, was derived within the approved Petrie's Landing I Report completed in July 2019, by Parsons.

Figure 11: Petrie's Landing I, II & III Concept Plan

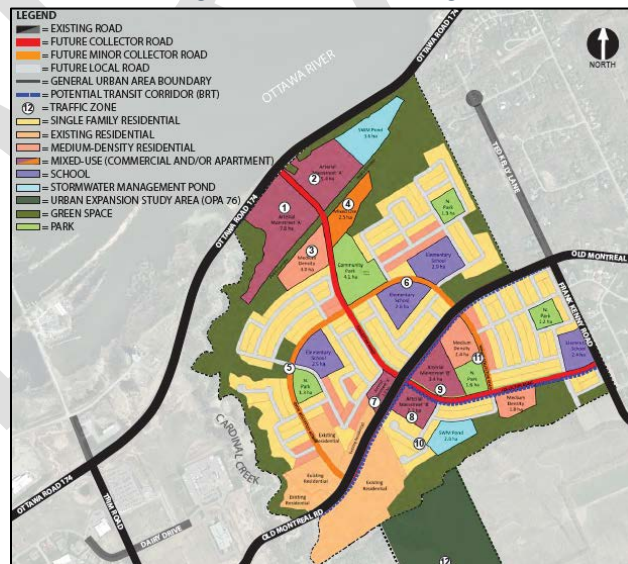


Note: The above image shows the previous Trim/Jeanne D'Arc design concept as part of Stage 2 LRT, which was an overpass. This has since been modified into an at-grade intersection. Refer to **Figure 7** for additional details.

Cardinal Creek

Tamarack Homes is currently constructing a 1,446-unit subdivision and a 430,000 ft² shopping centre, south of Hwy 174 and east of Cardinal Creek, as illustrated in **Figure 12**. The Transportation Impact Study (prepared by IBI Group, October 2013) projected approximately 1,460 veh/h and 2,619 veh/h by horizon year 2031 (full build-out) during the morning and afternoon peak hours, respectively.

Figure 12: Cardinal Creek Village



Phoenix Homes

Phoenix Homes is currently constructing a subdivision consisting of 432 terrace flats, 35 townhomes and 16 semi-detached homes along Old Montreal Road, within Cardinal Creek Village. The Transportation Impact Study

(prepared by WSP Group, March 2018) projected approximately 251 veh/h and 295 veh/h by horizon year 2022 (full build-out) during the morning and afternoon peak hours, respectively.

2.2. Study Area and Time Periods

Full buildout of the proposed residential development is planned by 2024. As such, the horizon years being analyzed in this report are the 2024 and 2029 (five years after full buildout) horizon years, using the weekday morning and afternoon peak hour time periods.

Considering construction trends of the past years, the following phasing has been assumed for other area developments (the earliest possible assumed buildout):

Year 2024:

- Phase 1 and 2 full build-out
- Stage 2 LRT - Trim Station open
- Petrie's Landing I – 100% built;
- Petrie's Landing II – 100% built;
- Petrie's Landing III – 0% built;
- Cardinal Creek – 60% built; and,
- Phoenix Homes – 100% built.

Year 2029:

- 5 years after full buildout
- Stage 2 LRT - Trim Station open
- Petrie's Landing I – 100% built;
- Petrie's Landing II – 100% built;
- Petrie's Landing III – 50% built;
- Cardinal Creek – 90% built; and,
- Phoenix Homes – 100% built.

Proposed study area intersections and boundary roads are outlined below and highlighted in **Figure 13**.

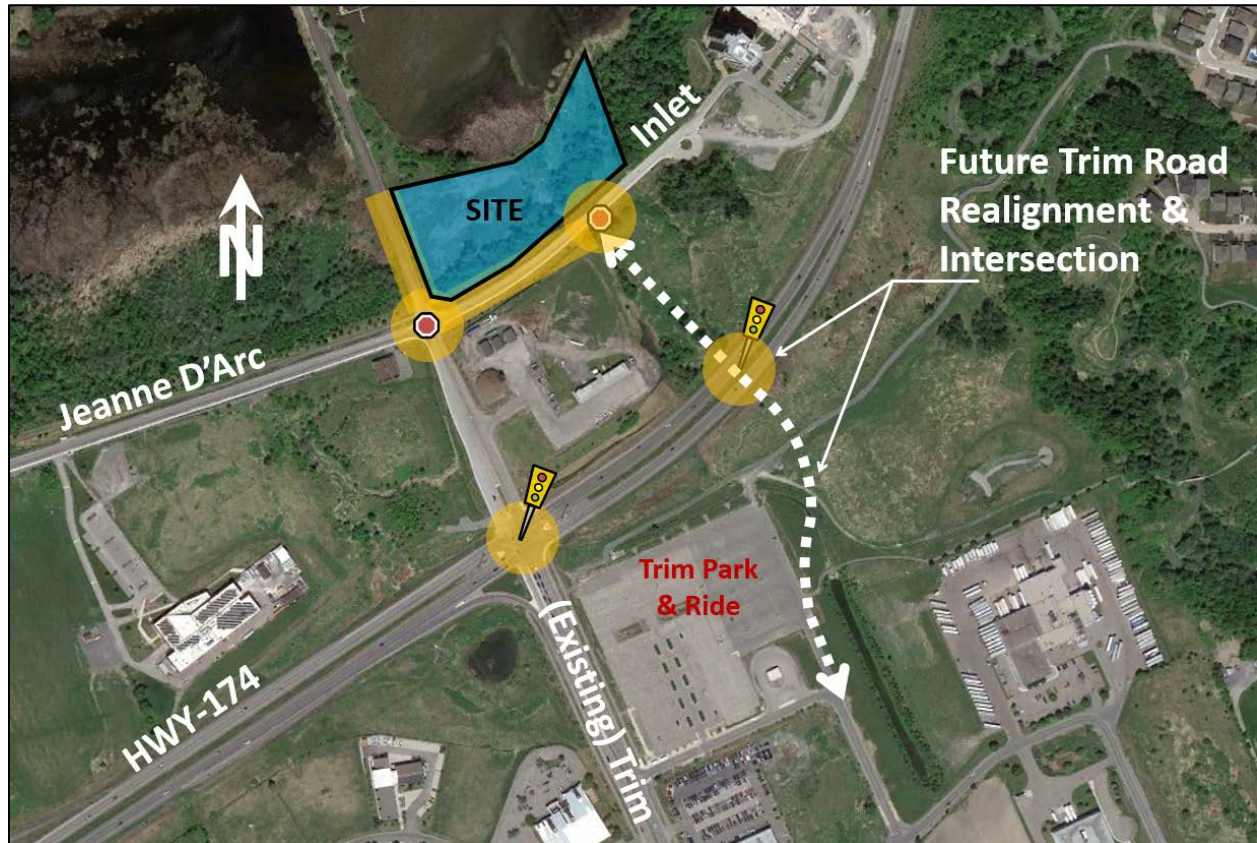
Intersections:

- Old Trim/Hwy 174;
- Old Trim/Jeanne D'Arc;
- New Trim/Hwy 174;
- New Trim/Jeanne D'Arc; and,
- Site Access/Jeanne D'Arc

Boundary Roads:

- Along Jeanne D'Arc Boulevard frontage; and,
- Along Trim Road frontage.

Figure 13: Study Area Boundaries and Intersections



2.3. Exemption Review

The following modules/elements of the TIA process recommended to be exempt in the subsequent steps of the TIA process, based on the City's TIA guidelines and the subject site:

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans
	4.1.3 New Streets Networks	Only required for plans of subdivision
4.2 Parking	4.2.1 Parking Supply	Only required for site plans
	4.2.2 Spillover Parking	The parking is expected to meet By-Law requirements once a Site Plan Application (SPA) is submitted

3. Forecasting Report

3.1. Development Generated Travel Demand

3.1.1. TRIP GENERATION AND MODE SHARES

Appropriate trip generation rates for the proposed development consisting of approximately 795 high-rise condominium units within three towers were obtained from the City's 2009 TRANS Trip Generation – Residential Trip Rates Report. These rates are summarized in **Table 2**. There is potential for small ground floor retail in the

magnitude of low 10,000 ft² to cater to local residents only and thus, is not anticipated to create any primary vehicle trips. The basis of the commercial aspect assumption takes into account the potential size and location of the development, on the north side of Hwy 174 which is constrained by the Ottawa River and is unlikely to create pass-by trips for the majority of Orleans dwellers who live on the south side of Hwy 174 near the site.

Table 2: 2009 TRANS Residential Trip Generation Rates

Land Use	Data Source	Trip Rates	
		AM Peak	PM Peak
High Rise Condominiums	232	T = 0.46(du)	T = 0.46(du)

Note: T = Average Vehicle Trip Ends; du = dwelling units

Using the TRANS Trip Generation rates, the total amount of vehicle trips generated by the proposed 795 residential units was calculated. The results are summarized in **Table 3**.

Table 3: Projected Site Vehicle Trip Generation – TRANS Model

Land Use	Area	AM Peak (Veh/h)			PM Peak (Veh/h)		
		In	Out	Total	In	Out	Total
Three High-Rise Condominiums	795 units	102	264	366	267	99	366

As shown in **Table 3**, a total of 365 veh/h are projected to travel to/from the proposed development during the weekday morning and afternoon commuter peak hours.

Proposed Development of 795 Units in 3 Towers

Using the TRANS Auto Trips projected in **Table 3** and the mode share percentages in the TRANS Trip Generation Report (Table 3.13), the total projected number of person trips by mode for the residential development are summarized in **Table 4**. The 'person trip generation' for the development was then converted to 'vehicle trip generation' using mode shares extrapolated from the OD-Survey 2011 for Orleans Area and are summarized in **Table 5**.

Table 4: Site Person Trip Generation for 795 Units (3 Towers)

Travel Mode	Mode Share	AM Peak (Person Trips/h)			Mode Share	PM Peak (Person Trips/h)		
		In	Out	Total		In	Out	Total
Auto Driver	44%	102	264	366	44%	267	99	366
Auto Passenger	9%	20	54	74	14%	85	31	116
Transit	34%	79	204	283	33%	201	74	275
Non-motorized	13%	31	78	109	9%	54	21	75
Total Person Trips	100%	232	600	832	100%	607	225	832

Table 5: Site Vehicle Trip Generation with Orleans Mode Shares for 795 Units (3 Towers)

Travel Mode	AM Mode Share	AM Peak (veh/h)			PM Mode Share	PM Peak (veh/h)		
		In	Out	Total		In	Out	Total
Auto Driver	50%	116	300	416	55%	333	124	457
Auto Passenger	15%	35	89	124	15%	90	34	124
Transit	25%	58	150	208	20%	121	46	167
Bicycle	5%	12	30	42	5%	30	12	42
Walk	5%	11	31	42	5%	31	11	42
Total People Trips	100%	232	600	832	100%	607	225	832
Total 'New' Auto Trips		116	300	416	-	333	124	457

As shown in **Table 5**, based on the TRANS Trip Generation method and OD-Survey modal shares, the proposed site is projected to generate approximately 415 to 455 new auto-trips per hour during the weekday commuter peak hours if the proposed three towers at 795 units total was constructed. The increase in two-way transit trips is estimated to be approximately 210 to 165 persons per hour, and the increase in bike/walk trips is approximately 40 persons per hour.

It is important to note that the OD Mode share for Orléans includes a large portion of homes located far from rapid transit and thus, the mode shares reflected in **Table 5** show a large percentage of drivers and low percentage of transit/active users, making an adjusted mode share valid.

3.1.2. TOD MODE SHARES

Given the location of the site, within close proximity to the Trim BRT Transit Station (future LRT station expected to be operational by 2024), a higher transit modal share is appropriate. **Table 6** illustrates future modal shares which reflect the site's location within close proximity to the existing Trim BRT Station and construction of future Phase 2 Trim LRT Station.

Table 6: Future Mode Share Targets for the Development

Travel Mode	Mode Share Target	Rationale
Transit	65%	Development is located within 600m of a future LRT station and is within 600m of existing BRT Transitway Corridor, making it a Transit-Oriented Development (TOD) which have transit targets of 65%.
Walking	10%	This is consistent with the City's TMP, TOD areas and the existing TRANS trip-generation report.
Biking	5%	This is consistent with the City's TMP, TOD areas and the existing TRANS trip-generation report.
Auto Passenger	5%	This is consistent with TOD targets.
Auto Driver	15%	This is consistent with TOD targets.

Based on the City's ideal TOD future mode share targets for this development with the projected total person trips, the project site-generated trips with adjusted modal shares were calculated and are outlined in **Table 7**.

Table 7: Future Projected Site Generated Traffic Based on Ideal TOD Targets

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	15%	35	90	125	90	34	124
Auto Passenger	5%	12	29	41	30	12	42
Transit	65%	151	390	541	394	147	541
Bicycle	5%	10	30	40	30	10	40
Walk	10%	25	60	85	60	25	85
Total Person Trips	100%	233	599	832	605	227	832
Total 'New' Auto Trips		35	90	125	90	34	124

Future trips generated for the development under ideal TOD targets for the proposed three tower build are anticipated to be approximately 125 'new' vehicles trips, 540 'new' transit trips, 40 'new' bike trips, and 85 'new' walk trips, two-way per peak hour.

Although the mode shares in **Table 7** are consistent with the ideal TOD targets for developments within 600m of rapid transit, hybrid mode shares were developed to reflect local conditions and location of the site. It is anticipated that non-motorized trips will be predominantly for pleasure and not for daily commuter trips; therefore, the peak hour non-motorized mode shares were assumed to be negligible. Transit trips will still remain high, but auto driver and passenger trips have been increased to reflect the lack in non-motorized trips. **Table 8** highlights future projected site generated traffic based on custom mode shares which reflect the local conditions and location of the proposed site.

Table 8: Future Projected Site Generated Traffic Based on Custom Mode Shares

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	30%	70	180	250	181	68	249
Auto Passenger	10%	24	59	83	61	23	84
Transit	60%	139	360	499	364	135	499
Non-motorized	0%	0	0	0	0	0	0
Total Person Trips	100%	233	599	832	606	226	832
Total 'New' Auto Trips		70	180	250	181	68	249

Based on **Table 8**, for proposed 795 unit build within three towers, it is anticipated that the proposed development will generate approximately 250 'new' vehicles trips, 500 'new' transit trips and 0 'new' bike/walk trips (excluding recreational and trips to transit station), two-way per peak hour. Note that transit trips are anticipated to contribute to active modes to/from Trim Station, which will be accounted for in the future analysis.

3.1.3. TRIP DISTRIBUTION

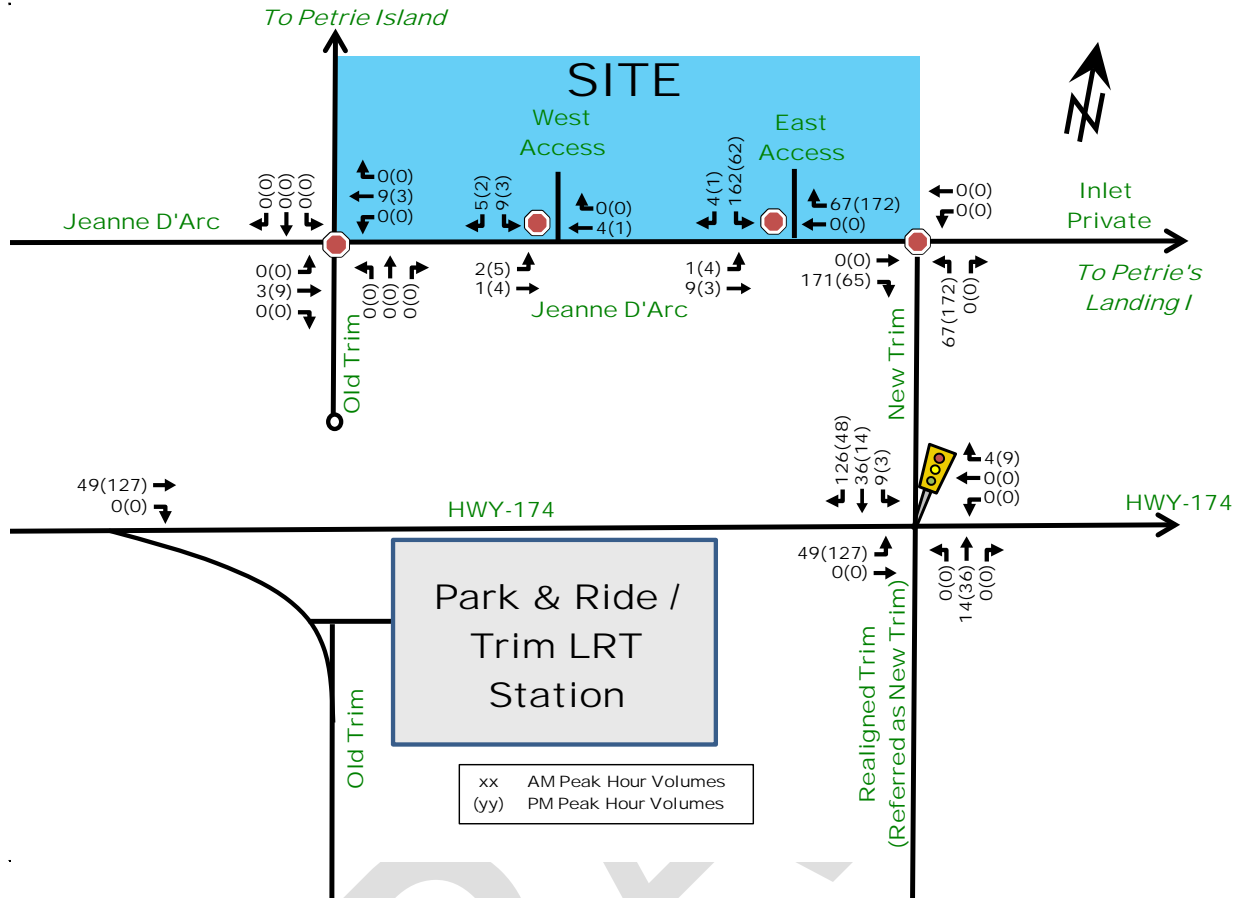
Based on the OD Mode Share Survey, existing traffic volume counts and the location of adjacent arterial roadways and neighborhoods, the distribution of site-generated traffic volumes is as follows:

- (From/To) the East: 5%;
- (From/To) the South: 20%; and,
- (From/To) the West: 75%.

3.1.4. TRIP ASSIGNMENT

The latest site plan proposes two full movement driveways on to Inlet Private (referred to as Jeanne D'arc Boulevard herein). The driveways proposed are approximately 55m and 105m east of Old Trim/Jeanne D'Arc, creating a separation of approximately 50m between each driveway and the eastern most driveway approximately 75m west of the proposed New Trim/Jeanne D'Arc intersection. The exact location of the driveways will be confirmed once a Site Plan Application is filed. The 'new' site-generated vehicle trips outlined in **Table 8** for 795 units were assigned to the study area network and are illustrated as **Figure 14**.

Figure 14: 'New' Site-Generated Traffic for 795 Units (3 Towers)



3.2. Background Network Travel Demands

3.2.1. TRANSPORTATION NETWORK PLANS

Refer to section 2.1.3 Planned Conditions – Planned Study Area Transportation Network Changes.

3.2.2. BACKGROUND GROWTH

The background traffic growth through the immediate study area (summarized in **Table 9**) was calculated based on historical traffic count data (2007, 2008, 2010, 2012, and 2017) provided by the City of Ottawa at the Trim/Hwy 174 intersection. Detailed analysis of the background growth is included in **Appendix E**.

Table 9: Trim/OR-174 Historical Background Growth (2007 - 2017)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	2.64%	1.03%	-0.66%	-0.05%	0.13%
AM Peak	4.40%	2.49%	0.26%	0.84%	1.13%
PM Peak	-3.09%	0.12%	-0.16%	-0.37%	-0.24%

As shown in **Table 9**, in past years Hwy 174 and Trim Road have experienced varied annual growth, ranging from -0.37% to 0.84% and -3.09% to 4.40%, respectively. Overall, growth was observed north of Hwy 174, which coincides with recent development (Petrie Landing I – III), whereas Hwy 174 traffic growth remained fairly stagnant. For the subsequent analysis of future conditions, a conservative 1% annual growth rate along Hwy 174 and Trim Road, in addition to other area developments-generated traffic will be layered on to future analysis.

3.2.3. OTHER AREA DEVELOPMENTS

Other area developments were identified and described in **Section 2.1.3**. Peak hour trips generated by these developments, based on the supporting TIA studies, have been summarized in **Table 10**.

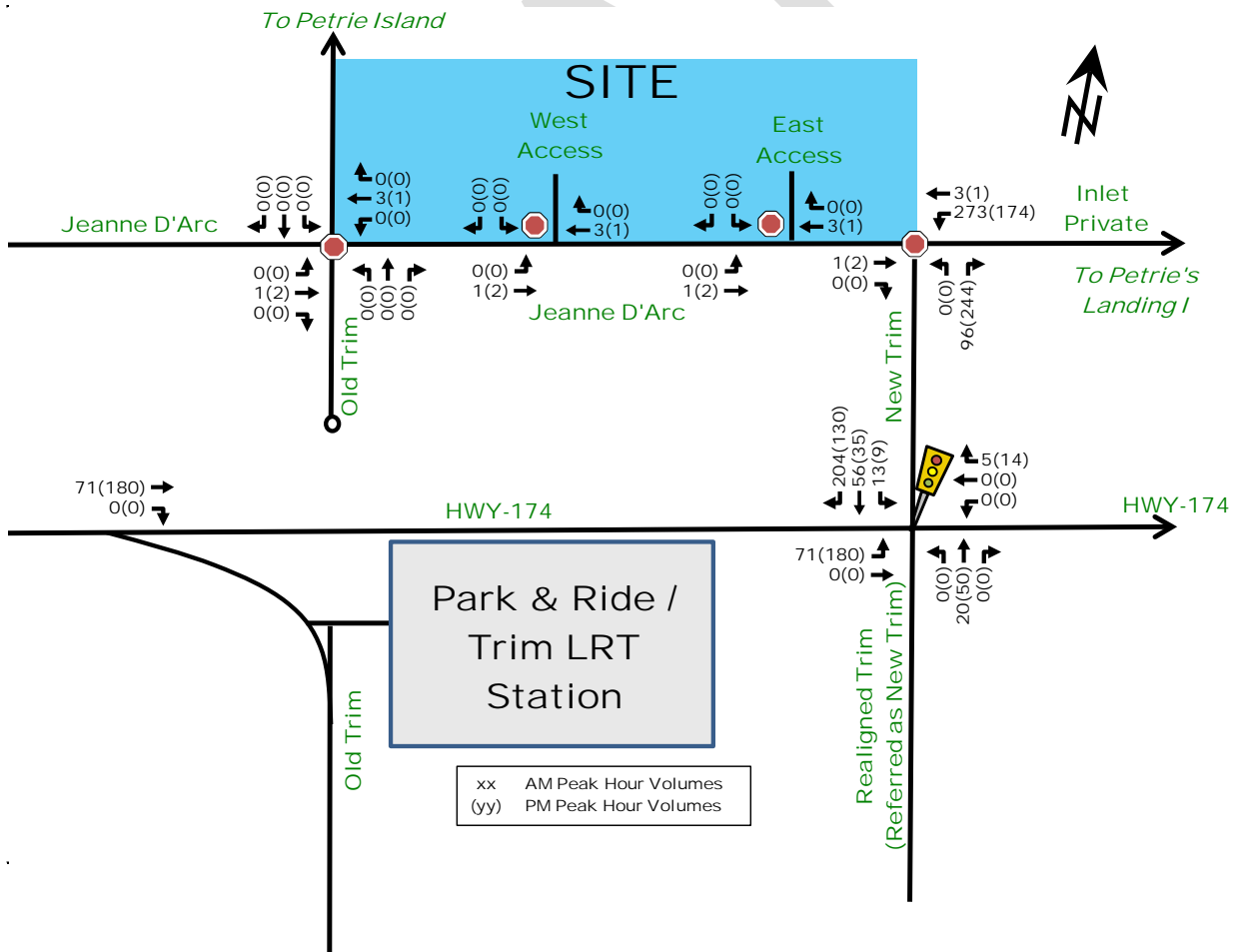
Table 10: Other Area Developments Vehicle Trip Generation

	AM Peak (persons/h)			PM Peak (persons/h)		
	In	Out	Total	In	Out	Total
Petrie's Landing I ₁	72	210	282	144	101	245
Petrie's Landing II ₂	28	89	117	107	67	174
Petrie's Landing III	422	237	659	254	430	584
Cardinal Creek ₃	412	940	1,352	1,246	980	2,226
Phoenix Homes	93	161	251	156	138	295
Total	1,027	1,637	2,661	1,907	1,716	3,624
1) Includes all towers not captured by the existing traffic count (Towers 2 – 6) 2) Includes all blocks not captured by the existing traffic count, including proposed Block 8 3) Vehicle Trips generated by Cardinal Creek are not anticipated to use Jeanne D'Arc, external only						

Petrie's Landing I - Towers 2 to 5

Petrie's Landing I - Towers 2 to 5 are expected to be fully occupied by 2022. The projected traffic volumes were obtained, Figure 13 within the Petrie's Landing I Report, and additional layering of Tower 2 volumes (Figure 14) are illustrated in **Figure 15**.

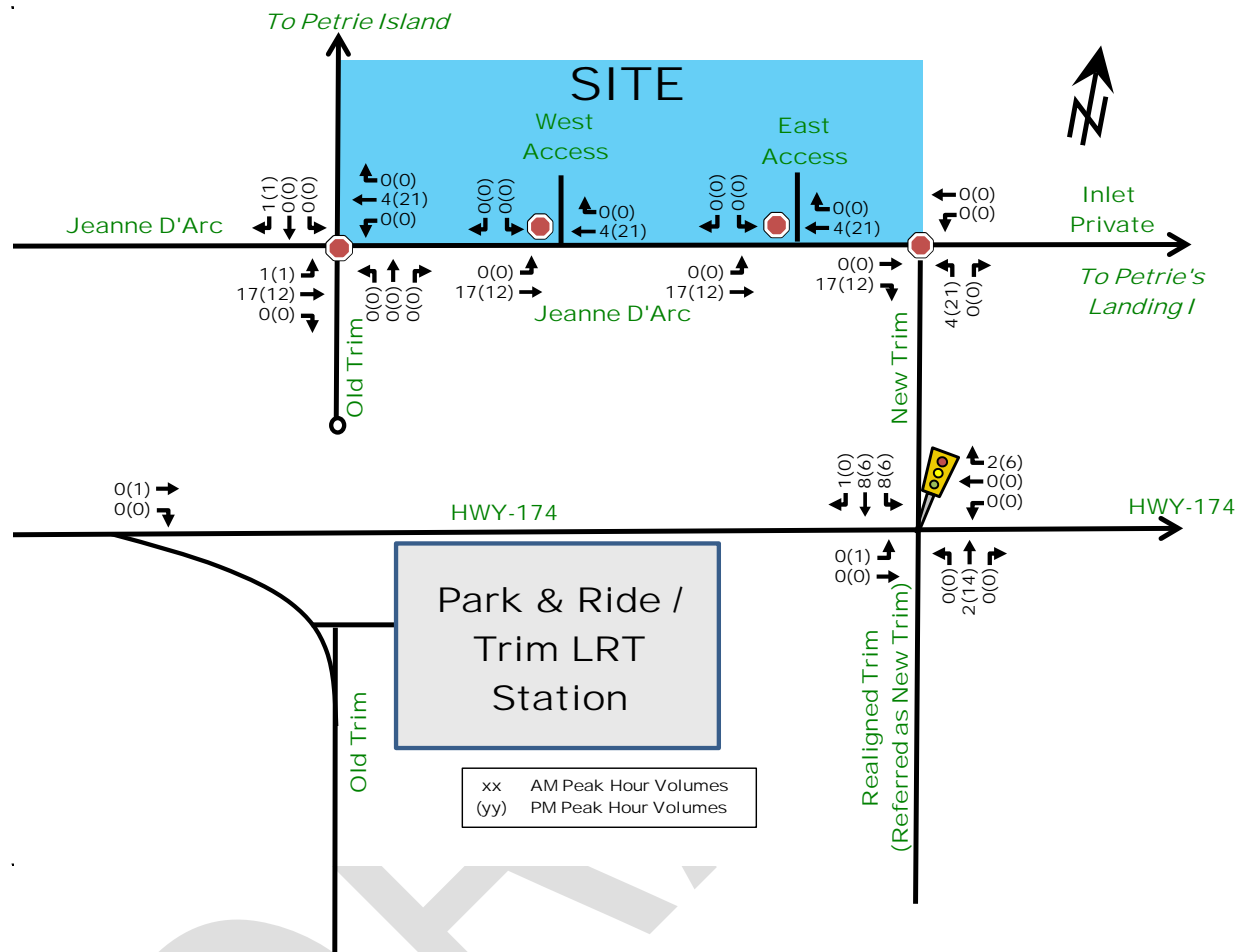
Figure 15: Petrie's Landing I Tower 2 Projected Traffic Volumes



Petrie's Landing II

Figure 16 illustrates the projected traffic volumes for Petrie's Landing II at full build-out, obtained from the 2013 Petrie's Landing I TIS (Figure 15) and Block 8 TIS Report layered together. Assumed to be fully occupied by 2024.

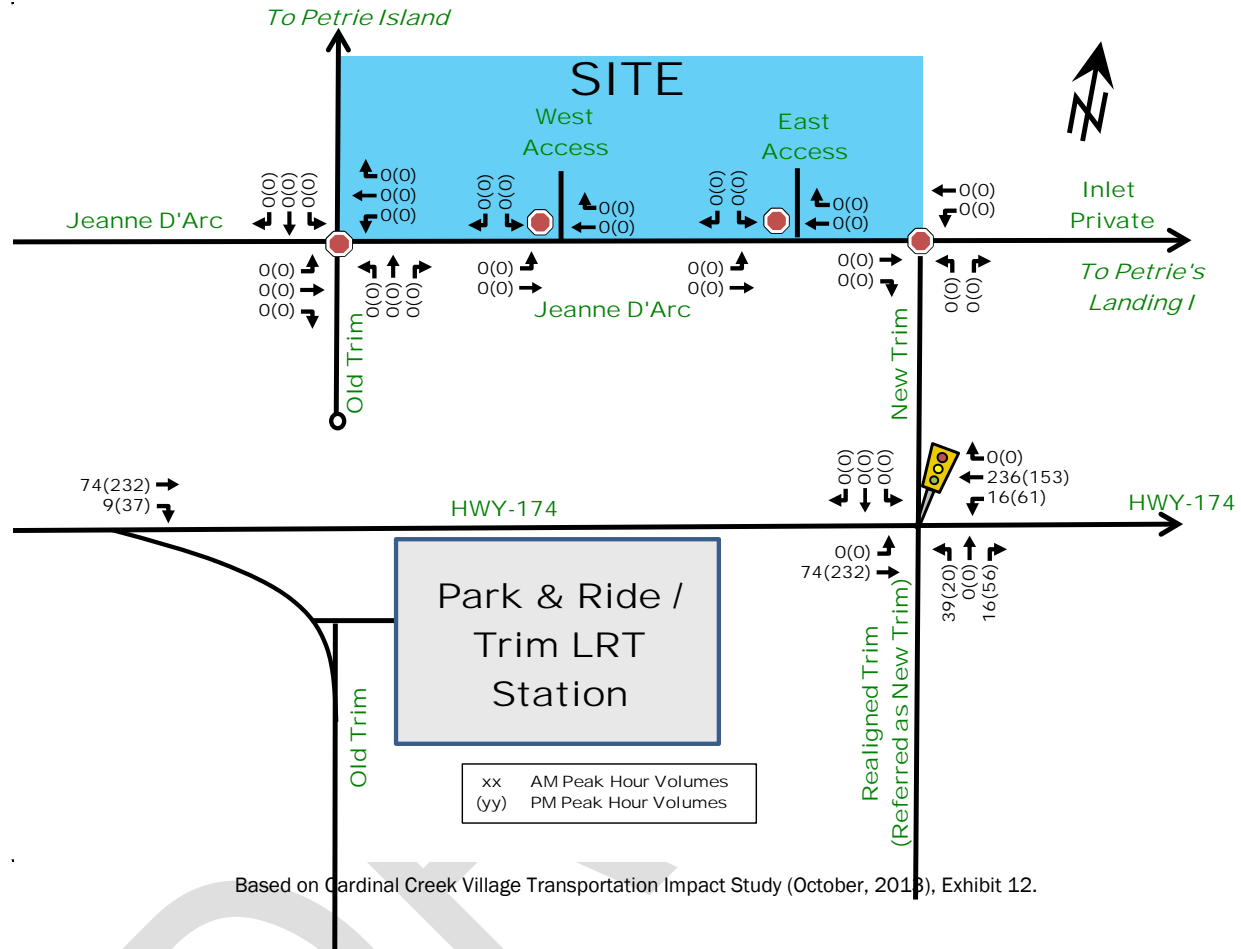
Figure 16: Petrie's Landing II Projected Traffic Volumes – Full Build Out



Cardinal Creek Village

Figure 18 illustrates the projected traffic volumes for Cardinal Creek Village at horizon year 2029 at study area intersections (obtained from the 2013 Cardinal Creek Village CTS, Exhibit 12). Considering assumed time horizons, 60% of full build-out volumes will be applied in year 2024 and 90% in year 2029.

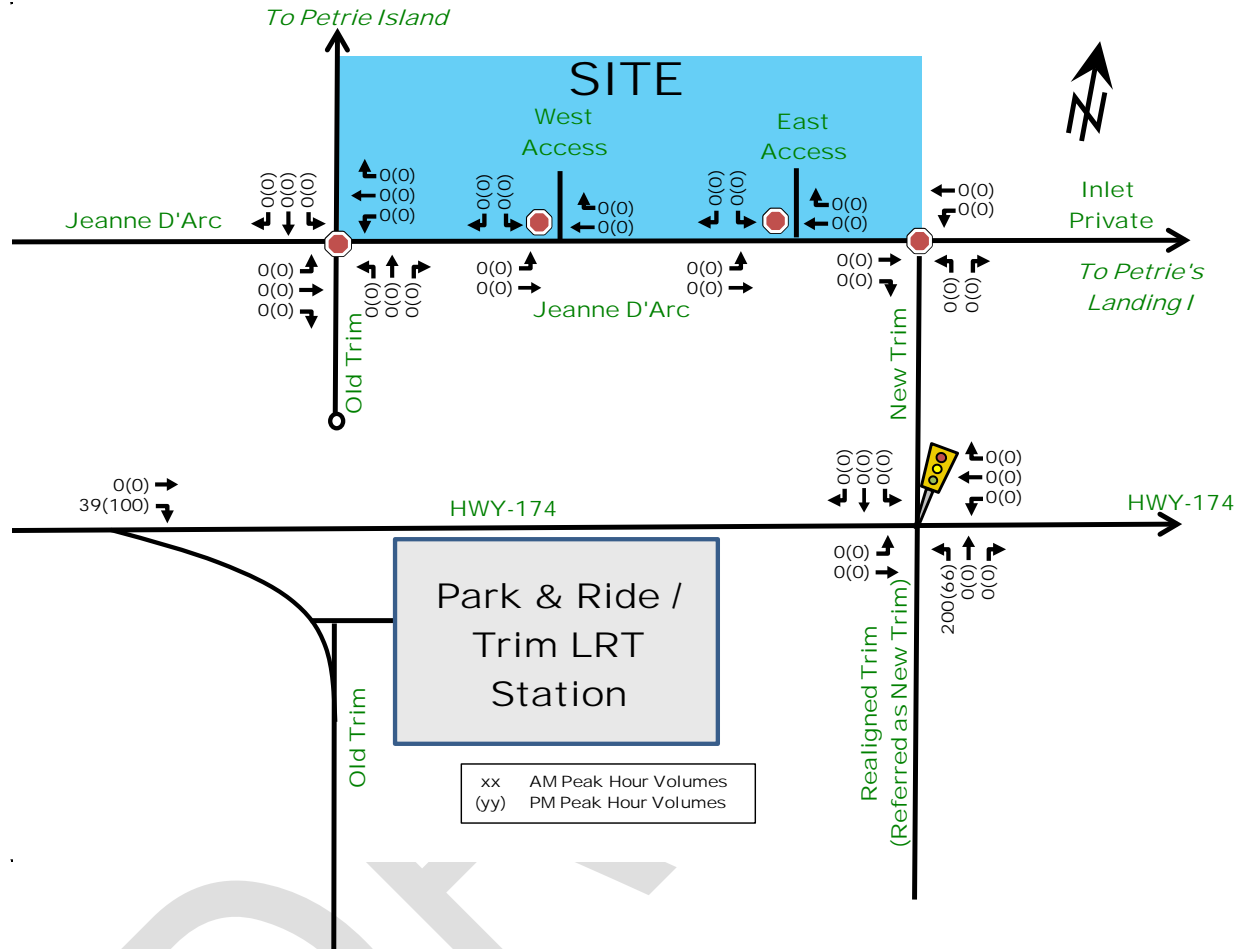
Figure 18: Cardinal Creek Projected Traffic Volumes at Study Area Intersections



Phoenix Homes

Figure 19 illustrates the projected traffic volumes for Phoenix Homes at full build-out, obtained from the 2018 Phoenix Homes TIS by WSP (Figure 1). Considering assumed time horizons, 100% of build-out volumes will be applied in year 2024 and onwards.

Figure 19: Phoenix Homes Projected Traffic Volumes – Full Build-Out



3.3. Demand Rationalization

According to the City of Ottawa, Inlet Private is classified as a local road, while Jeanne D'arc and Trim Road, the latter only north Hwy 174, are classified as major collector roads. The section of Inlet Private between the current Trim Road and the future realigned Trim Road will be redesigned to match the Jeanne D'arc classification, making it major collector road in the future.

The Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads outlines "typical" daily traffic volume (DTV) capacities of urban collector road. The recommended urban residential collector road capacity threshold is 8,000 vehicles per day, and 12,000 for urban industrial/commercial collector road. An urban minor arterial road can accommodate up to 20,000 vehicles a day, while a major arterial can accommodate up to 30,000 vehicles per day.

The 2029 total projected daily traffic volumes, which includes background growth, known future developments and site-generated traffic, were estimated by factoring the peak hour traffic volumes. The conversion factor was calculated as the sum of AM and PM peak hour two-way traffic volumes on the roadway and multiplied 5, which is a standard industry approach to estimating DTV. The estimated DTVs along Jeanne D'Arc Boulevard at the

development frontage was approximately 3,500 vehicles per day, and along Trim Road, north of Hwy 174 was approximately 10,000 vehicles per day. Therefore, both roadways are expected to accommodate anticipated growth through year 2029. The future intersection capacity along these road sections will be explored in more detail in the ensuing Strategy Report.

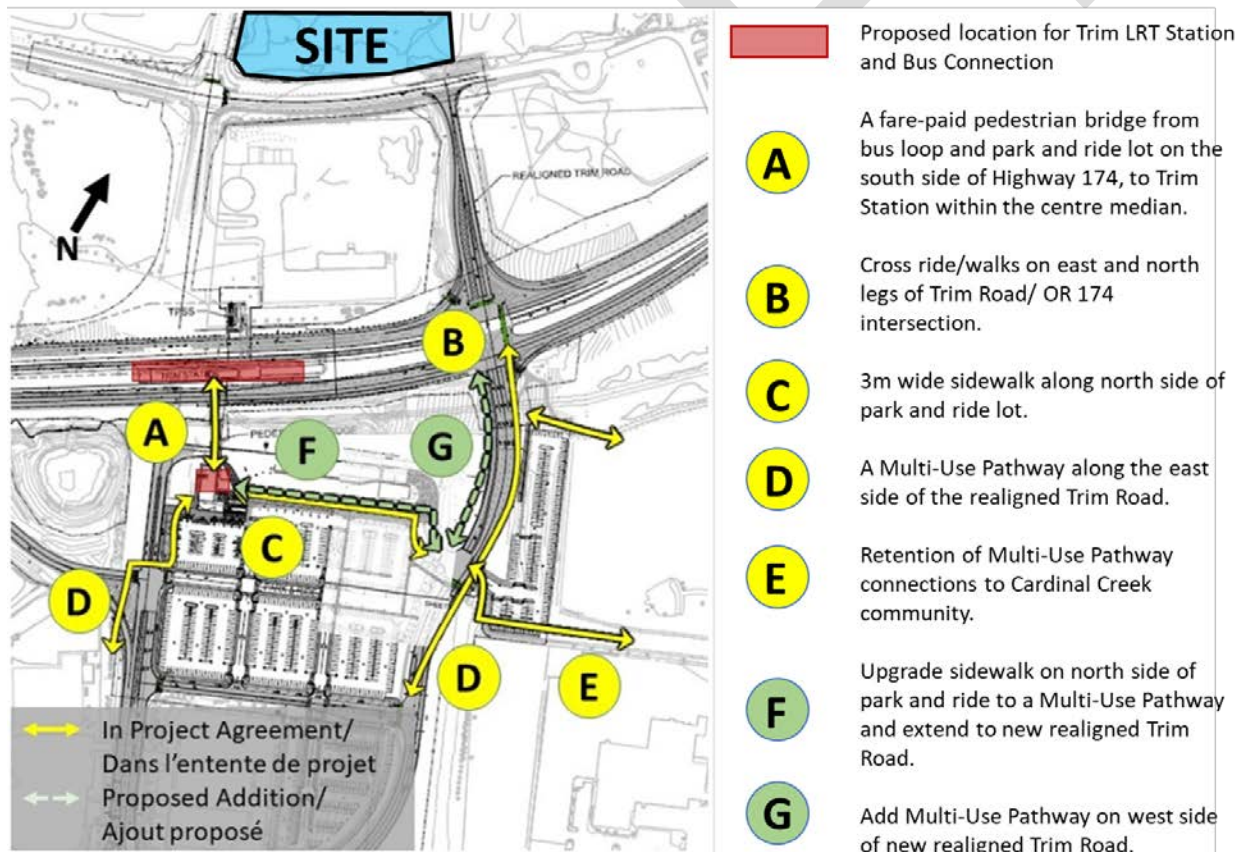
4. Strategy Report

4.1. Development Design

4.1.1. DESIGN FOR SUSTAINABLE MODES

Although the detailed design of the Trim Road realignment, including the intersection at Hwy 174, is ongoing, some information is available to what is currently proposed as shown in **Figure 20**. Since the segment of road fronting the site, formerly known as Inlet Private and referred to as Jeanne D'Arc herein, is anticipated to have an increase in vehicular traffic and buses will be added to this short segment of road between the Old Trim/Jeanne D'Arc and New Trim/Jeanne D'Arc, intersections, it is assumed that this segment of road will be retrofitted to collector road standards.

Figure 20: Stage 2 LRT Station Connectivity Enhancement Study



Source: <https://ottawa.ca/en/city-hall/public-engagement/projects/stage-2-lrt-station-connectivity-enhancement-study>

Location of Transit Facilities

The subject site is located approximately 600m walking distance to the future Trim LRT Station via New Trim/Hwy 174 intersection. If a pedestrian bridge from Trim LRT Station to the north, connecting to Old Trim Road was built, the site would be approximately 250m from Trim LRT Station and would highly incentivize the use of public transit.

It is anticipated that a bus route similar to existing OC-Transpo Route #39 will provide connection from Trim LRT Station to local communities on the north side of Hwy 174. Such route would likely pass on Jeanne D'Arc Boulevard adjacent to the site, with the possibility of adding a bus stop near the proposed site.

Pedestrian/Cycling Routes and Facilities

All proposed buildings will have direct pedestrian and cycling access to Jeanne D'Arc Boulevard. Currently there is a sidewalk on the south side of Jeanne D'Arc Boulevard only. It's expected that new active travel facilities will be introduced onto Jeanne D'Arc, east of the Trim, to facilitate connectivity to Hwy 174 and the broader network. However, the current functional plans of the Trim Road realignment, as seen in **Figure 20**, do not provide any details on active transportation facilities or treatments north of Hwy 174 or on the future Jeanne D'Arc connection (currently Inlet Private). The expectation is that the planned Trim Road realignment by the City of Ottawa will incorporate appropriate pedestrian and cycling facilities along the Jeanne D'Arc and Trim as part of Stage 2 LRT implementation.

Bicycle Parking

Bicycle parking is anticipated to meet the minimum City By-Law requirements of 0.5 spaces per units. Bicycle parking will be encouraged to be indoors in a secure, well-lit area located at a level which would provide convenient access to and from the building to cycling facilities. More details will be available once a Site Plan Application is filed.

4.1.2. CIRCULATION AND ACCESS

Exempt. See **Table 1**.

4.1.3. NEW STREETS NETWORK

Exempt. See **Table 1**.

4.2. Parking

4.2.1. PARKING SUPPLY

Though parking is normally exempt for Zoning or OP Applications, as discussed in **Table 1**, a preliminary estimate has been provided and compared to parking requirements as per City of Ottawa Zoning By-Law. The site is located in Area C according to Schedule 1 and Area C in Schedule 1A, however, it is within 600m walk to Trim Rapid Transit Station within Schedule 2B. **Table 11** summarizes the vehicle parking minimum and maximums allowed within the parking by-law. **Table 12** summarizes the bicycle parking requirements as per City of Ottawa Zoning By-Law-Part 4, sections 100-114.

Table 11: Vehicle Parking Space Supply

Land Use		Rate per Unit		Required Vehicle Spaces				Proposed Spaces
		Base	Visitor	Base	Visitors	Min Req.	Max Allowed ₃	
Residential 3 Towers	795 units	0.5 per unit ₁	0.1 per unit ₂	392	30	422	1,193	711
1) no off-street motor vehicle parking is required for the first 12 dwelling units 2) no off-street motor vehicle parking is required for the first 12 dwelling units with a max of 30 visitor spots 3) maximum parking allowed is at a rate of 1.5 parking stalls per unit (combined base and visitor)								

Table 12: Bicycle Parking Requirements

Land Use		Rate	Required Bicycle Spaces	Proposed Spaces
			Required	
Residential 3 Towers	795 units	0.5 per unit	398	Unknown

Estimated parking space estimates meet City guidelines, and the required number bicycle spaces has been identified. The majority onsite parking is expected to be enclosed within a parking structure beneath the podium, with some potential for parking on the podium level. Details will be confirmed during detailed design, but the parking rates are expected to be compliant with the Zoning By-Law.

4.2.2. SPILLOVER PARKING

Exempt. See table Table 1.

4.3. Boundary Street Design

4.3.1. EXISTING CONDITIONS

The boundary street for the development is Inlet Private (or future Jeanne D'Arc Boulevard). Since New Trim Road will be a critical link for pedestrians accessing the Trim LRT Station, it will be considered as well for future conditions in Section 4.3.2. The existing roadway geometries consist of the following features:

- *Inlet Private:*
 - 1 vehicle travel lane in each direction;
 - 2m sidewalk on south side, no sidewalk on north side of roadway;
 - Less than 3,000 vehicles per day;
 - Assumed unposted speed 50km/h;
 - Classified as local roadway;
 - Identified as a spine route and major pathway for cycling; and,
 - Not identified as a Truck Route.

The proposed site is located within 600m of a rapid bus station/future LRT station at Trim. Multi-modal Level of Service analysis for the subject road segments adjacent to the site is summarized in Table 13 with detail analysis provided in Appendix F.

Table 13: MMLoS – Boundary Street Segment Existing

Road Segment	Level of Service							
	Pedestrian		Bicycle (BLoS)		Transit (TLoS)		Truck (TkLoS)	
	PLoS	Minimum Desirable Target	BLoS	Minimum Desirable Target	TLoS	Minimum Desirable Target	TkLoS	Minimum Desirable Target
Inlet Private North side between Trim Road and future Trim Road	F	A	B	B	D	D	-	N/A
Inlet Private South side between Trim Road and future Trim Road	B	A	B	B	D	D	-	N/A

Pedestrian

- *Existing Inlet Private* does not meet pedestrian PLoS due to lack of sidewalk on the north side and lack of boulevard separation on the sidewalk in the south side of roadway.

Bicycle

- *Existing Inlet Private* meets cyclist BLoS.

Transit

- *Existing Inlet Private* meets transit TLoS targets.

Truck

- *Existing Inlet Private* is not a truck route.

4.3.2. FUTURE CONDITIONS

The future boundary streets for the development will be Jeanne D'Arc Boulevard and New Trim Road, both critical link for pedestrians accessing the Trim LRT Station. While roadway geometries are still unclear at this time, the expectation is the following features would be included as part of the Trim Road realignment in support of Stage 2 LRT by the City:

- *Jeanne D'Arc Boulevard (formerly Inlet Private):*
 - 1 vehicle travel lane in each direction;
 - Sidewalk on both sides of roadway assumed with potential MUP on one side;
 - More than 3,000 vehicles per day;
 - Speed limit 50km/h;
 - Classified as major collector roadway;
 - Identified as a spine route and major pathway for cycling; and,
 - Not a Truck Route.
- *New Trim Road (realigned):*
 - 1 vehicle travel lane in each direction;
 - Sidewalk on both sides of roadway assumed with MUP on one side;
 - More than 3,000 vehicles per day;
 - Speed limit 50km/h;
 - Classified as major collector roadway;
 - Identified as a spine route and major pathway for cycling; and,
 - Not a Truck Route.

The proposed site is located within 600m of a rapid bus station/future LRT station. Multi-modal Level of Service analysis for the subject road segments adjacent to the site is summarized in **Table 14** with detail analysis provided in **Appendix F**.

Table 14: MMLOS – Future Boundary Street Segment

Road Segment	Level of Service							
	Pedestrian		Bicycle (BLoS)		Transit (TLoS)		Truck (TkLoS)	
	PLoS	Minimum Desirable Target	BLoS	Minimum Desirable Target	TLoS	Minimum Desirable Target	TkLoS	Minimum Desirable Target
Jeanne D'Arc - North side between Old Trim and future Trim	C	A	B	B	D	D	-	N/A
Jeanne D'Arc - South side between Old Trim and future Trim	C	A	A	B	D	D	-	N/A
New Trim Road between Jeanne D'Arc and Hwy 174	C	A	A	B	D	D	-	N/A

Pedestrian

- *Jeanne D'Arc Blvd & New Trim Road* do not meet pedestrian PLoS due to increase in vehicular traffic anticipated to >3000 veh/day and lack of boulevard separation.

Bicycle

- *Jeanne D'Arc Blvd & New Trim Road* meet and exceed cyclist BLoS in some areas.

Transit

- *Jeanne D'Arc Blvd & New Trim Road* meet transit TLoS targets.

Truck

- *Jeanne D'Arc Blvd & New Trim Road* are not a truck routes.

4.4. Access Intersection Design

4.4.1. LOCATION AND DESIGN OF ACCESS

The proposed access to the site is currently envisioned as a half-moon crescent loop, which would add two new full movement access driveways to Jeanne D'Arc Boulevard. The new driveways, called East Site Access and West Site Access herein, are located approximately 55m and 105m east of Old Trim/Jeanne D'Arc respectively. This results in a separation of approximately 50m between each driveway and the eastern most driveway would be approximately 75m west of the proposed New Trim/Jeanne D'Arc intersection.

With most site generated traffic expected to be drawn to Hwy 174, it was assumed that the majority of these vehicles will enter/exit via the East Site Access, ultimately destined for the parking structure. Vehicles will also have a secondary route in/out, which provides redundancy and helps mitigate potential queue spillback. These assumptions will be further analyzed during the SPA.

4.4.2. INTERSECTION CONTROL

A traffic signal warrant was completed at New Trim/Jeanne D'Arc and it was not warranted. However, the all-way stop control warrant was triggered, confirming that the intersection should be maintained as an AWSC on opening day. All warrant analysis has been provided in **Appendix G**.

According to the City of Ottawa Private Approach By-Law Section 25, if a site has more than 300 parking spaces, a minimum distance between the private approach and signalized intersection is 75 meters. In the event that the New Trim/Jeanne D'Arc intersection were to require traffic control signals, the nearest site proposed access would be located approximately 75 meters west of the signalized intersection, which meets the minimum corner clearance requirement on a major collector road.

4.4.3. INTERSECTION DESIGN

See **Section 4.9.2**.

4.5. Transportation Demand Management

4.5.1. CONTEXT FOR TDM

Based on the type of development, it is assumed that most trips generated by the proposed site will be residents leaving the site in the AM peak to go to work and returning from work to the proposed site in the PM peak. Sections 3.1.1 and 3.1.2 describe how many trips are anticipated per travel mode and anticipates the likely locations that they will travel to and from based on the OD-Survey 2011 for Ottawa. The site is located in a Transit-Oriented Development (TOD) zone according to the Official Plan.

4.5.2. NEED AND OPPORTUNITY

Developments located in a Transit-Oriented Development (TOD) zone such as the proposed site are expected to utilize measures to provide sustainable active mode shares. Such measures are described in more detail in Section 4.5.3 below, but can include reduced parking (to be discussed in SPA), more aggressive Multi-Modal Levels of Service (MMLOS) as described in Section 4.3 and 4.9 and safe and efficient connectivity to public transit as described in Section 4.7, to name a few.

4.5.3. TDM PROGRAM

Given that this is a ZBLA only, the exact details of the proposed development are unknown. A draft TDM infrastructure checklist is attached as **Appendix H** with some of the proposed attributes that are known. Note that the measures checklist is not yet applicable to this ZBLA as details of the buildings are not concrete yet.

4.6. Neighborhood Traffic Management

4.6.1. ADJACENT NEIGHBORHOODS

The road segment adjacent to the site, currently known as Inlet Private and referred to as Jeanne D'Arc Boulevard in the future is anticipated to increase in traffic significantly as Trim Road will be relocated further east and all traffic headed to and from west of the new intersection will now pass in front of the site. Once this new traffic is added, following the opening of the New Trim/Hwy 174 intersection, this segment of road is anticipated to be upgraded from a local roadway to a major collector between the old and new Trim/Jeanne D'Arc segment as part of the Trim Road realignment in support of Stage 2 LRT by the City.

The future projected 2029 volumes along this stretch are anticipated to be approximately 3,500 vehicles per day or 570 peak hour volumes which is consistent with a major collector road, capable of handling volumes between 2,500 to 5,000 daily or 300 to 600 peak hour volumes, based on City of Ottawa suggested guidelines. Once the intersection has been relocated, this segment of roadway should be retrofitted to major collector roadway standards. The geometric features will be confirmed during the Site Plan Application.

4.7. Transit

4.7.1. ROUTE CAPACITY

It is projected that 500 'new' two-way transit passenger trips per hour will be generated for the AM and PM peak hours. Considering the envisioned LRT East extension line is projected to begin operation in 2024 and assuming a similar capacity to that of the Confederation Line (600 passengers per train and 12 trains per hour during peak), it is anticipated that the future transit network will have sufficient capacity to accommodate the subject development transit demand. Additionally, added capacity is available on local bus routes on Jeanne D'Arc Boulevard and Trim Station.

4.7.2. TRANSIT PRIORITY

Since the Confederation LRT Line is grade separated, the development's driveways will not impact travel times. On average, the LRT stations are approximately 90m long, providing enough station distance to efficiently load and off-load the passengers without creating delays.

4.8. Review of Network Concept

The proposed site is currently located within DR zoning (developmental reserve). Given that the maximum height allowed for DR is 11m high (approximately 4-stories), a good portion of the development will be above that height and it is anticipated that more than 200 peak hour person trips more than the equivalent volume permits by the established zoning will be achieved.

Approximately 830 person trips are anticipated to be generated by the proposed development, as shown **Section 3.1.2**, with a large portion of these people trips surpassing the current zoning allowance. However, changes to the existing network are not expected, based on the close proximity of Trim Station, access to pedestrian and cycling facilities, and anticipated capacity on the adjacent road network to accommodate the proposed development traffic.

4.9. Intersection Design

4.9.1. INTERSECTION CONTROL

See Section 4.4.2.

4.9.2. INTERSECTION DESIGN

Multi-Modal Level of Service

As stated in the MMLOS Guidelines, only signalized intersections are considered for the intersection Level of Service measures. The Old Trim/Hwy 174 and New Trim/Hwy 174 intersections are signalized intersections within the study area. The Old Trim/Hwy 174 reflects existing MMLOS while New Trim/Hwy 174 reflects future-built conditions once Trim Road is relocated further east. The MMLOS analysis is summarized in **Table 15**, with detailed analyses provided in **Appendix I**.

Table 15: MMLOS – Existing and Future Trim/Hwy 174

Intersection	Level of Service							
	Pedestrian		Bicycle (BLoS)		Transit (TLoS)		Truck (TLoS)	
	PLoS	Minimum Desirable Target	BLoS	Minimum Desirable Target	TLoS	Minimum Desirable Target	TkLoS	Minimum Desirable Target
Old Trim/Hwy 174 (Existing)	E	A	D	B	F	D	A	D
New Trim/Hwy 174 (Future) ¹	F	A	D	B	F	D	A	D

1) Future Trim/Hwy 174 is based on the latest plans available, however, it is subject to change

Pedestrian

- Pedestrians have to cross up to eight lanes of traffic at Trim/Hwy 174. There are no options that can help improve the PLoS significantly enough to come anywhere near the target PLoS. A grade separated pathway, such as the addition of a north bridge from the Trim LRT Station would provide a secure pedestrian crossing.

Bicycle

- Bike lanes are provided along east and west legs of the realigned Trim/OR-174 intersection. This intersection also features north and south bike lanes that are a part of the Spine Route of Ottawa, spine pocket bike lane on the north leg and major bike path lane on the south leg. The failure in BLoS at the intersection can be attributed to operating speed of vehicles. As such, there are no options that can help improve the BLoS significantly enough to meet the target BLoS.

Transit

- Transit TLoS targets were not met for either existing or future as it relies on average signal delay. To reach the target goal, buses must wait no longer than 30 seconds at the intersection. Since the existing cycles are in the magnitude of 120-130 seconds, buses are anticipated to wait longer than 30 seconds.

Truck

- Truck target level of service was met.

Direct north access to the Trim LRT Station would reduce walking and cycling distances to site and would provide increased pedestrian/cyclist safety by eliminating the at-grade crossing point at Trim/Hwy 174 intersection.

Existing Intersection Performance

The following **Table 16** provides a summary of the existing traffic operations at the study area intersection based on the Synchro (V10) traffic analysis software. The subject intersections were assessed in terms of the volume-to-capacity (v/c) ratio and the corresponding Level of Service (LoS) for the critical movement(s). The Synchro

model outputs of existing conditions are provided within **Appendix J** and the volumes used were obtained from **Figure 5**.

Table 16: Existing Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Signalized Intersections						
New Trim/Hwy 174	E(C)	0.96(0.78)	NBL(NBL)	43.3(24.1)	D(C)	0.88(0.76)
Unsignalized Intersections						
Old Trim/Jeanne D'Arc	A(A)	8(8)	NB(NB)	8(7)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 0.9 and a saturation flow rate of 1800 veh/h/lane.

As seen in **Table 16**, all intersections operate overall at acceptable LoS 'D' or better with critical movements operating at LoS 'E' or better during the existing conditions.

Background Conditions 2029

The future background 2029 conditions are anticipated to operate worse than 2024 as more developments were accounted for and the future background volumes have been increased for a longer period. Since 2029 background is the more critical of the two scenarios, only 2029 will be analyzed. The future projected 2029 background volumes are illustrated in **Figure 21** with projected operation outputs in **Table 17**. The detailed Synchro results can be found in **Appendix K**.

Figure 21: 2029 Background Projected Volumes

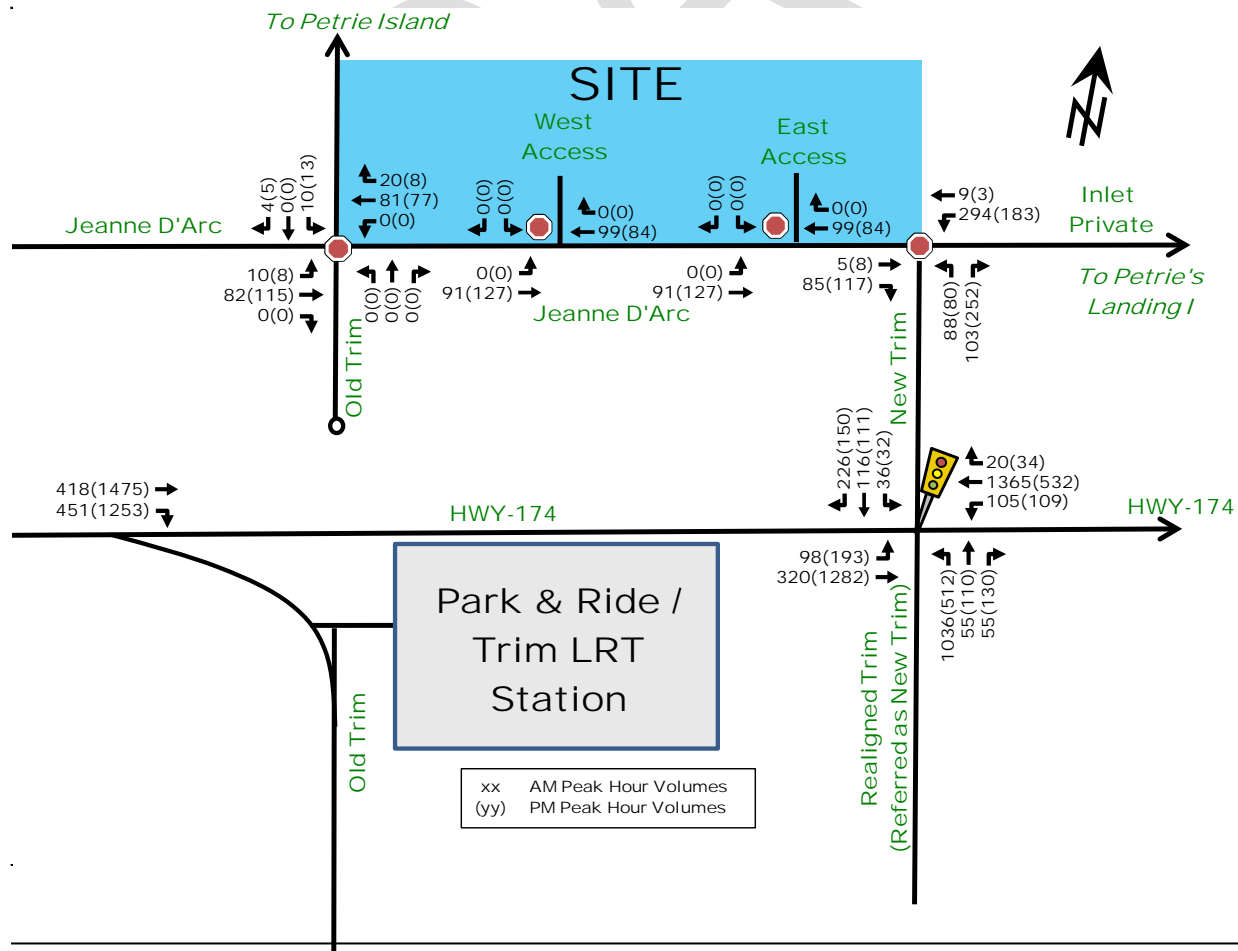


Table 17: 2029 Background Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Signalized Intersections						
New Trim/Hwy 174	E(E)	0.94(0.92)	NBL(EBT)	48.7(40.5)	E(D)	0.91(0.89)
Unsignalized Intersections						
New Trim/Jeanne D'Arc	B(B)	11(12)	NB(NB)	10(11)	B(B)	-
Old Trim/Jeanne D'Arc	A(A)	8(8)	EB(EB)	8(8)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.

As seen in **Table 17**, all intersections operate overall at acceptable LoS 'E' or better with critical movements operating at LoS 'E' or better during the 2029 background volumes. Operations are similar with existing intersection performance.

Future Conditions 2024

The future full build-out 2024 volumes were derived by superimposing background 2024 volumes which include other area developments and background growth, with future site-generated volumes. The future projected 2024 volumes are illustrated in **Figure 22** with projected operation outputs in **Table 18**. The detailed Synchro results can be found in **Appendix L**.

Figure 22: 2024 Total Projected Volumes

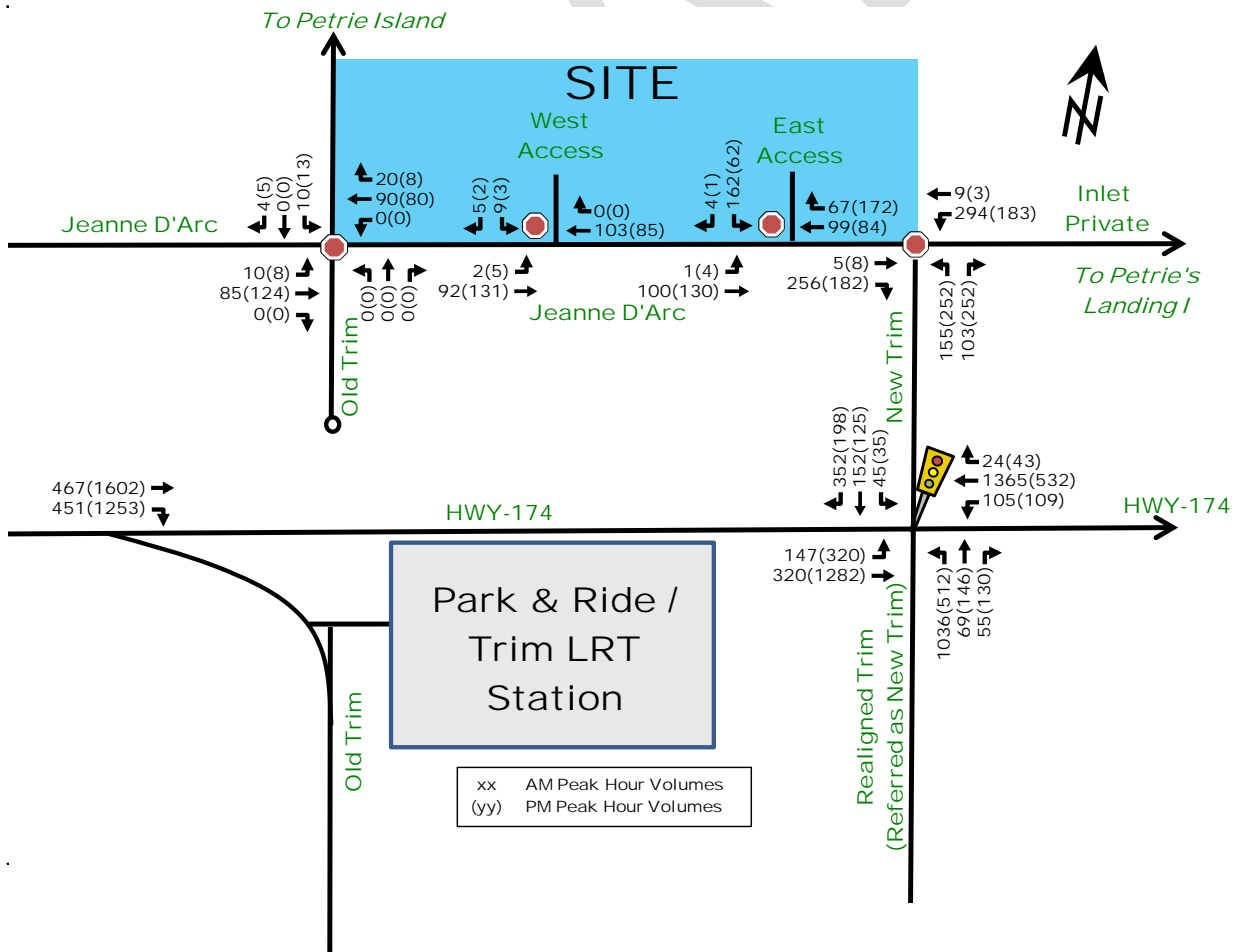


Table 18: 2024 Full Build-out Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Signalized Intersections						
New Trim/Hwy 174	D(D)	0.90(0.85)	NBL(EBT)	44.1(37.1)	D(D)	0.85(0.81)
Unsignalized Intersections						
New Trim/Jeanne D'Arc	B(C)	12(16)	WB(NB)	11(14)	B(B)	-
Old Trim/Jeanne D'Arc	A(A)	8(8)	EB(EB)	8(8)	A(A)	-
Jeanne D'Arc/W Site Access	A(A)	9(9)	SB(SB)	1(1)	A(A)	-
Jeanne D'Arc/E Site Access	B(B)	11(11)	SB(SB)	4(2)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.

As seen in **Table 18**, all study area intersections are expected to operate similarly to existing conditions with acceptable delays.

Future Conditions 2029

The future full build-out 2029 volumes were derived by superimposing background 2029 volumes which include other area developments and background growth, with future site-generated volumes. The future projected 2029 volumes are illustrated in **Figure 23** with projected operation outputs in **Table 19**. The detailed Synchro results can be found in **Appendix L**.

Figure 23: 2029 Total Projected Volumes

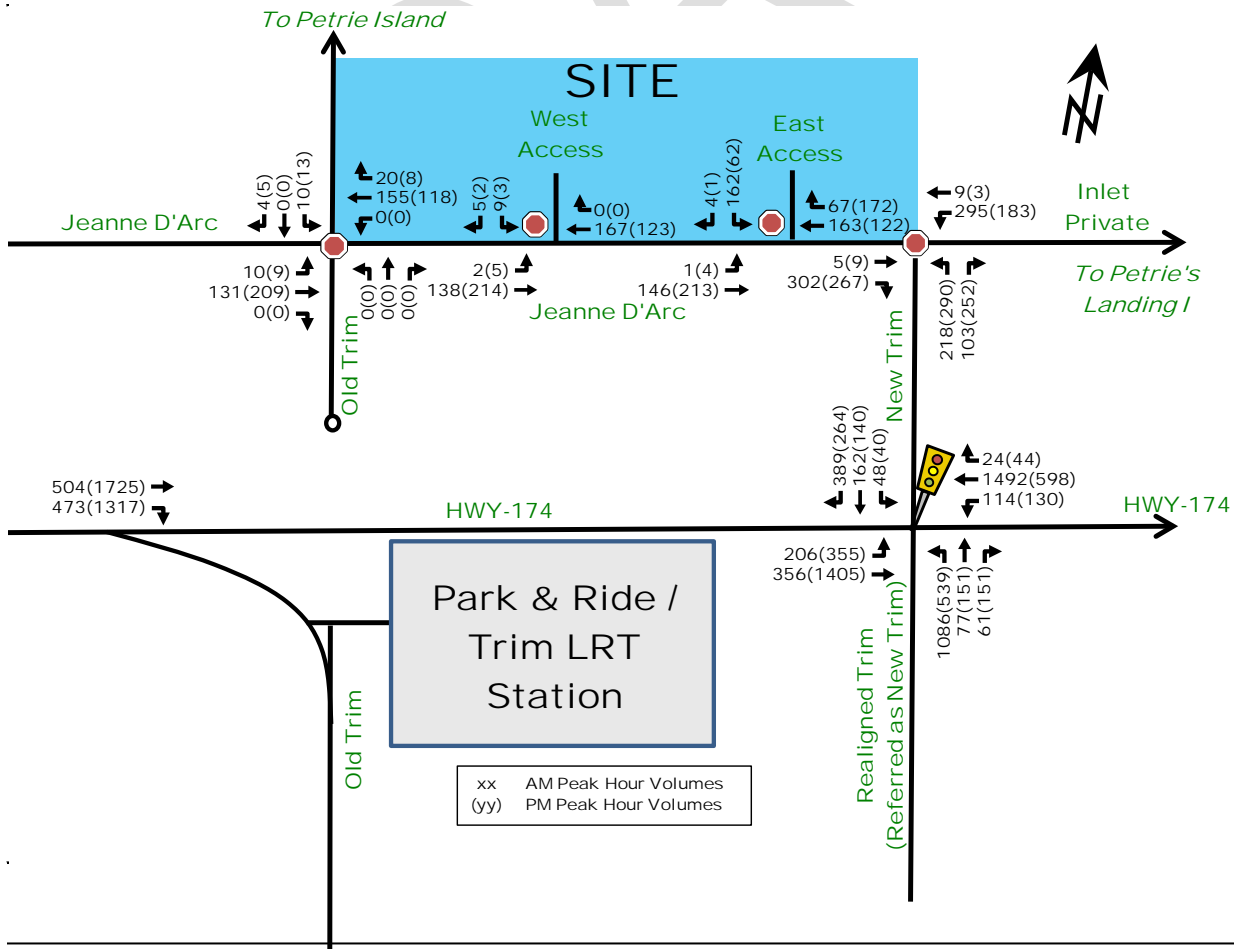


Table 19: 2029 Full Build-out Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Signalized Intersections						
New Trim/Hwy 174	E(E)	0.96(0.92)	EBL(EBT)	52.5(40.9)	E(D)	0.94(0.89)
Unsignalized Intersections						
New Trim/Jeanne D'Arc	B(C)	13(22)	NB(NB)	13(17)	B(C)	-
Old Trim/Jeanne D'Arc	A(A)	8(8)	EB(EB)	8(8)	A(A)	-
Jeanne D'Arc/W Site Access	B(B)	10(10)	SB(SB)	1(1)	A(A)	-
Jeanne D'Arc/E Site Access	B(B)	12(12)	SB(SB)	4(1)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.						

As seen in **Table 19**, all study area intersections are expected to operate similarly to existing conditions with acceptable delays. New Trim/Hwy 174, overall, is nearing theoretical capacity, similar to 2029 background volumes, but still operates within accepted City standards.

A sensitivity analysis was completed using Sim Traffic to determine if queue lengths would spill back to upstream intersections, particularly the northbound queues on Trim Road leading to Jeanne D'arc. The intersection spacing between Jeanne D'arc and Hwy 174 on Trim Road was estimated to be approximately 190m. The analysis showed the estimated northbound 95th percentile queue was approximately 60m and 250m in the AM and PM peak hours respectively. The latter result exceeds the available spacing capacity. Different storage lane configurations were explored and are summarized in **Table 20** below.

Table 20: 95th Percentile Queue Northbound Approach New Trim/Jeanne D'Arc PM Peak

Intersection Modification	95 th Percentile Queue PM Peak (m)	
	NBL Queue	NBR Queue
No storage lanes	254 ₁	254 ₁
2 full lanes	44	34
50m NBR storage, NBL full lane	85	42
60m NBR storage, NBL full lane	73	40
60m NBL storage, NBR full lane	50	66
1.) NBL and NBR share a single lane, making the queues the same		

To reduce the potential northbound queue length and spill back onto Hwy 174, an auxiliary turn lane should be implemented on the northbound approach, with the preferred configuration of a 60m left-turn storage which reduces the northbound 95th percentile queue to approximately 65m in the PM peak hour. These modifications would be incorporated into the ongoing detailed design for the future Trim/Jeanne D'arc intersection, as part of the Trim Road realignment in support of Stage 2 LRT by the City. The SimTraffic results have been included in **Appendix M**.

Future Conditions if Custom Mode Share not Met

The trips generated based on Orléans mode share are shown in **Figure 24** in the event that the custom mode shares are not met. The projected intersection performance for the critical scenario 2029 with Orléans mode shares is shown in **Table 21** with detailed output in **Appendix N**.

Figure 24: 2029 Total if Custom Mode Share not Met Projected Volumes

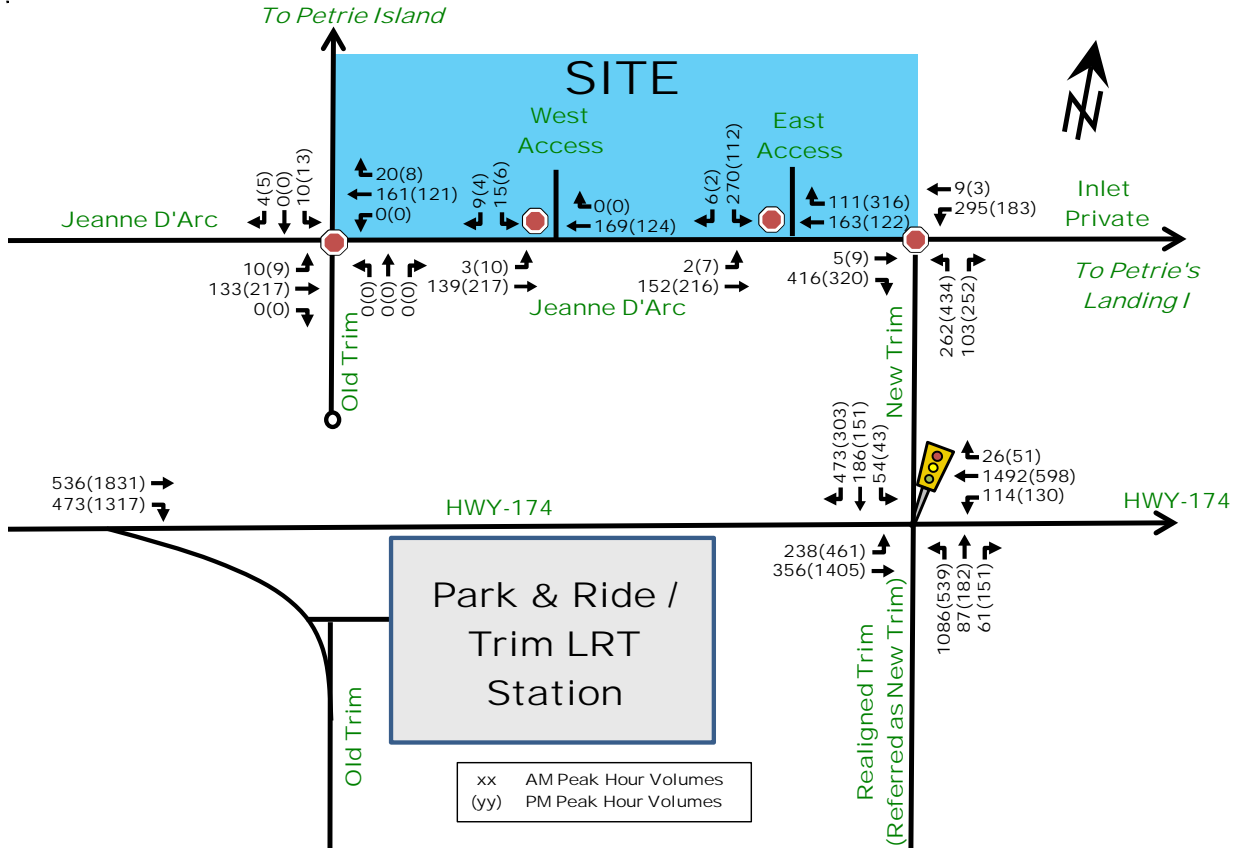


Table 21: Intersection Performance if Custom Mode Shares not Met

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Signalized Intersections						
New Trim/Hwy 174	E(E)	0.99(0.92)	EBL(EBT)	56.2(42.4)	E(D)	0.98(0.89)
Unsignalized Intersections						
New Trim/Jeanne D'Arc	C(F)	17(63)	NB(NB)	15(42)	C(E)	-
Old Trim/Jeanne D'Arc	A(A)	8(9)	EB(EB)	8(8)	A(A)	-
Jeanne D'Arc/W Site Access	B(B)	10(10)	SB(SB)	1(1)	A(A)	-
Jeanne D'Arc/E Site Access	C(B)	15(14)	SB(SB)	6(2)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.

As seen in **Table 21**, most study area intersections are expected to operate similarly to existing conditions with the exception of New Trim/Jeanne D'Arc, which has a critical movement of LoS 'F' in the PM peak hour. Although this scenario is highly unlikely to occur once Trim LRT Station is open, the implementation of traffic signals may be required at this location to meet City standards if non-TOD mode splits were assumed. If the City is concerned of this unlikely outcome, it is recommended that the City include traffic signals at this location into the ongoing Trim Road realignment detailed design, for implementation on Day 1 of Stage 2 LRT.

5. Findings and Recommendations

Based on the results summarized herein the following findings and recommendations are provided:

Existing Conditions

- Trim Road will be realigned further east as part of the Confederation LRT Line Extension and the addition of Trim LRT Station to be build less than 600m walking distance from the proposed site.
- As a result, both New Trim/Hwy 174 and New Trim/Jeanne D'Arc intersections will be relocated further east. It is expected the existing portion of Inlet Private, along the proposed development frontage, will be modified by the City to match Jeanne D'Arc west of Trim; upgrading the local roadway classification to a major collector roadway classification.
- The detailed design of the planned Trim Road realignment as part of Stage 2 LRT is ongoing. Therefore, the relevant recommendations herein, upon confirmation by City staff, should be incorporated into these designs prior to implementation.
- Overall, there are no existing safety concerns along the proposed development frontage and the planned Trim Road realignment is expected to significantly alter the roadway landscape within the broader study area. Therefore, no mitigation measures were considered.
- Existing intersections operate at good overall LoS 'D' or better with critical movements of 'E' or better during the weekday peak hours.

Proposed Development

- The proposed development will comprise of approximately 800 apartment units and 10,000 ft² of ground floor commercial/retail in three 28 to 32-storey buildings with 4-storey podium connecting the towers.
- The proposed development is projected to generate 'new' vehicle volumes of approximately 250 veh/h two-way total during the weekday morning and afternoon peak hours.
- The proposed development is projected to generate approximately 500 'new' transit trips during the AM and PM peak hour periods, which can be accommodated by the nearby high-capacity Confederation LRT Line. Additional capacity is available on local bus routes departing Trim Station.
- TDM measures should be reviewed during the Site Plan Application to identify ways to leverage the site's proximity to rapid transit.
- A total of 711 parking spaces are proposed which would meet the City's minimum and maximum parking requirements for this development. Note, that the quantity of parking spaces and locations are subject to change and will be confirmed during the Site Plan Application.
- The proposed access to the site proposes two new full movement driveways off Jeanne D'Arc Boulevard, with at least 50m separation between each other and 75m to the nearest potential signalized intersection, which meet City By-Law requirements.

Future Conditions

- Other nearby developments and a 1% growth rate were applied to existing volumes to estimate 2029 background conditions. The 2029 background overall intersection performance of all study area intersections was LoS 'E' or better and with critical movement of 'E' or better.
- Future conditions with the addition of 250 veh/h two-way vehicle trips and transit trips modelled as pedestrians heading to/from the site to Trim Station performed at acceptable levels of service with overall LoS 'E' or better and with critical movement of 'E' or better.

- The afternoon peak hour 95th percentile queue on the northbound movement at New Trim/Jeanne D'Arc showed a high probability of queue spillback to Hwy 174. A 60m northbound left-turn lane was shown to mitigate the anticipated queue in the 2029 horizon. To ensure the lowest probability of queue spillback impacts beyond the ultimate horizon set in this TIA, two northbound lanes would be required between Jeanne D'arc and Hwy 174. Whichever recommendation is chosen by City staff should be incorporated into the ongoing Trim Road realignment detailed design.
- If the custom modal shares are not met, the New Trim/Jeanne D'Arc intersection may need to be signalized to improve performance.
- The MMLOS road segment analysis shows that existing and future conditions on boundary streets do not meet MMLOS area targets for pedestrians due to high vehicular volumes in the future and lack of sidewalk on north side in the present. The bike and transit targets are met for both present and future.
- Pedestrian and cycling facilities are expected to be incorporated along the future Jeanne D'arc frontage, improving upon the existing design for Inlet Private. The expectation is that the planned Trim Road realignment by the City of Ottawa will incorporate appropriate pedestrian and cycling facilities along the Jeanne D'arc and Trim as part of Stage 2 LRT implementation.
- The MMLOS intersection analysis shows that only truck target goals are met at the Old and New Trim/Hwy 174 intersections. Given the fast operating speeds and number of lanes crossed, it is not possible to meet pedestrian and cyclist target goals without grade separating their crossing, such as a pedestrian/cyclist bridge over Hwy 174 between Trim Station and Old Trim Road to the north.

Based on the foregoing findings, the proposed development located at 1009 Trim is recommended from a transportation perspective.

Prepared By:

Reviewed By:

Juan Lavin, E.I.T.

Austin Shih, M.A.Sc., P.Eng.
Senior Transportation Engineer

APPENDIX A

SCREENING FORM AND CITY COMMENTS

City of Ottawa 2017 TIA Guidelines

Date

3-Mar-20

TIA Screening Form

Project

1009 Trim Road Development

Project Number

477526

Results of Screening	Yes/No
Development Satisfies the Trip Generation Trigger	Yes
Development Satisfies the Location Trigger	Yes
Development Satisfies the Safety Trigger	Yes

Module 1.1 - Description of Proposed Development	
Municipal Address	1009 Trim Road Ottawa Ontario
Description of location	Vacant parcel located on the northeast corner of Trim/Jeanne D'Arc/Inlet intersection
Land Use	existing - Development Reserve Zone (DR), proposed - medium to high density residential
Development Size	proposes three towers, approximately 25 to 30 storeys (800 units), with theoretical max 5 towers total (1250 units)
Number of Accesses and Locations	Single access off Inlet Private
Development Phasing	Two phases (assumed)
Buildout Year	2024
Sketch Plan / Site Plan	See attached

Module 1.2 - Trip Generation Trigger		
Land Use Type	Townhomes or Apartments	
Development Size	1250	Units
Trip Generation Trigger Met?	Yes	

Module 1.3 - Location Triggers		
Development Proposes a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit, or Spine Bicycle Networks (See Sheet 3)	No	
Development is in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone. (See Sheet 3)	Yes	Trim LRT Station
Location Trigger Met?	Yes	

Module 1.4 - Safety Triggers		
Posted Speed Limit on any boundary road	<80	km/h
Horizontal / Vertical Curvature on a boundary street limits sight lines at a proposed driveway	No	
A proposed driveway is within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions) or within auxiliary lanes of an intersection;	Yes	Will access new intersection from realigned Trim Road and OR-174 intersection
A proposed driveway makes use of an existing median break that serves an existing site	No	
There is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development	Yes	
The development includes a drive-thru facility	No	
Safety Trigger Met?	Yes	

17 June 2020

City of Ottawa

Development Review Services

110 Laurier Avenue West

Ottawa, ON K1P 1J1

Attention: Mike Giampa, P.Eng.

Dear Mike:

Re: 1009 Trim Road
Step 2 – Comment and Response Form

The following response form has been prepared to address City of Ottawa comments received on June 3rd, 2020. City comments are noted in black with the corresponding responses from Parsons in **Green**.

Transportation Engineering Services

Regarding the highlighted bullet on the narrowing of the ROW question that came up at the pre-consultation, the ROW at this location seems to be too wide (50 m) and I don't see major issues with narrowing the ROW. I noticed that there is a sanitary sewer in the right of way as well (the section that they may want to buy). So, there may be concerns with selling that land from infrastructure perspective too. **Noted**

If the applicant would like to consider buying some of the land at this location from the City, please consult with real estate department regarding the process. This will most [likely] initiate another City process and be circulated to various City groups (transportation, infrastructure etc.) to ensure there are no issues of further interests with the narrowing of the ROW. **Noted**

My pre-consultation notes are as follows:

- Follow Traffic Impact Assessment Guidelines
 - Please proceed to forecasting. **Noted**
 - Applicant advised that their application will not be deemed complete until the submission of the draft step 1-4, including the functional draft RMA package (if applicable) and/or monitoring report (if applicable). **Noted**
 - Request base mapping as soon as possible if RMA is required. Contact Engineering Services (<https://ottawa.ca/en/city-hall/planning-and-development/engineering-services> [ottawa.ca]) **Noted**
- Site triangles at the following locations on the final plan will be required:
 - Local to Arterial Road: 5 metre x 5 metres **Noted**
- Good cycling and pedestrian connectivity in the area needs to be considered. **Noted**
- If the applicant wants to initiate the process of narrowing the ROW on Inlet Private/Jeanne D'arc east of Trim, please consult with real estate. A technical circulation to various City groups will be required to ensure there are no concerns with the narrowing. Note that there should be sufficient right of way to accommodate turning lanes (if required) and cycling/ped connections. Further review with regards to infrastructure may also be required. **Noted**
- Noise Impact Studies required for the following:
 - Road **Noted**

20 July 2020

City of Ottawa

Development Review Services

110 Laurier Avenue West

Ottawa, ON K1P 1J1

Attention: Neeti Paudel, P.Eng.

Dear Neeti:

Re: 1009 Trim Road
Step 3 – Comment and Response Form

The following response form has been prepared to address City of Ottawa comments received on July 17th, 2020. City comments are noted in black with the corresponding responses from Parsons in **Green**.

Transportation Engineering Services

Section 2.1.2 Existing Conditions:

The Existing Study Area Intersections section notes that the northbound approach of Jeanne d'Arc Boulevard / Inlet Private / Trim Road includes a bike lane. However, this section does not mention all other bike lanes at study area intersections. There is a bike lane on the eastbound approach to the Jeanne d'Arc Boulevard / Inlet Private / Trim Road intersection, and bike lanes on the northbound and southbound approaches of the Trim Road / Highway 174 intersection. **Noted, description expanded on "Pedestrian/Cycling Network" and "Existing Study Area Intersections" sub-headers.**

Sidewalks and bike lanes are not area traffic management measures. **Noted**

At the top of page 5, clarify what is meant by the phrase "Trim Road is part of a 'cycle track'". **Noted, text adjusted.**

Specify the exact locations of the Route #38 bus stops "on both sides of Trim Road". **"Transit Network" updated**

Section 3.1.1 Trip Generation and Mode Shares and Section 3.1.2 Mode Shares:

Separate the pedestrian and cycling mode trips in Tables 5, 7 and 8. **Noted**

Section 3.1.4 Trip Assignment:

Ensure that pedestrian trips are captured within intersection analysis, as applicable. While it is acknowledged that pedestrians and cyclists will make up a negligible portion of the commuting trips, these transit trips will begin as pedestrians or cyclists heading to Trim Station. **Noted, will be included in analysis.**

Section 3.3 Demand Rationalization:

Include the background and total traffic at all horizon years as part of the demand rationalization module. **Noted**

APPENDIX B

TRAFFIC COUNT DATA

Turning Movement Count - Full Study Peak Hour Diagram

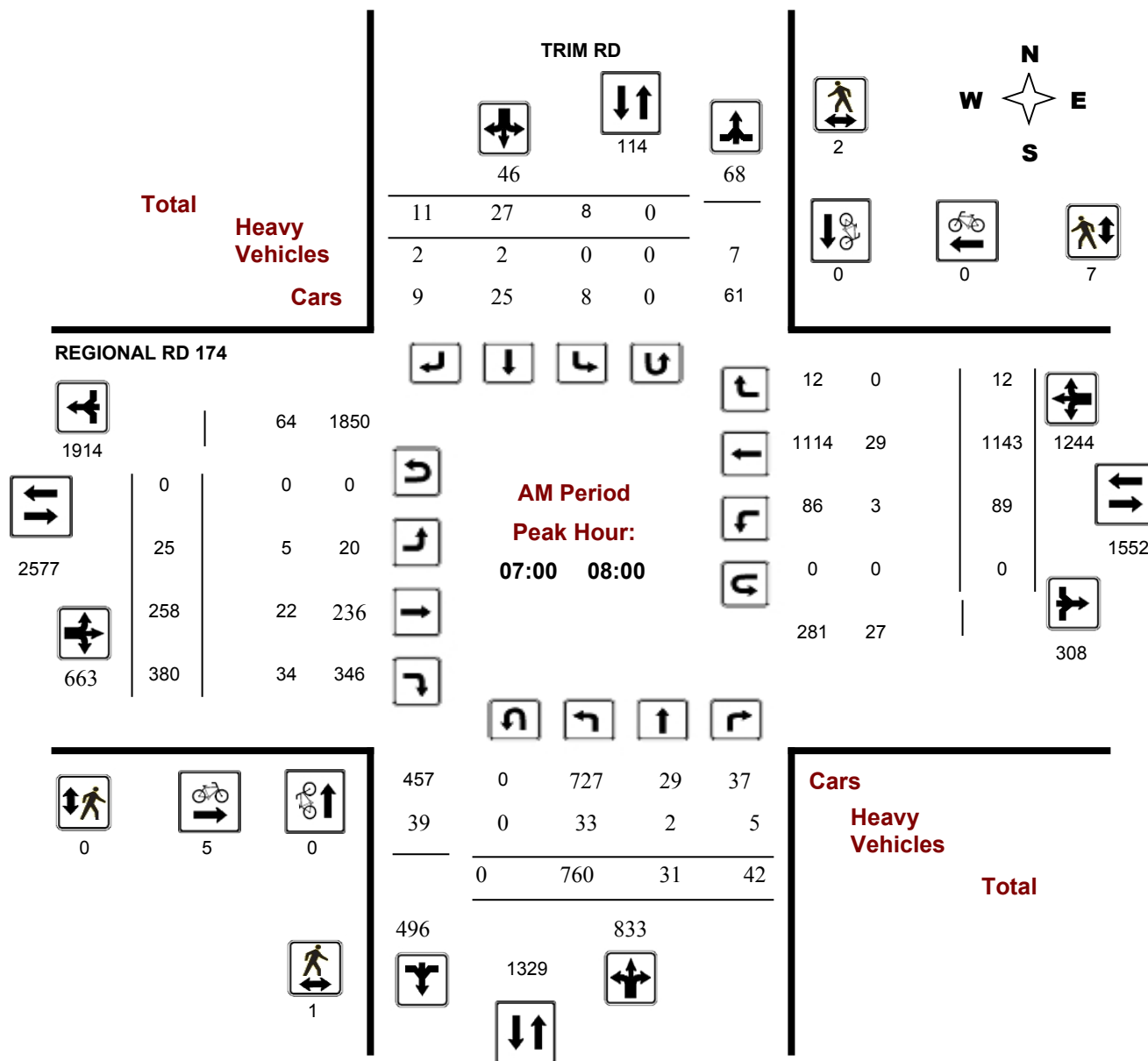
REGIONAL RD 174 @ TRIM RD

Survey Date: Wednesday, April 19, 2017

Start Time: 07:00

WO No: 36942

Device: Miovision



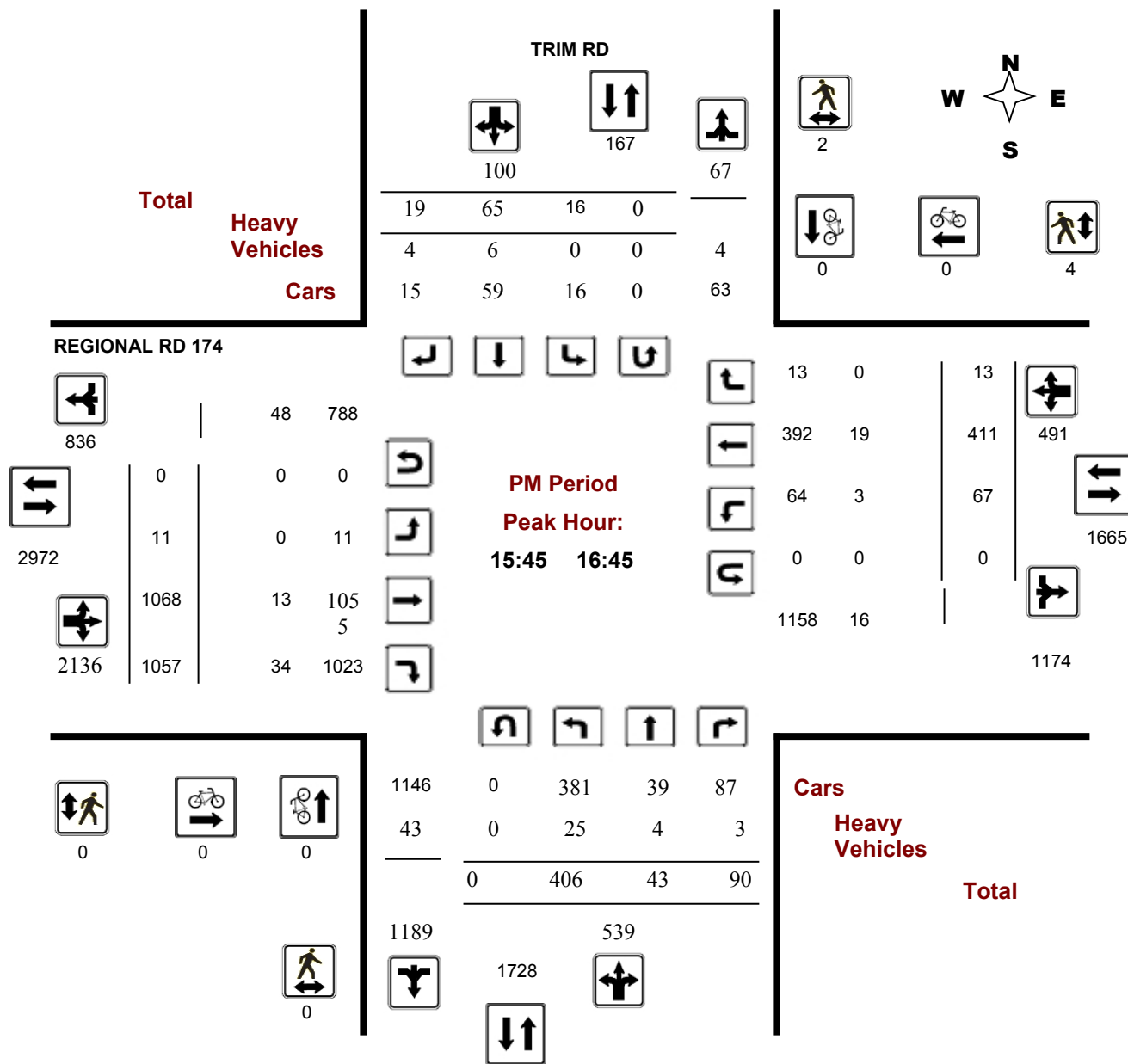
Comments

Survey Date: Wednesday, April 19, 2017

Start Time: 07:00

WO No: 36942

Device: Miovision





Transportation Services - Traffic Services

W.O.
36942

Turning Movement Count - Heavy Vehicle Report

REGIONAL RD 174 @ TRIM RD

Survey Date: Wednesday, April 19, 2017

TRIM RD										REGIONAL RD 174										Grand Total
Time Period	Northbound			N TOT	Southbound			S TOT	STR TOT	Eastbound			E TOT	Westbound			W TOT	STR TOT		
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT				
07:00	08:00	33	2	5	40	0	2	2	4	44	5	22	34	61	3	29	0	32	93	137
08:00	09:00	32	4	5	41	0	4	0	4	45	3	28	41	72	1	31	0	32	104	149
09:00	10:00	36	3	5	44	1	2	2	5	49	1	45	39	85	6	22	0	28	113	162
11:30	12:30	25	4	2	31	2	3	2	7	38	2	34	31	67	10	34	0	44	111	149
12:30	13:30	21	3	6	30	0	3	2	5	35	4	28	27	59	2	27	0	29	88	123
15:00	16:00	32	4	3	39	0	6	2	8	47	0	13	31	44	0	23	0	23	67	114
16:00	17:00	23	3	3	29	0	6	3	9	38	0	16	28	44	5	15	0	20	64	102
17:00	18:00	24	2	1	27	0	2	5	7	34	0	4	14	18	1	6	0	7	25	59
Sub Total		226	25	30	281	3	28	18	49	330	15	190	245	450	28	187	0	215	665	995
U-Turns (Heavy Vehicles)					0				0	0				0				0	0	0
Total		226	25	30	0	3	28	18	49	330	15	190	245	450	28	187	0	215	665	995

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.

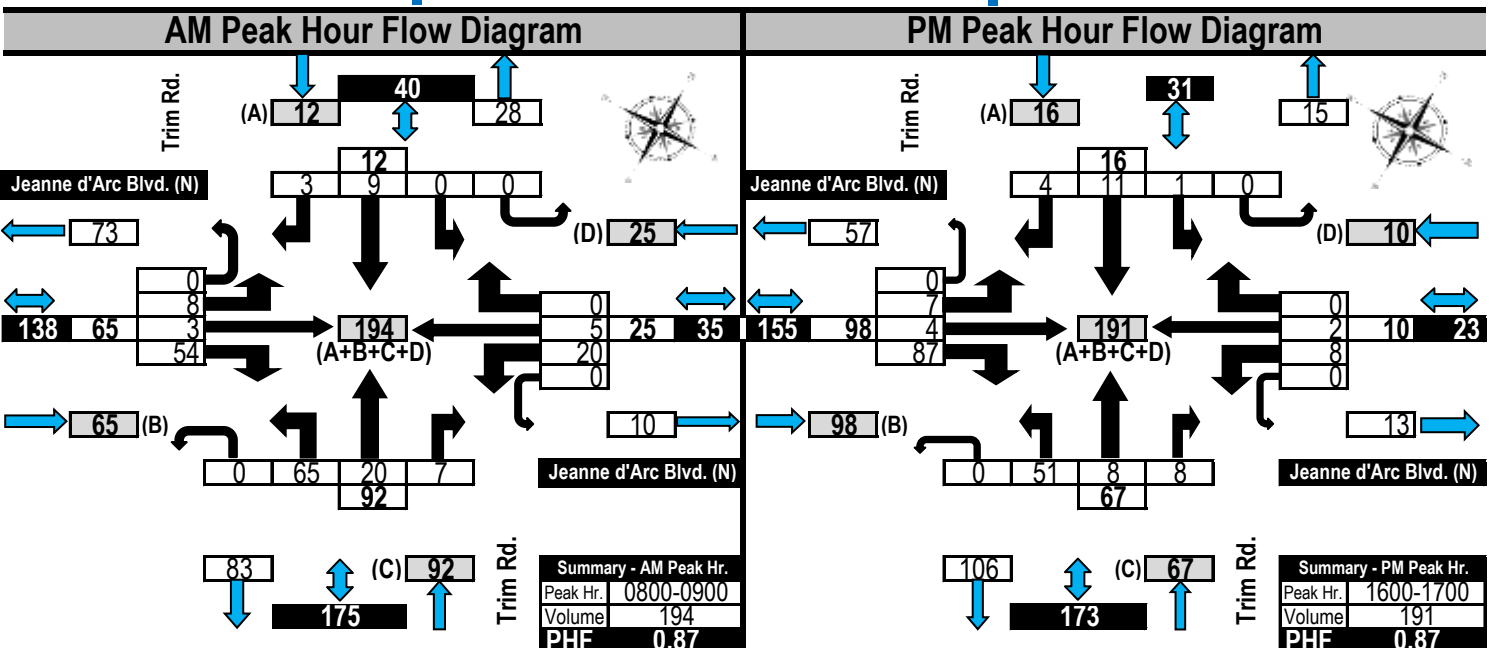
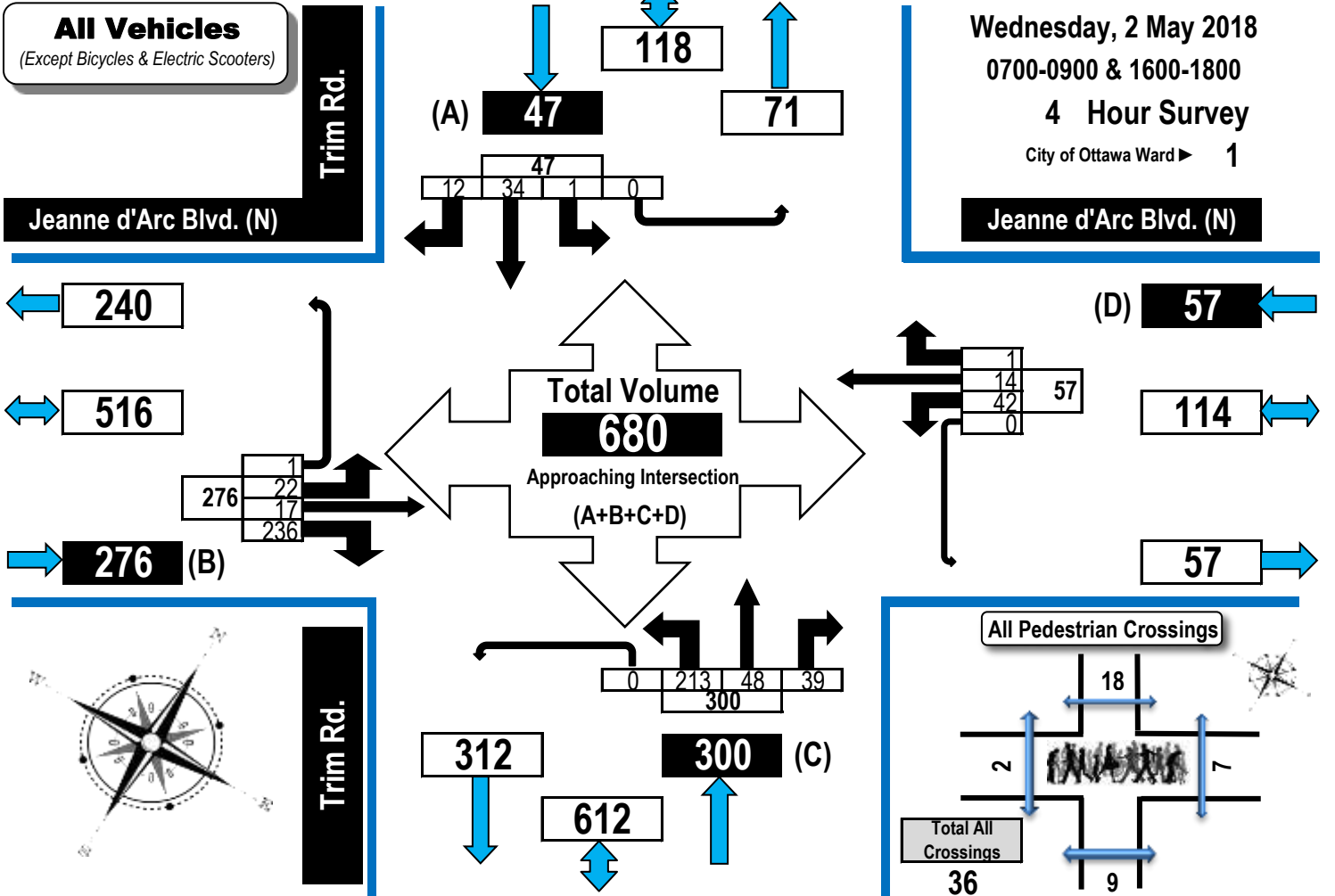


Turning Movement Count Summary, AM and PM Peak Hour Flow Diagrams

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

Jeanne d'Arc Boulevard North & Trim Road

Orléans, ON



APPENDIX C

COLLISION DATA

Total Area

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	46	4	16	8	1	9	0	1	85	82%
Non-fatal injury	11	0	2	2	0	2	0	1	18	17%
Fatal injury	0	0	0	0	0	1	0	0	1	1%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	57	4	18	10	1	12	0	2	104	100%
	#1 or 55%	#5 or 4%	#2 or 17%	#4 or 10%	#7 or 1%	#3 or 12%	#8 or 0%	#6 or 2%		

REGIONAL RD 174 / TRIM RD (0012835)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	62	34,178	1825	0.99

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	35	4	7	1	0	4	0	1	52	84%
Non-fatal injury	8	0	0	1	0	0	0	0	9	15%
Fatal injury	0	0	0	0	0	1	0	0	1	2%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	43	4	7	2	0	5	0	1	62	100%
	69%	6%	11%	3%	0%	8%	0%	2%		

TRIM RD / DAIRY DR/TAYLOR CREEK DR (0012921)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	32	17,909	1825	0.98

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	6	0	9	6	0	4	0	0	25	78%
Non-fatal injury	2	0	2	1	0	2	0	0	7	22%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	8	0	11	7	0	6	0	0	32	100%
	25%	0%	34%	22%	0%	19%	0%	0%		

SEGMENTS

NORTH SERVICE RD /twn ROSSIGNOL CRES & TRIM RD (_ 3ZA18P)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	2	n/a	1825	n/a

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	0	0	0	1	0	0	0	2	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	1	0	0	0	1	0	0	0	2	100%
	50%	0%	0%	0%	50%	0%	0%	0%		

TRIM RD /twn NORTH SERVICE RD & END (_ 3ZA1VR)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	1	n/a	1825	n/a

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	0	0	0	0	0	0	0	0	0%
Non-fatal injury	0	0	0	0	0	0	0	1	1	100%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0	1	1	100%
	0%	0%	0%	0%	0%	0%	0%	100%		

TRIM RD /twn NORTH SERVICE RD & REGIONAL ROAD 174 (_ 3ZA11M)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	1	n/a	1825	n/a

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	0	0	0	0	1	0	0	1	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	0	0	0	0	0	1	0	0	1	100%
	0%	0%	0%	0%	0%	100%	0%	0%		

TRIM RD /twn REGIONAL ROAD 174 & RAMP (_ 3ZA1ZG)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	2	n/a	1825	n/a

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	2	0	0	0	0	0	0	0	2	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	2	0	0	0	0	0	0	0	2	100%
	100%	0%	0%	0%	0%	0%	0%	0%		

TRIM RD /twn RAMP & SOUTH FRONTAGE (_ 58GXDO)

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	1	n/a	1825	n/a

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	0	0	0	0	0	0	0	1	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	1	0	0	0	0	0	0	0	1	100%
	100%	0%	0%	0%	0%	0%	0%	0%		

TRIM RD /twn SOUTH FRONTAGE & TAYLOR CREEK DR (_ 3ZA3YV)

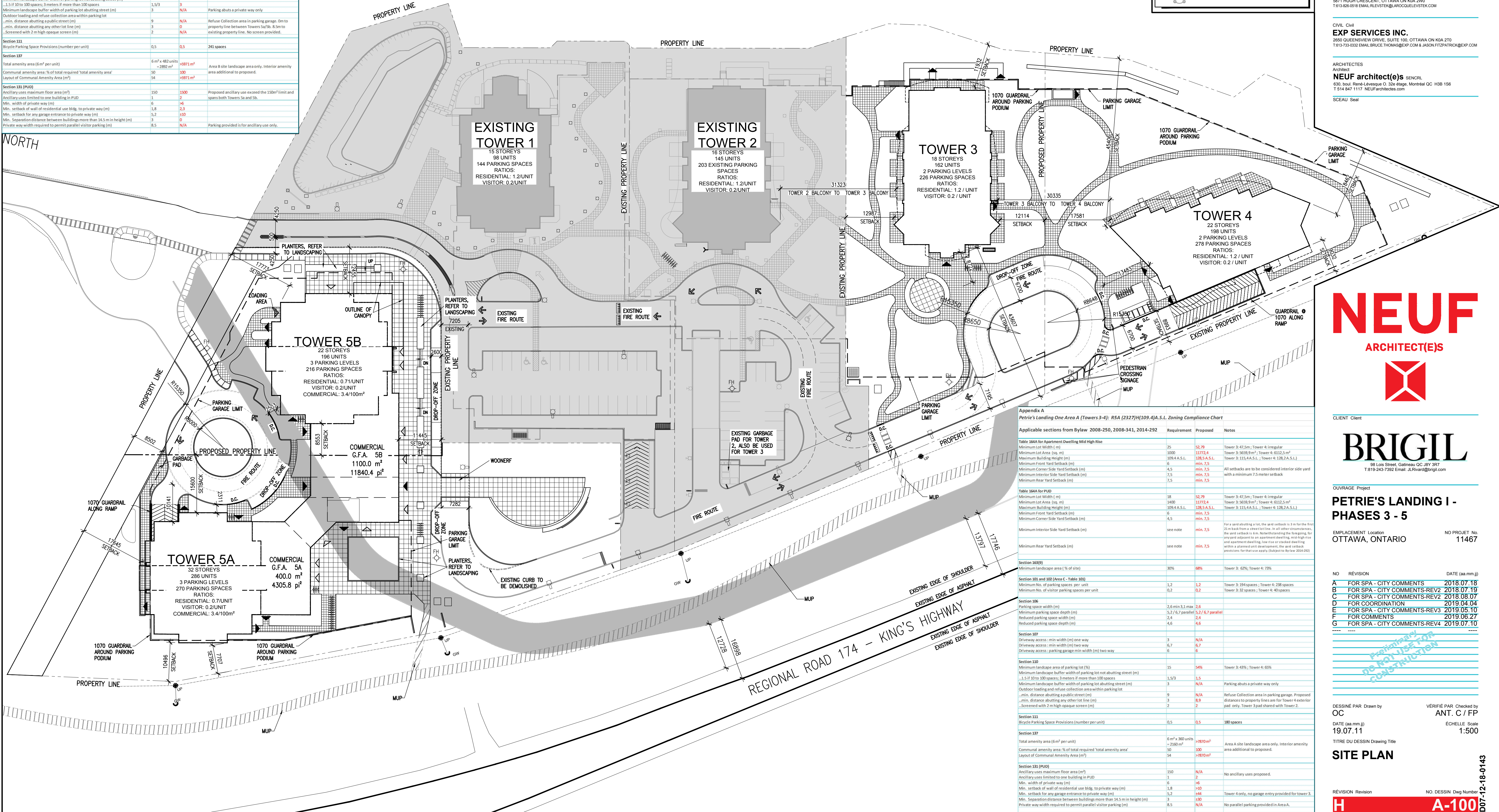
Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2018	3	n/a	1825	n/a

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	0	0	1	0	0	0	0	2	67%
Non-fatal injury	1	0	0	0	0	0	0	0	1	33%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	2	0	0	1	0	0	0	0	3	100%
	67%	0%	0%	33%	0%	0%	0%	0%		

APPENDIX D

GENERAL SITE PLANS FOR PETRIE'S LANDING

Appendix A Petrie's Landing One Area B (Towers 5a/5b): RSA H(101)A.S.L. Zoning Compliance Chart			
Applicable sections from Bylaw 2008-250, 2008-341, 2014-292	Requirement	Proposed	Notes
Table 166A for Apartment Dwelling Mid High Rise			
Minimum Lot Width (m)	25	55.38	
Minimum Lot Area (sq. m)	1000	11860.8	Tower 5a: 7750.52m ² ; Tower 5b: 3909.034 m ²
Maximum Building Height (m)	109.4 A.S.L.	158.4 S.L.	Tower 5a: 158.4 S.L.; Tower 5b: 128.45 A.S.L.
Minimum Front Yard Setback (m)	6	min. 7.5	
Minimum Corner Side Yard Setback (m)	4.5	min. 7.5	All setbacks are to be considered interior side yard
Minimum Interior Side Yard Setback (m)	7.5	min. 7.5	
Minimum Rear Yard Setback (m)	7.5	min. 7.5	
Table 166A for PUD			
Minimum Lot Width (m)	18	55.38	
Minimum Lot Area (sq. m)	1400	11860.8	Tower 5a: 7750.52m ² ; Tower 5b: 3909.034 m ²
Maximum Building Height (m)	109.4 A.S.L.	158.4 S.L.	Tower 5a: 158.4 S.L.; Tower 5b: 128.45 A.S.L.
Minimum Front Yard Setback (m)	6	min. 7.5	
Minimum Corner Side Yard Setback (m)	4.5	min. 7.5	
Minimum Interior Side Yard Setback (m)	see note	min. 7.5	For a yard abutting a lot, the yard setback is 3 m for the first 21 m back from a street line. In all other circumstances, the yard setback is 6 m. Notwithstanding the foregoing, for any yard adjacent to an apartment dwelling, mid-high rise and apartment dwelling, low rise or stacked dwelling within a planned unit development, the yard setback provisions for that use apply (Subject to By-law 2004-202)
Minimum Rear Yard Setback (m)	see note	min. 7.5	
Section 163(9)			
Minimum landscape area (% of site)	30%	49%	Tower 5a: 58%; Tower 5b: 39%
Section 101 and 102 (Area C - Table 101)			
Minimum No. of parking spaces per unit	0.5	0.7	Tower 5a: 199 spaces ; Tower 5b: 140 spaces
Minimum No. of visitor parking spaces per unit	0.2	0.2	Tower 5a: 57 spaces ; Tower 5b: 39 spaces
Section 106			
Parking space width (m)	2.6 min 3.1 max	2.6	
Minimum parking space depth (m)	5.2 / 6.7 parallel	5.2 / 6.7 parallel	
Reduced parking space width (m)	2.4	2.4	
Reduced parking space depth (m)	4.6	4.6	
Section 107			
Driveway access : min width (m) one way	3	N/A	
Driveway access : min width (m) two way	6.7	6.7	
Driveway access : parking garage min width (m) two way	6	6	
Section 110			
Minimum landscape area of parking lot (%)	15	60%	Tower 5a: 63.1% ; Tower 5b: 57.6%
Minimum landscape buffer width of parking lot not abutting street (m)	1.5/3	3	
Minimum landscape buffer width of parking lot abutting street (m)	3	N/A	Parking abuts a private way only
Outdoor loading and refuse collection area within parking lot	9	N/A	Refuse Collection area in parking garage. 0m to
...min. distance abutting a public street (m)	3	0	property line between Towers 5a/5b. 8.5m to
...min. distance abutting any other lot line (m)	2	N/A	existing property line. No screen provided.
Section 111			
Bicycle Parking Space Provisions (number per unit)	0.5	0.5	243 spaces
Section 137			
Total amenity area (6 m ² per unit)	6 m ² x 482 units	>9971 m ²	
Communal amenity area : % of total required 'total amenity area'	50	100	Area B site landscape area only. Interior amenity area additional to proposed.
Layout of Communal Amenity Area (m ²)	54	>9971 m ²	
Section 131 (PUD)			
Ancillary uses maximum floor area (m ²)	150	1300	Proposed ancillary use exceed the 130m ² limit and spans both Towers 5a and 5b.
Ancillary uses limited to one building in PUD	1	2	
Min. width of private way (m)	6	>6	
Min. setback of wall of residential use bldg. to private way (m)	1.8	2.3	
Min. setback for any garage entrance to private way (m)	5.2	>10	
Min. Separation distance between buildings more than 14.5 m in height (m)	3	0	
Private way width required to permit parallel visitor parking (m)	8.5	N/A	Parking provided is for ancillary use only.



Appendix A Petrie's Landing One Area A (Towers 3-4): RSA (2327)H(109.4)A.S.L. Zoning Compliance Chart			
Applicable sections from Bylaw 2008-250, 2008-341, 2014-292	Requirement	Proposed	Notes
Table 166A for Apartment Dwelling Mid High Rise			
Minimum Lot Width (m)	25	52.78	Tower 3: 47.5m ; Tower 4: Irregular
Minimum Lot Area (sq. m)	1000	11772.4	Tower 3: 3609.9m ² ; Tower 4: 6122.5 m ²
Maximum Building Height (m)	109.4 A.S.L.	128.5 A.S.L.	Tower 3: 115.4 A.S.L.; Tower 4: 128.2 A.S.L.
Minimum Front Yard Setback (m)	6	min. 7.5	
Minimum Corner Side Yard Setback (m)	4.5	min. 7.5	All setbacks are to be considered interior side yard
Minimum Interior Side Yard Setback (m)	7.5	min. 7.5	
Minimum Rear Yard Setback (m)	7.5	min. 7.5	
Table 166A for PUD			
Minimum Lot Width (m)	18	52.78	Tower 3: 47.5m ; Tower 4: Irregular
Minimum Lot Area (sq. m)	1400	11772.4	Tower 3: 3609.9m ² ; Tower 4: 6122.5 m ²
Maximum Building Height (m)	109.4 A.S.L.	128.5 A.S.L.	Tower 3: 115.4 A.S.L.; Tower 4: 128.2 A.S.L.
Minimum Front Yard Setback (m)	6	min. 7.5	
Minimum Corner Side Yard Setback (m)	4.5	min. 7.5	
Minimum Interior Side Yard Setback (m)	see note	min. 7.5	For a yard abutting a lot, the yard setback is 3 m for the first 21 m back from a street line. In all other circumstances, the yard setback is 6 m. Notwithstanding the foregoing, for any yard adjacent to an apartment dwelling, mid-high rise and apartment dwelling, low rise or stacked dwelling within a planned unit development, the yard setback provisions for that use apply (Subject to By-law 2004-202)
Minimum Rear Yard Setback (m)	see note	min. 7.5	
Section 163(9)			
Minimum landscape area (% of site)	30%	68%	Tower 3: 62%; Tower 4: 73%
Section 101 and 102 (Area C - Table 101)			
Minimum No. of parking spaces per unit	1.2	1.2	Tower 3: 194 spaces ; Tower 4: 238 spaces
Minimum No. of visitor parking spaces per unit	0.2	0.2	Tower 3: 32 spaces ; Tower 4: 40 spaces
Section 106			
Parking space width (m)	2.6 min 3.1 max	2.6	
Minimum parking space depth (m)	5.2 / 6.7 parallel	5.2 / 6.7 parallel	
Reduced parking space width (m)	2.4	2.4	
Reduced parking space depth (m)	4.6	4.6	
Section 107			
Driveway access : min width (m) one way	3	N/A	
Driveway access : min width (m) two way	6.7	6.7	
Driveway access : parking garage min width (m) two way	6	6	
Section 110			
Minimum landscape area of parking lot (%)	15	54%	Tower 3: 43% ; Tower 4: 60%
Minimum landscape buffer width of parking lot not abutting street (m)	1.5/3	1.5	
Minimum landscape buffer width of parking lot abutting street (m)	3	N/A	Parking abuts a private way only
Outdoor loading and refuse collection area within parking lot	9	N/A	Refuse Collection area in parking garage. Proposed
...min. distance abutting a public street (m)	3	8.9	distances to property lines are for Tower 4 exterior
...min. distance abutting any other lot line (m)	2	2	pad only. Tower 3 pad shared with Tower 2.
...Screened with 2 m high opaque screen (m)			
Section 111			
Bicycle Parking Space Provisions (number per unit)	0.5	0.5	180 spaces
Section 137			
Total amenity area (6 m ² per unit)	6 m ² x 360 units	>2160 m ²	
Communal amenity area : % of total required 'total amenity area'	50	100	Area A site landscape area only. Interior amenity area additional to proposed.
Layout of Communal Amenity Area (m ²)	54	>1810 m ²	
Section 131 (PUD)			
Ancillary uses maximum floor area (m ²)	150	N/A	No ancillary uses proposed.
Ancillary uses limited to one building in PUD	1	2	
Min. width of private way (m)	6	>6	
Min. setback of wall of residential use bldg. to private way (m)	1.8	>10	
Min. setback for any garage entrance to private way (m)	5.2	>14	Tower 4 only, no garage entry provided for tower 3.
Min. Separation distance between buildings more than 14.5 m in height (m)	3	>10	
Private way width required to permit parallel visitor parking (m)	8.5	N/A	No parallel parking provided in Area A.

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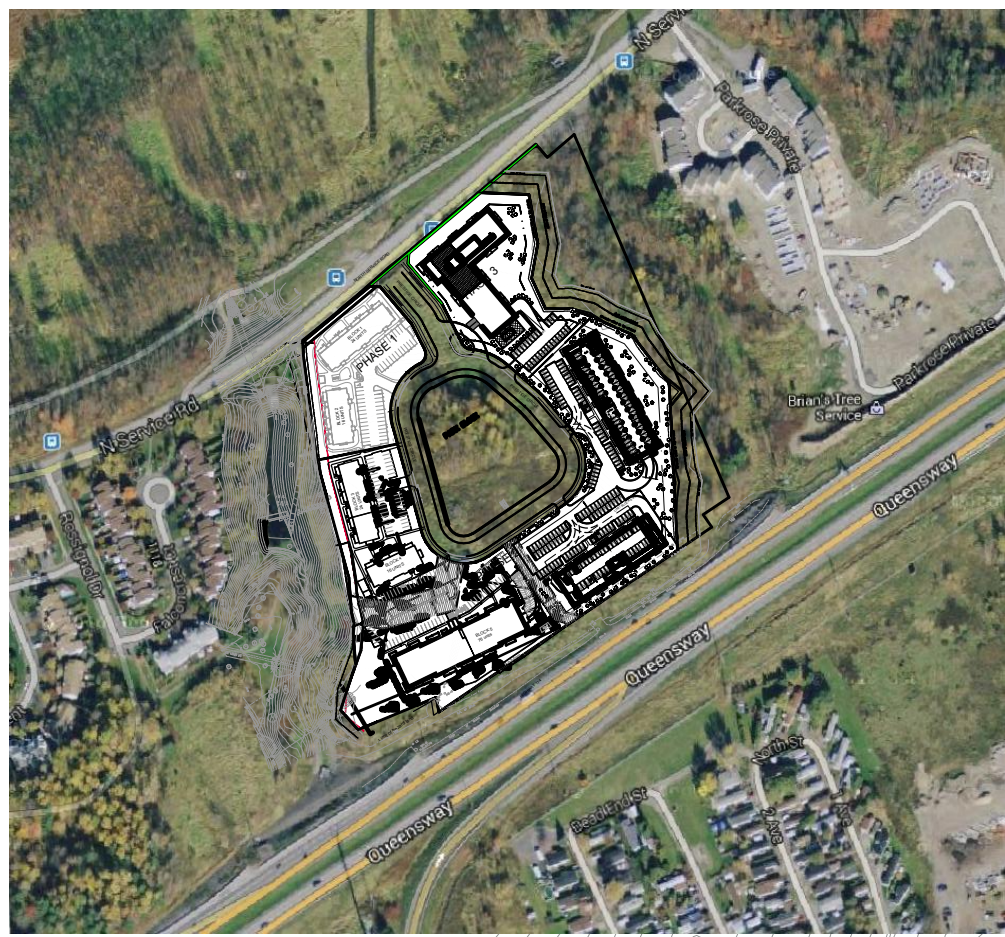
OUVRAGE Project
PETRIE'S LANDING I - PHASES 3 - 5

EMPLACEMENT Location NO PROJET No
 OTTAWA, ONTARIO 11467

NO REVISION DATE (aa.mm.jj)
 A FOR SPA - CITY COMMENTS 2018.07.18
 B FOR SPA - CITY COMMENTS-REV2 2018.07.19
 C FOR SPA - CITY COMMENTS-REV2 2018.08.07
 D FOR COORDINATION 2019.04.04
 E FOR SPA - CITY COMMENTS-REV3 2019.05.10
 F FOR COMMENTS 2019.05.27
 G FOR SPA - CITY COMMENTS-REV4 2019.07.10

DESSINÉ PAR Drawn by
 OC
 DATE (aa.mm.jj)
 19.07.11
 TITRE DU DESSIN Drawing Title
SITE PLAN

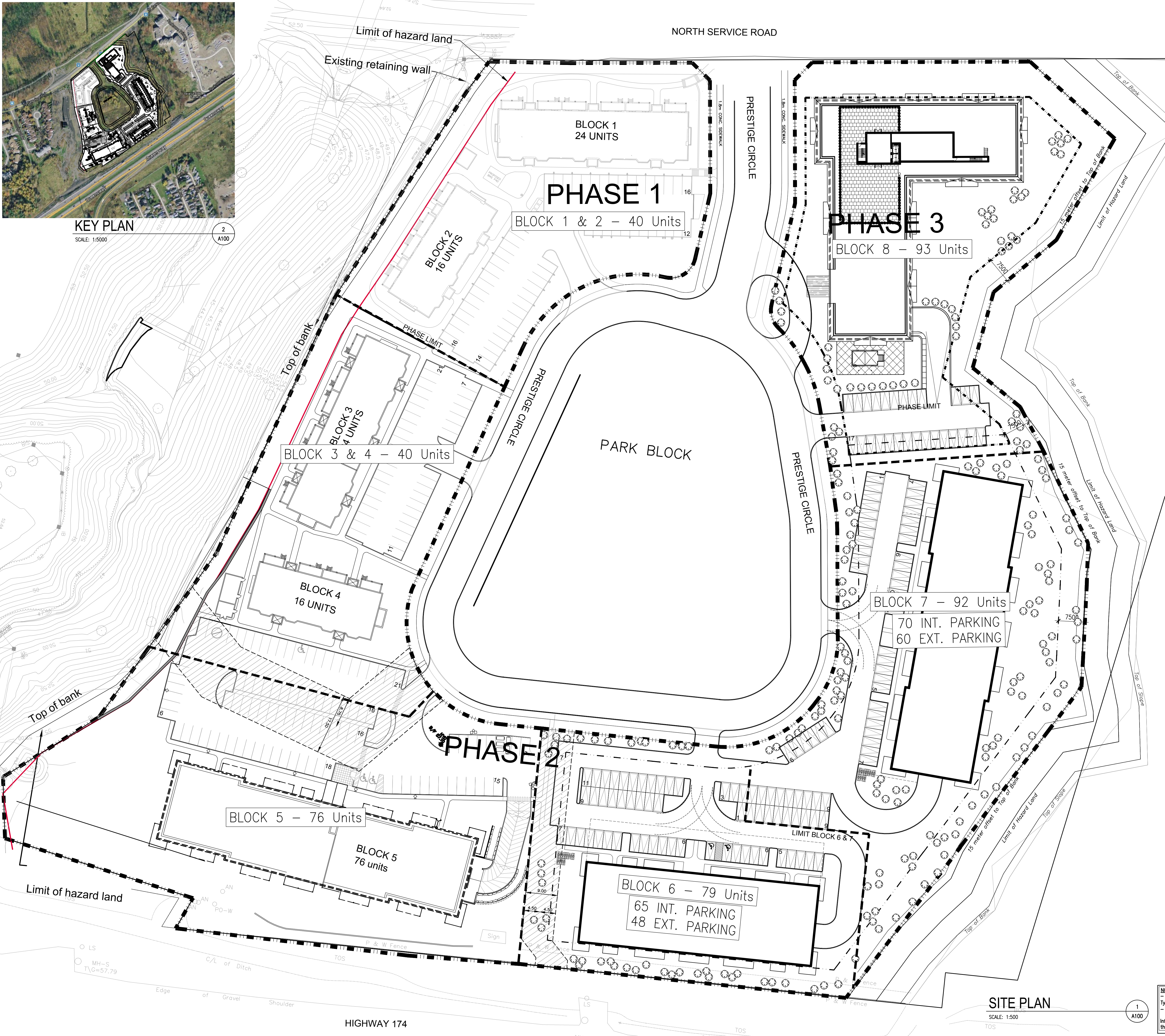
VERIFIÉ PAR Checked by
 ANT. C / FP
 ECHELLE Scale
 1:500
 NO. DESSIN Dwg Number
A-100
 #14602



KEY PLAN

SCALE: 1:5000

2
A100



ENTIRE SITE STATISTICS				
UNIT STATISTICS				
Phase 1 - Block 1 & 2	40			
Phase 2 - Block 3 & 4	40			
Phase 2 - Block 5	76			
Phase 2 - Block 6	79			
Phase 2 - Block 7	92			
Phase 3 - Block 8	93			
TOTAL	420	Units		
Area of Entire site m ²	42 834	m ²		
Unit Density - Provided	98.05	units/ha		
Unit Density - Required	100.00	units/ha		
CAR PARKING / Ratio min 2 : 1.4				
	Requirement	Provided		
	Ratio	Qty.	Ratio	Qty.
Phase 1 - Block 1 & 2	1.40	56	1.5	58
Phase 2 - Block 3 & 4	1.40	56	1.5	60
Phase 2 - Block 5	1.40	106	1.7	130
Phase 2 - Block 6	1.40	111	1.4	113
Phase 2 - Block 7	1.40	129	1.4	130
Phase 3 - Block 8	0.25	23	0.20	65
TOTAL				556
BIKE PARKING / Ratio 2 : 0.5 PHASE 2				
	Requirement	Provided		
		Qty.		
Phase 2 - Block 3 & 4	20	21		
Phase 2 - Block 5	30	30		
Phase 2 - Block 6	39.5	20		
Phase 2 - Block 7	46	40		
Phase 3 - Block 8	23.25	34		
TOTAL	167	165		

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 - Veuillez aviser l'architecte de toute dimension erreur et/ou divergences entre ces documents et ceux des autres professionnels. / The architect must be notified of all errors, omissions and discrepancies between these documents and those of other professionals.
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SCEAU Seal

DCYSA devient / becomes

NEUF
ARCHITECTE(S)



BRIGIL
CLIENT Client

OUVRAGE Project

**PETRIES LANDING
BLOCK 6 & 7**

EMPLACEMENT Location
ORLEANS, ON

NO PROJET No.
10498.03

NO	REVISION	DATE (aa.mm.jj)
A	CITY VALIDATION	2016-12-15
B	Site plan revision	2017-03-27

Preliminary
NEUF ARCHITECTURE
CONSTRUCTION

DESSINÉ PAR Drawn by
O.C.

DATE (aa.mm.jj)
16.11.04

TITRE DU DESSIN Drawing Title

Site Plan

VÉRIFIÉ PAR Checked by
ANT. C.

ÉCHELLE Scale
INDIQUÉE

REVISION Revision

B

NO DESSIN Dwg Number

A100

APPENDIX E

BACKGROUND VOLUME GROWTH

Trim/OR 174
8 hrs

Year	Date	North Leg		South Leg		East Leg		West Leg		Total
		SB	NB	NB	SB	WB	EB	EB	WB	
2007	Wednesday 31 January	322	242	4191	4602	5927	5317	8831	9110	38542
2008	Friday 20 June	618	391	4770	5319	6281	6058	10034	9935	43406
2010	Friday 9 July	744	722	5389	4539	6433	6484	9542	10363	44216
2012	Friday 8 June	329	441	4696	4430	5833	5818	8875	9044	39466
2017	Wednesday 19 April	590	518	4739	5742	5522	5570	10003	9024	41708

North Leg

Year	Counts				% Change			
	NB	SB	NB+SB	INT	NB	SB	NB+SB	INT
2007	242	322	564	38542				
2008	391	618	1009	43406	61.6%	91.9%	78.9%	12.6%
2010	722	744	1466	44216	84.7%	20.4%	45.3%	1.9%
2012	441	329	770	39466	-38.9%	-55.8%	-47.5%	-10.7%
2017	518	590	1108	41708	17.5%	79.3%	43.9%	5.7%

Regression Estimate 2007 393 490 883 41312
Regression Estimate 2017 576 570 1147 41722

Average Annual Change 3.89% 1.53% 2.64% 0.10%

West Leg

Year	Counts				% Change			
	EB	WB	EB+WB	INT	EB	WB	EB+WB	INT
2007	8831	9110	17941	38542				
2008	10034	9935	19969	43406	13.6%	9.1%	11.3%	12.6%
2010	9542	10363	19905	44216	-4.9%	4.3%	-0.3%	1.9%
2012	8875	9044	17919	39466	-7.0%	-12.7%	-10.0%	-10.7%
2017	10003	9024	19027	41708	12.7%	-0.2%	6.2%	5.7%

Regression Estimate 2007 9252 9733 18985
Regression Estimate 2017 9791 9108 18899

Average Annual Change 0.57% -0.66% -0.05%

East Leg

Year	Counts				% Change			
	EB	WB	EB+WB	INT	EB	WB	EB+WB	INT
2007	5317	5927	11244	38542				
2008	6058	6281	12339	43406	13.9%	6.0%	9.7%	12.6%
2010	6484	6433	12917	44216	7.0%	2.4%	4.7%	1.9%
2012	5818	5833	11651	39466	-10.3%	-9.3%	-9.8%	-10.7%
2017	5570	5522	11092	41708	-4.3%	-5.3%	-4.8%	5.7%

Regression Estimate 2007 5900 6242 12143
Regression Estimate 2017 5767 5602 11369

Average Annual Change -0.23% -1.08% -0.66%

South Leg

Year	Counts				% Change			
	NB	SB	NB+SB	INT	NB	SB	NB+SB	INT
2007	4191	4602	8793	38542				
2008	4770	5319	10089	43406	13.8%	15.6%	14.7%	12.6%
2010	5389	4539	9928	44216	13.0%	-14.7%	-1.6%	1.9%
2012	4696	4430	9126	39466	-12.9%	-2.4%	-8.1%	-10.7%
2017	4739	5742	10481	41708	0.9%	29.6%	14.8%	5.7%

Regression Estimate 2007 4671 4630 9300
Regression Estimate 2017 4898 5411 10308

Average Annual Change 0.48% 1.57% 1.03%

Trim/OR 174
AM Peak

Year	Date	North Leg		South Leg		East Leg		West Leg		Total
		SB	NB	NB	SB	WB	EB	EB	WB	
2007	Wednesday 31 January	50	32	626	402	1346	395	658	1651	5160
2008	Friday 20 June	34	14	649	439	1326	294	674	1836	5266
2010	Friday 9 July	42	46	819	454	1309	387	720	2003	5780
2012	Friday 8 June	62	64	875	414	1292	313	578	2016	5614
2017	Wednesday 19 April	48	51	807	537	1324	428	727	1890	5812

North Leg

Year	Counts				% Change			
	NB	SB	NB+SB	INT	NB	SB	NB+SB	INT
2007	32	50	82	5160				
2008	14	34	48	5266	-56.3%	-32.0%	-41.5%	2.1%
2010	46	42	88	5780	228.6%	23.5%	83.3%	9.8%
2012	64	62	126	5614	39.1%	47.6%	43.2%	-2.9%
2017	51	48	99	5812	-20.3%	-22.6%	-21.4%	3.5%

Regression Estimate 2007 30 44 74 5297
Regression Estimate 2017 61 52 113 5901

Average Annual Change 7.45% 1.78% 4.40% 1.09%

West Leg

Year	Counts				% Change			
	EB	WB	EB+WB	INT	EB	WB	EB+WB	INT
2007	658	1651	2309	5160				
2008	674	1836	2510	5266	2.4%	11.2%	8.7%	2.1%
2010	720	2003	2723	5780	6.8%	9.1%	8.5%	9.8%
2012	578	2016	2594	5614	-19.7%	0.6%	-4.7%	-2.9%
2017	727	1890	2617	5812	25.8%	-6.3%	0.9%	3.5%

Regression Estimate 2007 657 1811 2468
Regression Estimate 2017 695 1990 2685

Average Annual Change 0.56% 0.94% 0.84%

East Leg

Year	Counts				% Change			
	EB	WB	EB+WB	INT	EB	WB	EB+WB	INT
2007	395	1346	1741	5160				
2008	294	1326	1620	5266	-25.6%	-1.5%	-7.0%	2.1%
2010	387	1309	1696	5780	31.6%	-1.3%	4.7%	9.8%
2012	313	1292	1605	5614	-19.1%	-1.3%	-5.4%	-2.9%
2017	428	1324	1752	5812	36.7%	2.5%	9.2%	3.5%

Regression Estimate 2007 339 1326 1666
Regression Estimate 2017 402 1308 1710

Average Annual Change 1.72% -0.14% 0.26%

South Leg

Year	Counts				% Change			
	NB	SB	NB+SB	INT	NB	SB	NB+SB	INT
2007	626	402	1028	5160				
2008	649	439	1088	5266	3.7%	9.2%	5.8%	2.1%
2010	819	454	1273	5780	26.2%	3.4%	17.0%	9.8%
2012	875	414	1289	5614	6.8%	-8.8%	1.3%	-2.9%
2017	807	537	1344	5812	-7.8%	29.7%	4.3%	3.5%

Regression Estimate 2007 682 406 1089
Regression Estimate 2017 874 519 1393

Average Annual Change 2.50% 2.47% 2.49%

Trim/OR 174
PM Peak

Year	Date	North Leg		South Leg		East Leg		West Leg		Total
		SB	NB	NB	SB	WB	EB	EB	WB	
2007	Wednesday 31 January	144	50	455	788	672	1440	2018	911	6478
2008	Friday 20 June	64	60	494	1051	424	1354	2206	723	6376
2010	Friday 9 July	107	40	603	1007	664	1334	2131	1124	7010
2012	Friday 8 June	94	69	634	905	624	1353	2024	1049	6752
2017	Wednesday 19 April	56	61	587	801	657	1284	1839	993	6278

North Leg

Year	Counts				% Change			
	NB	SB	NB+SB	INT	NB	SB	NB+SB	INT
2007	50	144	194	6478				
2008	60	64	124	6376	20.0%	-55.6%	-36.1%	-1.6%
2010	40	107	147	7010	-33.3%	67.2%	18.5%	9.9%
2012	69	94	163	6752	72.5%	-12.1%	10.9%	-3.7%
2017	61	56	117	6278	-11.6%	-40.4%	-28.2%	-7.0%

Regression Estimate 2007 52 114 166 6642
Regression Estimate 2017 63 58 121 6475

Average Annual Change 2.00% -6.52% -3.09% -0.25%

West Leg

Year	Counts				% Change			
	EB	WB	EB+WB	INT	EB	WB	EB+WB	INT
2007	2018	911	2929	6478				
2008	2206	723	2929	6376	9.3%	-20.6%	0.0%	-1.6%
2010	2131	1124	3255	7010	-3.4%	55.5%	11.1%	9.9%
2012	2024	1049	3073	6752	-5.0%	-6.7%	-5.6%	-3.7%
2017	1839	993	2832	6278	-9.1%	-5.3%	-7.8%	-7.0%

Regression Estimate 2007 2148 898 3045
Regression Estimate 2017 1874 1062 2936

Average Annual Change -1.35% 1.69% -0.37%

East Leg

Year	Counts				% Change			
	EB	WB	EB+WB	INT	EB	WB	EB+WB	INT
2007	1440	672	2112	6478				
2008	1354	424	1778	6376	-6.0%	-36.9%	-15.8%	-1.6%
2010	1334	664	1998	7010	-1.5%	56.6%	12.4%	9.9%
2012	1353	624	1977	6752	1.4%	-6.0%	-1.1%	-3.7%
2017	1284	657	1941	6278	-5.1%	5.3%	-1.8%	-7.0%

Regression Estimate 2007 1398 575 1973
Regression Estimate 2017 1279 663 1942

Average Annual Change -0.88% 1.43% -0.16%

South Leg

Year	Counts				% Change			
	NB	SB	NB+SB	INT	NB	SB	NB+SB	INT
2007	455	788	1243	6478				
2008	494	1051	1545	6376	8.6%	33.4%	24.3%	-1.6%
2010	603	1007	1610	7010	22.1%	-4.2%	4.2%	9.9%
2012	634	905	1539	6752	5.1%	-10.1%	-4.4%	-3.7%
2017	587	801	1388	6278	-7.4%	-11.5%	-9.8%	-7.0%

Regression Estimate 2007 506 952 1458
Regression Estimate 2017 634 842 1476

Average Annual Change 2.29% -1.22% 0.12%

APPENDIX F

MMLOS ROAD SEGMENTS

APPENDIX G

WARRANT CHECKS

New Trim/Jeanne D'Arc - (peak hour signal warrant)

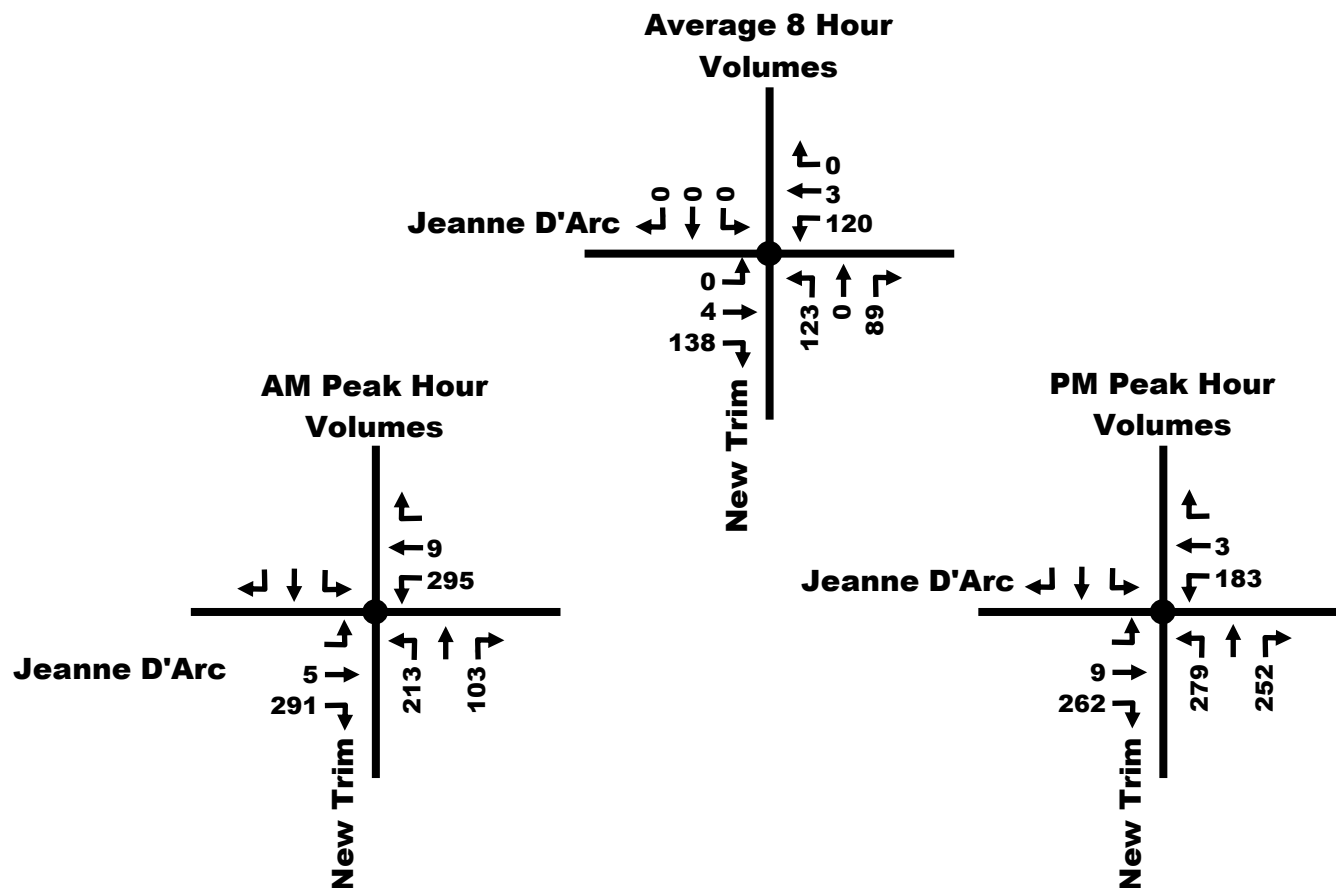
Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Restricted Flow - Operating Speed Less Than 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	720	66%	66%	66% No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	255	104%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	720	29%	29%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	75	165%		

Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

No

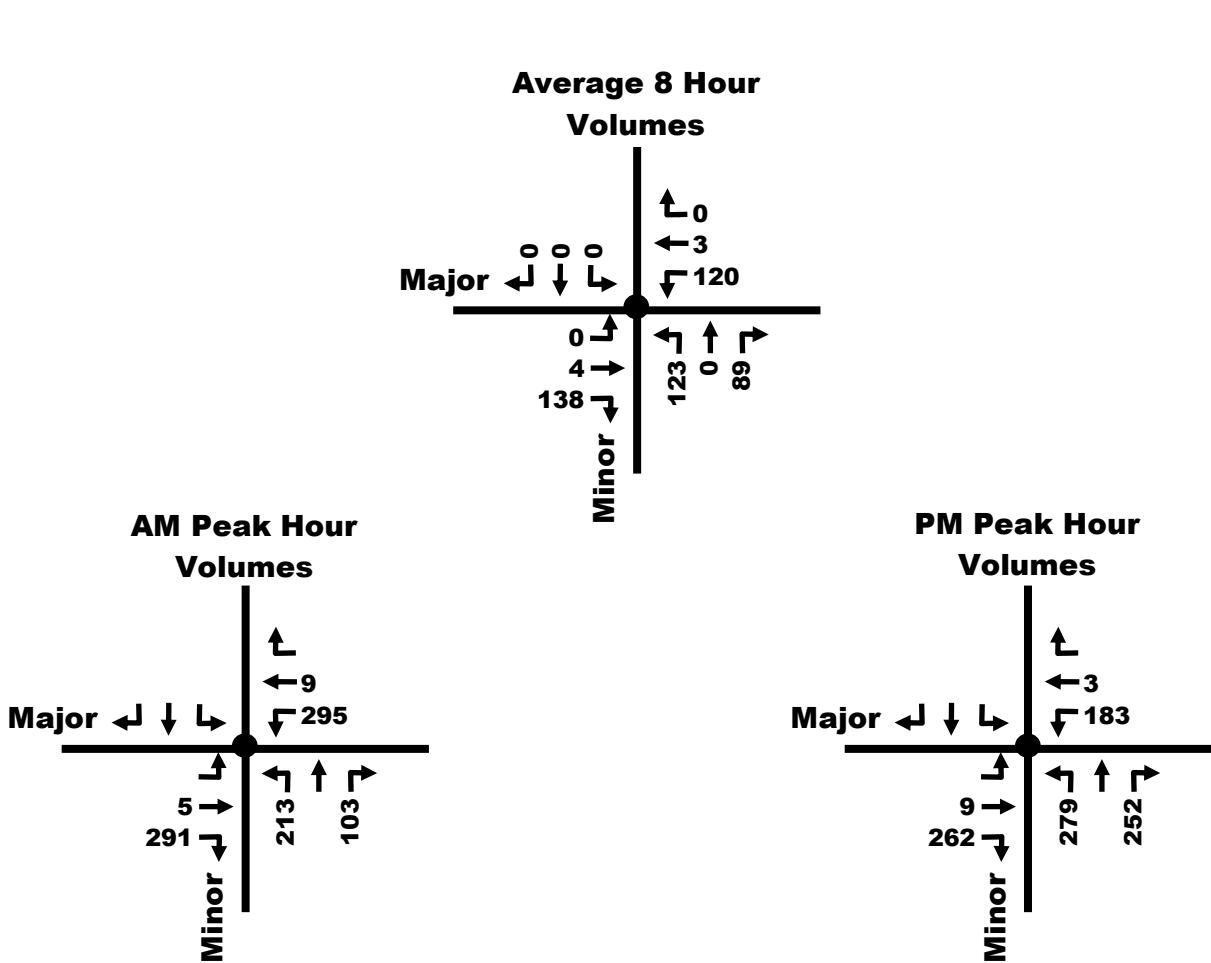
Yes













New Trim/Jeanne D'Arc - Existing

AWSC Warrant		Description		Minimum Requirement for a "T" intersection	Compliance		
					Sectional %	Entire %	Warrant
Intersection	1. Minimum Volume Criterion	A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, or	200	239%	240%	Yes
		B	Vehicle Volume, All Approaches for the Heaviest Peak Hour, and	350	282%		
		C	Vehicle and pedestrian Volume, Along Minor Streets for Each of the Same 8 Hours, and	80	265%		
		D	The volume split between the major and minor streets	75/25	240%		
	2. Minimum Collision Criterion	A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	9	0%	0%	

Note: 0 preventable by AWSC collisions (i.e. right angle and turning movement collisions) were reported during a 3 year time period



		Minor Road					Major							
														
Existing	Peak	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
	8 hr													
	AM	213		103					5	291	295	9		
	PM	279		252					9	262	183	3		
Site Generated	AM													
	PM													
	Avg. 8 hr	123	0	89	0	0	0	0	4	138	120	3	0	

APPENDIX H

TDM CHECKLIST

TDM-Supportive Development Design and Infrastructure Checklist: *Residential Developments (multi-family or condominium)*

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: <i>Residential developments</i>		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	<input checked="" type="checkbox"/> <i>Minimal visitor parking</i>
BASIC	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	<input checked="" type="checkbox"/> <i>entrances towards road</i>
BASIC	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	<input checked="" type="checkbox"/> <i>Modern design</i>
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 (<i>see Official Plan policy 4.3.3</i>)	<input checked="" type="checkbox"/> <i>MUP and sidewalks proposed</i>
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 (<i>see Official Plan policy 4.3.12</i>)	<input checked="" type="checkbox"/> <i>Internal pathways shown on current plan</i>

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		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 (<i>see Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/> Assumed to be built to city standards
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 (<i>see Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/> Assumed to be built to city standards
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 (<i>see Official Plan policy 4.3.11</i>)	<input checked="" type="checkbox"/> MUP and sidewalks proposed connecting to other MUPs
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input checked="" type="checkbox"/> MUP and sidewalks proposed connecting to Trim Station
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input type="checkbox"/>
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	<input type="checkbox"/>
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	<input type="checkbox"/>
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)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		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 <i>Official Plan policy 4.3.6</i>)	<input type="checkbox"/> Unknown at this time
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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/> Unknown at this time
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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/> Unknown at this time
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	<input type="checkbox"/>
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single residential 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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/> Unknown at this time
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	<input type="checkbox"/>
2.3 Bicycle repair station		
BETTER	2.3.1 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)	<input type="checkbox"/>
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	<input type="checkbox"/>
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	<input type="checkbox"/>
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
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	<input type="checkbox"/>
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (see <i>Zoning By-law Section 94</i>)	<input type="checkbox"/>
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	<input type="checkbox"/>
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	<input checked="" type="checkbox"/> Quantity of parking unknown at this time, but assumed to meet
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	<input type="checkbox"/>
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 <i>Zoning By-law Section 104</i>)	<input type="checkbox"/>
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 <i>Zoning By-law Section 111</i>)	<input type="checkbox"/>
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	<input type="checkbox"/>

APPENDIX I

MMLOS INTERSECTIONS

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

Parsons

1009 Trim Road

Project
Date

477526-01000

11-Aug-20

Unlocked Rows for Replicating























INTERSECTIONS													
Crossing Side		Old Trim/Hwy-174 (existing)				New Trim/Hwy-174 (future)				Intersection C			
Pedestrian		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	Lanes	5	5	5		5	6	8					
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m		No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m					
	Conflicting Left Turns	Protected	Protected	Protected		Protected	Protected	Protected					
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Permissive or yield control		Permissive or yield control	Permissive or yield control	Permissive or yield control					
	Right Turns on Red (RTor) ?	RTOR allowed	RTOR allowed	RTOR allowed		RTOR allowed	RTOR allowed	RTOR allowed					
	Ped Signal Leading Interval?	No	No	No		No	No	No					
	Right Turn Channel	No Channel	No Channel	No Channel		Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane					
	Corner Radius	5-10m	10-15m	10-15m		10-15m	10-15m	10-15m					
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings		Std transverse markings	Textured/coloured pavement	Textured/coloured pavement					
	PETSI Score	46	45	45		49	35	3					
	Ped. Exposure to Traffic LoS	D	D	D	-	D	E	F	-	-	-	-	-
Bicycle	Approach From	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	Bicycle Lane Arrangement on Approach	Pocket Bike Lane	Curb Bike Lane, Cycletrack or MUP			Pocket Bike Lane	Curb Bike Lane, Cycletrack or MUP						
	Right Turn Lane Configuration	> 50 m Introduced right turn lane	Not Applicable			Bike lane shifts to the left of right turn	Not Applicable						
	Right Turning Speed	≤ 25 km/h	Not Applicable			≤ 25 km/h	Not Applicable						
	Cyclist relative to RT motorists	D	Not Applicable	-	-	D	Not Applicable	-	-	-	-	-	-
	Separated or Mixed Traffic	Separated	Separated	-	-	Separated	Separated	-	-	-	-	-	-
Transit	Left Turn Approach	No lane crossed	No lane crossed			No lane crossed	No lane crossed						
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h			> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h						
	Left Turning Cyclist	B	B	-	-	B	B	-	-	-	-	-	-
	Level of Service	D	B	-	-	D	B	-	-	-	-	-	-
		D				D				-			
Truck	Average Signal Delay	≤ 30 sec	> 40 sec			≤ 40 sec	> 40 sec						
	Level of Service	D	F	-	-	E	F	-	-	-	-	-	-
		F				F				-			
Auto	Effective Corner Radius	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m				
	Number of Receiving Lanes on Departure from Intersection	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2				
	Level of Service	A	A	A	A	A	A	A	A	-	-	-	-
Auto	Volume to Capacity Ratio												
	Level of Service	-				-				-			

APPENDIX J

SYCNHRO: EXISTING CONDITIONS

Lanes, Volumes, Timings
2: Trim & Hwy-174

Existing AM
08/11/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	258	380	89	1143	12	760	31	42	14	49	20
Future Volume (vph)	25	258	380	89	1143	12	760	31	42	14	49	20
Satd. Flow (prot)	1695	3390	1517	1695	3383	0	3288	3060	0	1695	1784	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1694	3390	1496	1694	3383	0	3288	3060	0	1683	1784	1517
Satd. Flow (RTOR)			422		1			47				217
Lane Group Flow (vph)	28	287	422	99	1283	0	844	81	0	16	54	22
Turn Type	Prot	NA	Free	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			Free									4
Detector Phase	5	2		1	6		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	12.1	41.2		17.5	41.2		12.2	42.4		11.9	17.4	17.4
Total Split (s)	15.0	50.0		20.0	55.0		42.0	43.0		17.0	18.0	18.0
Total Split (%)	11.5%	38.5%		15.4%	42.3%		32.3%	33.1%		13.1%	13.8%	13.8%
Yellow Time (s)	3.3	5.1		3.3	5.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.8	2.1		4.2	2.1		3.9	4.1		3.6	4.1	4.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.1	7.2		7.5	7.2		7.2	7.4		6.9	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effect Green (s)	7.0	47.4	130.0	11.7	57.7		34.9	31.8		17.9	10.2	10.2
Actuated g/C Ratio	0.05	0.36	1.00	0.09	0.44		0.27	0.24		0.14	0.08	0.08
v/c Ratio	0.31	0.23	0.28	0.65	0.86		0.96	0.10		0.07	0.39	0.07
Control Delay	67.6	30.8	0.5	77.3	41.6		68.5	24.4		41.1	65.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	67.6	30.8	0.5	77.3	41.6		68.5	24.4		41.1	65.2	0.4
LOS	E	C	A	E	D		E	C		D	E	A
Approach Delay		14.8			44.1			64.6			45.5	
Approach LOS		B			D			E			D	
Queue Length 50th (m)	7.0	28.3	0.0	24.8	~183.6		109.5	2.7		4.0	13.4	0.0
Queue Length 95th (m)	17.1	39.8	0.0	#45.5	#228.1		#149.7	12.5		8.8	27.0	0.0
Internal Link Dist (m)		353.5			594.5			361.2			134.5	
Turn Bay Length (m)	155.0		255.0	130.0			190.0			125.0		50.0
Base Capacity (vph)	103	1236	1496	162	1500		886	1030		265	145	323
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	0.27	0.23	0.28	0.61	0.86		0.95	0.08		0.06	0.37	0.07

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 24 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Lanes, Volumes, Timings

2: Trim & Hwy-174

Existing AM
08/11/2020

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 43.3

Intersection LOS: D

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

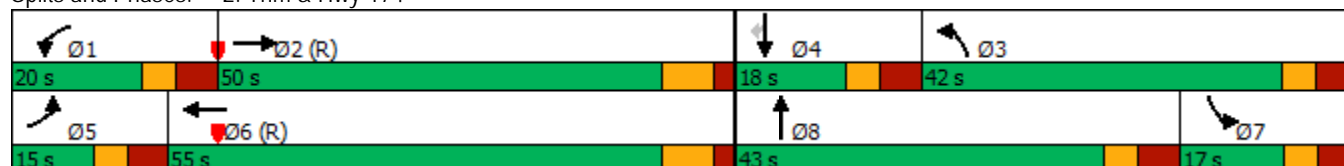
~ Volume exceeds capacity, queue is theoretically infinite.

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: 2: Trim & Hwy-174



Lanes, Volumes, Timings
2: Trim & Hwy-174

Existing PM
08/11/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1068	1057	67	411	13	406	43	90	16	65	19
Future Volume (vph)	11	1068	1057	67	411	13	406	43	90	16	65	19
Satd. Flow (prot)	1695	3390	1517	1695	3375	0	3288	3014	0	1695	1784	1517
Flt Permitted	0.481			0.113			0.950			0.950		
Satd. Flow (perm)	857	3390	1517	202	3375	0	3288	3014	0	1689	1784	1517
Satd. Flow (RTOR)			882		3			100				217
Lane Group Flow (vph)	12	1187	1174	74	471	0	451	148	0	18	72	21
Turn Type	pm+pt	NA	Free	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6								4
Detector Phase	5	2		1	6		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	12.1	41.2		11.0	41.2		12.2	42.4		11.9	17.4	17.4
Total Split (s)	16.0	54.0		16.0	54.0		33.0	43.0		17.0	27.0	27.0
Total Split (%)	12.3%	41.5%		12.3%	41.5%		25.4%	33.1%		13.1%	20.8%	20.8%
Yellow Time (s)	3.3	5.1		4.0	5.1		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.8	2.1		2.0	2.1		3.9	4.1		3.6	4.1	4.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.1	7.2		6.0	7.2		7.2	7.4		6.9	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effect Green (s)	70.4	65.5	130.0	77.0	71.8		22.9	23.4		15.6	11.5	11.5
Actuated g/C Ratio	0.54	0.50	1.00	0.59	0.55		0.18	0.18		0.12	0.09	0.09
v/c Ratio	0.02	0.70	0.77	0.35	0.25		0.78	0.24		0.09	0.46	0.06
Control Delay	15.0	31.0	3.9	18.1	18.7		60.6	19.8		44.7	65.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	15.0	31.0	3.9	18.1	18.7		60.6	19.8		44.7	65.4	0.4
LOS	B	C	A	B	B		E	B		D	E	A
Approach Delay		17.5			18.6			50.6			49.7	
Approach LOS		B			B			D			D	
Queue Length 50th (m)	1.3	128.5	0.0	7.9	29.8		57.5	4.5		4.5	18.0	0.0
Queue Length 95th (m)	4.8	#198.4	0.0	17.6	57.7		72.1	16.7		10.0	32.6	0.0
Internal Link Dist (m)		353.5			594.5			361.2			134.5	
Turn Bay Length (m)	155.0		255.0	130.0			190.0			125.0		50.0
Base Capacity (vph)	536	1707	1517	237	1866		665	931		234	268	413
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	0.02	0.70	0.77	0.31	0.25		0.68	0.16		0.08	0.27	0.05

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 125 (96%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Lanes, Volumes, Timings

2: Trim & Hwy-174

Existing PM
08/11/2020

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 24.1

Intersection LOS: C

Intersection Capacity Utilization 72.7%

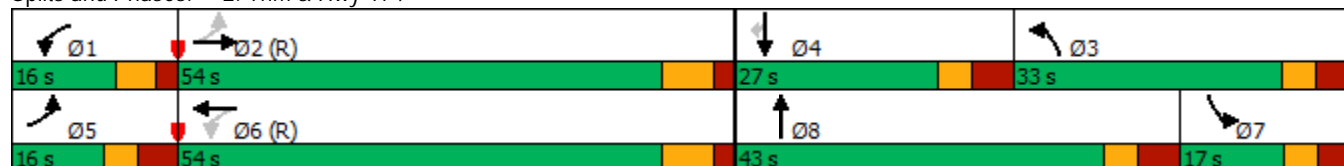
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Trim & Hwy-174



Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	3	54	20	5	0	64	20	7	0	9	3
Future Vol, veh/h	8	3	54	20	5	0	64	20	7	0	9	3
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	2	2	2
Mvmt Flow	9	3	60	22	6	0	71	22	8	0	10	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.6	7.8	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	70%	12%	80%	0%
Vol Thru, %	22%	5%	20%	75%
Vol Right, %	8%	83%	0%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	65	25	12
LT Vol	64	8	20	0
Through Vol	20	3	5	9
RT Vol	7	54	0	3
Lane Flow Rate	101	72	28	13
Geometry Grp	1	1	1	1
Degree of Util (X)	0.118	0.074	0.034	0.015
Departure Headway (Hd)	4.213	3.68	4.35	4.036
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	848	961	815	879
Service Time	2.252	1.749	2.42	2.098
HCM Lane V/C Ratio	0.119	0.075	0.034	0.015
HCM Control Delay	7.8	7	7.6	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.1	0

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	4	87	8	2	0	51	8	8	1	11	4
Future Vol, veh/h	7	4	87	8	2	0	51	8	8	1	11	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	2	2	2	2	2	2	2
Mvmt Flow	8	4	97	9	2	0	57	9	9	1	12	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.5	7.7	7.2
HCM LOS	A	A	A	A

























Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	76%	7%	80%	6%
Vol Thru, %	12%	4%	20%	69%
Vol Right, %	12%	89%	0%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	98	10	16
LT Vol	51	7	8	1
Through Vol	8	4	2	11
RT Vol	8	87	0	4
Lane Flow Rate	74	109	11	18
Geometry Grp	1	1	1	1
Degree of Util (X)	0.088	0.108	0.013	0.02
Departure Headway (Hd)	4.238	3.584	4.339	4.063
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	844	992	818	876
Service Time	2.269	1.637	2.4	2.11
HCM Lane V/C Ratio	0.088	0.11	0.013	0.021
HCM Control Delay	7.7	7.1	7.5	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0	0.1

APPENDIX K

SYCNHRO: BACKGROUND CONDITIONS

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Background 2029 AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	356	5	114	1492	20	1086	63	61	39	126	263
Future Volume (vph)	157	356	5	114	1492	20	1086	63	61	39	126	263
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.098			0.483			0.950			0.950		
Satd. Flow (perm)	175	3390	1185	559	4871	1466	4490	1784	1317	1053	1784	1486
Satd. Flow (RTOR)			266			266			266			266
Lane Group Flow (vph)	157	356	5	114	1492	20	1086	63	61	39	126	263
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	14.0	48.8		16.8	51.6		39.0	50.1		14.3	25.4	
Total Split (%)	10.8%	37.5%		12.9%	39.7%		30.0%	38.5%		11.0%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	52.6	42.2	130.0	52.0	43.4	130.0	31.6	45.4	130.0	7.0	18.0	130.0
Actuated g/C Ratio	0.40	0.32	1.00	0.40	0.33	1.00	0.24	0.35	1.00	0.05	0.14	1.00
v/c Ratio	0.88	0.32	0.00	0.38	0.92	0.01	0.94	0.10	0.05	0.43	0.51	0.18
Control Delay	72.3	34.3	0.0	25.3	51.4	0.0	63.2	30.8	0.1	74.3	60.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.3	34.3	0.0	25.3	51.4	0.0	63.2	30.8	0.1	74.3	60.0	0.3
LOS	E	C	A	C	D	A	E	C	A	E	E	A
Approach Delay		45.5			48.9			58.3			24.6	
Approach LOS		D			D			E			C	
Queue Length 50th (m)	24.8	36.4	0.0	17.0	132.3	0.0	96.9	11.2	0.0	9.8	30.3	0.0
Queue Length 95th (m)	#68.9	49.6	0.0	28.9	152.6	0.0	#122.5	21.9	0.0	21.8	50.7	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	178	1101	1185	306	1663	1466	1170	622	1317	96	247	1486
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	0.88	0.32	0.00	0.37	0.90	0.01	0.93	0.10	0.05	0.41	0.51	0.18

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 48.7

Intersection LOS: D

Intersection Capacity Utilization 96.2%

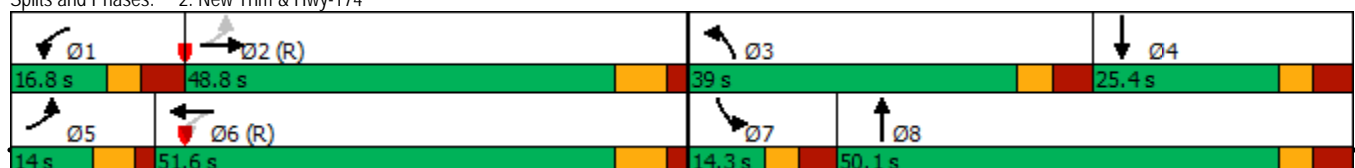
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: New Trim & Hwy-174



























Parsons

Synchro 10 - Report

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Background 2029 PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	1405	5	130	598	35	539	115	151	37	126	216
Future Volume (vph)	228	1405	5	130	598	35	539	115	151	37	126	216
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.368			0.075			0.950			0.950		
Satd. Flow (perm)	640	3390	1185	134	4871	1466	4490	1784	1317	1098	1784	1486
Satd. Flow (RTOR)			279			279			279			279
Lane Group Flow (vph)	228	1405	5	130	598	35	539	115	151	37	126	216
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	19.0	66.6		15.0	62.6		23.0	34.3		14.1	25.4	
Total Split (%)	14.6%	51.2%		11.5%	48.2%		17.7%	26.4%		10.8%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	72.0	58.6	130.0	63.2	55.7	130.0	16.3	33.0	130.0	6.8	18.0	130.0
Actuated g/C Ratio	0.55	0.45	1.00	0.49	0.43	1.00	0.13	0.25	1.00	0.05	0.14	1.00
v/c Ratio	0.50	0.92	0.00	0.82	0.29	0.02	0.90	0.25	0.11	0.42	0.51	0.15
Control Delay	17.5	44.3	0.0	63.4	24.8	0.0	75.2	43.0	0.2	74.2	60.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	44.3	0.0	63.4	24.8	0.0	75.2	43.0	0.2	74.2	60.0	0.2
LOS	B	D	A	E	C	A	E	D	A	E	E	A
Approach Delay		40.4			30.2			56.5			27.3	
Approach LOS		D			C			E			C	
Queue Length 50th (m)	26.9	172.2	0.0	17.4	36.1	0.0	49.2	25.2	0.0	9.3	30.3	0.0
Queue Length 95th (m)	40.8	#208.3	0.0	#53.3	45.5	0.0	#70.8	42.8	0.0	21.0	50.7	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	463	1548	1185	158	2090	1466	599	453	1317	93	247	1486
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	0.49	0.91	0.00	0.82	0.29	0.02	0.90	0.25	0.11	0.40	0.51	0.15

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 39 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 40.5

Intersection LOS: D

Intersection Capacity Utilization 95.4%

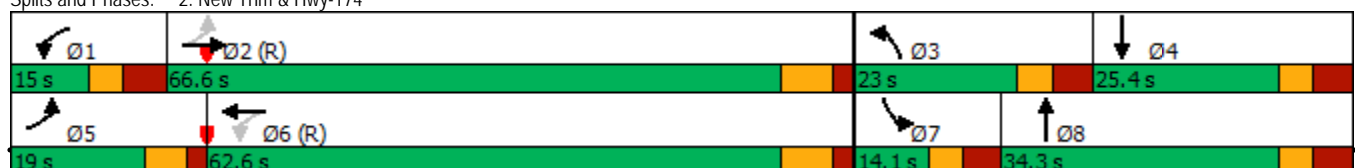
ICU Level of Service F




Analysis Period (min) 15





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

Queue shown is maximum after two cycles.




Splits and Phases: 2: New Trim & Hwy-174







Intersection						
Intersection Delay, s/veh	10.4					
Intersection LOS	B					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	131	295	9	151	103
Future Vol, veh/h	5	131	295	9	151	103
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	131	295	9	151	103
Number of Lanes	1	0	0	1	1	0
Approach	EB	WB		NB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left		NB		EB		
Conflicting Lanes Left	0	1		1		
Conflicting Approach Right	NB			WB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	8.3	11.4		10.4		
HCM LOS	A	B		B		
Lane	NBLn1	EBLn1	WBLn1			
Vol Left, %	59%	0%	97%			
Vol Thru, %	0%	4%	3%			
Vol Right, %	41%	96%	0%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	254	136	304			
LT Vol	151	0	295			
Through Vol	0	5	9			
RT Vol	103	131	0			
Lane Flow Rate	254	136	304			
Geometry Grp	1	1	1			
Degree of Util (X)	0.341	0.165	0.415			
Departure Headway (Hd)	4.84	4.367	4.911			
Convergence, Y/N	Yes	Yes	Yes			
Cap	739	815	730			
Service Time	2.895	2.429	2.964			
HCM Lane V/C Ratio	0.344	0.167	0.416			
HCM Control Delay	10.4	8.3	11.4			
HCM Lane LOS	B	A	B			
HCM 95th-ile Q	1.5	0.6	2			

Intersection												
Intersection Delay, s/veh	7.9											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	128	0	0	146	20	0	0	0	10	0	4
Future Vol, veh/h	10	128	0	0	146	20	0	0	0	10	0	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	2	2	2	2	2	2	2
Mvmt Flow	10	128	0	0	146	20	0	0	0	10	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB			NB		SB		
Opposing Approach	WB				EB			SB		NB		
Opposing Lanes	1				1			1		1		
Conflicting Approach Left	SB				NB			EB		WB		
Conflicting Lanes Left	1				1			1		1		
Conflicting Approach Right	NB				SB			WB		EB		
Conflicting Lanes Right	1				1			1		1		
HCM Control Delay	7.9				7.9			0		7.6		
HCM LOS	A				A			-		A		
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		7%		0%		71%					
Vol Thru, %	100%		93%		88%		0%					
Vol Right, %	0%		0%		12%		29%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		138		166		14					
LT Vol	0		10		0		10					
Through Vol	0		128		146		0					
RT Vol	0		0		20		4					
Lane Flow Rate	0		138		166		14					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.157		0.184		0.018					
Departure Headway (Hd)	4.6		4.096		3.988		4.552					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		872		896		791					
Service Time	2.601		2.139		2.029		2.552					
HCM Lane V/C Ratio	0		0.158		0.185		0.018					
HCM Control Delay	7.6		7.9		7.9		7.6					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		0.6		0.7		0.1					

1: New Trim & Jeanne D'Arc/Inlet Private

Intersection						
Intersection Delay, s/veh	10.6					
Intersection LOS	B					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	202	183	3	118	252
Future Vol, veh/h	9	202	183	3	118	252
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	202	183	3	118	252
Number of Lanes	1	0	0	1	1	0
Approach	EB	WB		NB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left		NB		EB		
Conflicting Lanes Left	0	1		1		
Conflicting Approach Right	NB			WB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	9.2	10.3		11.5		
HCM LOS	A	B		B		
Lane	NBLn1	EBLn1	WBLn1			
Vol Left, %	32%	0%	98%			
Vol Thru, %	0%	4%	2%			
Vol Right, %	68%	96%	0%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	370	211	186			
LT Vol	118	0	183			
Through Vol	0	9	3			
RT Vol	252	202	0			
Lane Flow Rate	370	211	186			
Geometry Grp	1	1	1			
Degree of Util (X)	0.465	0.262	0.271			
Departure Headway (Hd)	4.521	4.476	5.244			
Convergence, Y/N	Yes	Yes	Yes			
Cap	792	793	679			
Service Time	2.579	2.55	3.321			
HCM Lane V/C Ratio	0.467	0.266	0.274			
HCM Control Delay	11.5	9.2	10.3			
HCM Lane LOS	B	A	B			
HCM 95th-ile Q	2.5	1	1.1			

























Intersection												
Intersection Delay, s/veh	8.2											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	200	0	0	115	8	0	0	0	13	0	5
Future Vol, veh/h	9	200	0	0	115	8	0	0	0	13	0	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	200	0	0	115	8	0	0	0	13	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	8.4				7.8				0			
HCM LOS	A				A				-			
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		4%		0%		72%					
Vol Thru, %	100%		96%		93%		0%					
Vol Right, %	0%		0%		7%		28%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		209		123		18					
LT Vol	0		9		0		13					
Through Vol	0		200		115		0					
RT Vol	0		0		8		5					
Lane Flow Rate	0		209		123		18					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.236		0.14		0.023					
Departure Headway (Hd)	4.671		4.066		4.083		4.624					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		880		872		779					
Service Time	2.672		2.106		2.139		2.624					
HCM Lane V/C Ratio	0		0.237		0.141		0.023					
HCM Control Delay	7.7		8.4		7.8		7.7					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		0.9		0.5		0.1					

APPENDIX L

SYCNHRO: FUTURE PROPOSED CONDITIONDS

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Projected 2024 AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	320	5	105	1365	24	1036	69	55	45	152	352
Future Volume (vph)	147	320	5	105	1365	24	1036	69	55	45	152	352
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.097			0.532			0.950			0.950		
Satd. Flow (perm)	173	3390	1180	559	4871	1460	1834	1784	1315	1058	1784	1270
Satd. Flow (RTOR)			266			266			266			317
Lane Group Flow (vph)	147	320	5	105	1365	24	1036	69	55	45	152	352
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	16.0	48.8		16.6	49.4		39.2	48.5		16.1	25.4	
Total Split (%)	12.3%	37.5%		12.8%	38.0%		30.2%	37.3%		12.4%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	54.0	42.7	130.0	51.1	42.8	130.0	31.3	44.1	130.0	8.0	18.0	130.0
Actuated g/C Ratio	0.42	0.33	1.00	0.39	0.33	1.00	0.24	0.34	1.00	0.06	0.14	1.00
v/c Ratio	0.77	0.29	0.00	0.36	0.85	0.02	0.90	0.11	0.04	0.43	0.62	0.28
Control Delay	53.6	33.6	0.0	25.1	47.1	0.0	59.1	31.9	0.1	71.3	64.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	33.6	0.0	25.1	47.1	0.0	59.1	31.9	0.1	71.3	64.4	0.5
LOS	D	C	A	C	D	A	E	C	A	E	E	A
Approach Delay		39.5			44.8			54.7			24.0	
Approach LOS		D			D			D			C	
Queue Length 50th (m)	22.0	32.3	0.0	15.6	119.9	0.0	91.1	12.5	0.0	11.3	37.2	0.0
Queue Length 95th (m)	#55.7	44.8	0.0	27.3	139.4	0.0	#109.3	23.9	0.0	23.9	60.0	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	192	1114	1180	300	1612	1460	1176	605	1315	119	247	1270
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	0.77	0.29	0.00	0.35	0.85	0.02	0.88	0.11	0.04	0.38	0.62	0.28

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 44.1

Intersection LOS: D

Intersection Capacity Utilization 95.4%

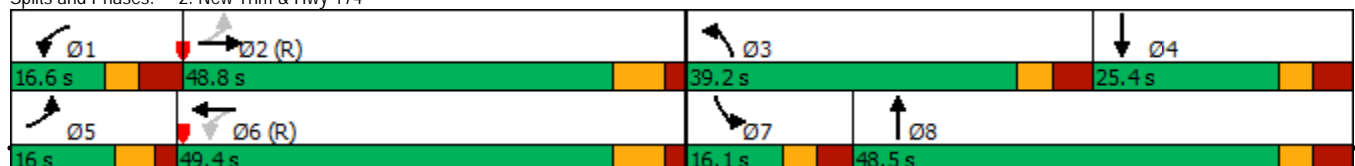
ICU Level of Service F

Analysis Period (min) 15




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





Queue shown is maximum after two cycles.




Splits and Phases: 2: New Trim & Hwy-174






1: New Trim & Jeanne D'Arc/Inlet Private

Intersection						
Intersection Delay, s/veh	11					
Intersection LOS	B					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	256	294	9	155	103
Future Vol, veh/h	5	256	294	9	155	103
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	256	294	9	155	103
Number of Lanes	1	0	0	1	1	0
Approach	EB	WB		NB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left		NB		EB		
Conflicting Lanes Left	0	1		1		
Conflicting Approach Right	NB			WB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	9.6	12		11.1		
HCM LOS	A	B		B		
Lane	NBLn1	EBLn1	WBLn1			
Vol Left, %	60%	0%	97%			
Vol Thru, %	0%	2%	3%			
Vol Right, %	40%	98%	0%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	258	261	303			
LT Vol	155	0	294			
Through Vol	0	5	9			
RT Vol	103	256	0			
Lane Flow Rate	258	261	303			
Geometry Grp	1	1	1			
Degree of Util (X)	0.365	0.319	0.428			
Departure Headway (Hd)	5.094	4.405	5.087			
Convergence, Y/N	Yes	Yes	Yes			
Cap	699	806	700			
Service Time	3.179	2.482	3.166			
HCM Lane V/C Ratio	0.369	0.324	0.433			
HCM Control Delay	11.1	9.6	12			
HCM Lane LOS	B	A	B			
HCM 95th-tile Q	1.7	1.4	2.2			

























Intersection												
Intersection Delay, s/veh	7.5											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	85	0	0	90	20	0	0	0	10	0	4
Future Vol, veh/h	10	85	0	0	90	20	0	0	0	10	0	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	2	2	2	2	2	2	2
Mvmt Flow	10	85	0	0	90	20	0	0	0	10	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB			NB		SB		
Opposing Approach	WB				EB			SB		NB		
Opposing Lanes	1				1			1		1		
Conflicting Approach Left	SB				NB			EB		WB		
Conflicting Lanes Left	1				1			1		1		
Conflicting Approach Right	NB				SB			WB		EB		
Conflicting Lanes Right	1				1			1		1		
HCM Control Delay	7.6				7.5			0		7.4		
HCM LOS	A				A			-		A		
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	0%	11%	0%	71%								
Vol Thru, %	100%	89%	82%	0%								
Vol Right, %	0%	0%	18%	29%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	0	95	110	14								
LT Vol	0	10	0	10								
Through Vol	0	85	90	0								
RT Vol	0	0	20	4								
Lane Flow Rate	0	95	110	14								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0	0.107	0.12	0.017								
Departure Headway (Hd)	4.296	4.061	3.919	4.255								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	0	882	913	830								
Service Time	2.386	2.089	1.948	2.34								
HCM Lane V/C Ratio	0	0.108	0.12	0.017								
HCM Control Delay	7.4	7.6	7.5	7.4								
HCM Lane LOS	N	A	A	A								
HCM 95th-tile Q	0	0.4	0.4	0.1								

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	92	103	0	9	5
Future Vol, veh/h	2	92	103	0	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	92	103	0	9	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	103	0	-	0	199	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1489	-	-	-	790	952
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	789	952
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	928	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		9.4		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1489	-	-	-	840	
HCM Lane V/C Ratio	0.001	-	-	-	0.017	
HCM Control Delay (s)	7.4	0	-	-	9.4	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	100	99	67	162	4
Future Vol, veh/h	1	100	99	67	162	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	100	99	67	162	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	166	0	-	0	235	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1412	-	-	-	753	916
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1412	-	-	-	752	916
Mov Cap-2 Maneuver	-	-	-	-	752	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	922	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		11.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1412	-	-	-	755	
HCM Lane V/C Ratio	0.001	-	-	-	0.22	
HCM Control Delay (s)	7.6	0	-	-	11.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.8	

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Projected 2024 PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	1282	5	109	532	43	512	146	130	35	125	198
Future Volume (vph)	320	1282	5	109	532	43	512	146	130	35	125	198
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.368			0.086			0.950			0.950		
Satd. Flow (perm)	640	3390	1180	153	4871	1460	1722	1784	1315	1123	1784	1270
Satd. Flow (RTOR)			329			329			329			329
Lane Group Flow (vph)	320	1282	5	109	532	43	512	146	130	35	125	198
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	27.0	65.4		15.2	53.6		24.0	35.4		14.0	25.4	
Total Split (%)	20.8%	50.3%		11.7%	41.2%		18.5%	27.2%		10.8%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	74.0	57.9	130.0	56.7	49.3	130.0	17.0	33.6	130.0	6.9	18.0	130.0
Actuated g/C Ratio	0.57	0.45	1.00	0.44	0.38	1.00	0.13	0.26	1.00	0.05	0.14	1.00
v/c Ratio	0.63	0.85	0.00	0.69	0.29	0.03	0.82	0.32	0.10	0.39	0.51	0.16
Control Delay	20.8	38.8	0.0	47.3	29.2	0.0	66.5	43.2	0.2	72.1	59.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	38.8	0.0	47.3	29.2	0.0	66.5	43.2	0.2	72.1	59.8	0.3
LOS	C	D	A	D	C	A	E	D	A	E	E	A
Approach Delay		35.1			30.3			51.3			28.1	
Approach LOS		D			C			D			C	
Queue Length 50th (m)	42.5	154.6	0.0	12.9	35.5	0.0	45.2	32.0	0.0	8.7	30.1	0.0
Queue Length 95th (m)	59.8	181.4	0.0	#39.4	45.7	0.0	#61.9	52.4	0.0	19.9	50.4	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	536	1529	1180	160	1847	1460	636	461	1315	95	247	1270
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	0.60	0.84	0.00	0.68	0.29	0.03	0.81	0.32	0.10	0.37	0.51	0.16

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 39 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 37.1

Intersection LOS: D

Intersection Capacity Utilization 93.5%

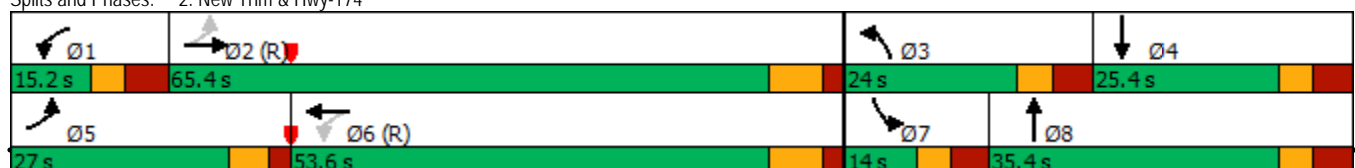
ICU Level of Service F

Analysis Period (min) 15

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




Queue shown is maximum after two cycles.





Splits and Phases: 2: New Trim & Hwy-174









Parsons

Synchro 10 - Report

Intersection						
Intersection Delay, s/veh	13.8					
Intersection LOS	B					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	182	183	3	252	252
Future Vol, veh/h	8	182	183	3	252	252
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	182	183	3	252	252
Number of Lanes	1	0	0	1	1	0
Approach	EB	WB		NB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left		NB		EB		
Conflicting Lanes Left	0	1		1		
Conflicting Approach Right	NB			WB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	9.7	11.1		16.3		
HCM LOS	A	B		C		
Lane	NBLn1	EBLn1	WBLn1			
Vol Left, %	50%	0%	98%			
Vol Thru, %	0%	4%	2%			
Vol Right, %	50%	96%	0%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	504	190	186			
LT Vol	252	0	183			
Through Vol	0	8	3			
RT Vol	252	182	0			
Lane Flow Rate	504	190	186			
Geometry Grp	1	1	1			
Degree of Util (X)	0.654	0.262	0.295			
Departure Headway (Hd)	4.669	4.962	5.709			
Convergence, Y/N	Yes	Yes	Yes			
Cap	761	728	632			
Service Time	2.768	2.968	3.716			
HCM Lane V/C Ratio	0.662	0.261	0.294			
HCM Control Delay	16.3	9.7	11.1			
HCM Lane LOS	C	A	B			
HCM 95th-ile Q	4.9	1	1.2			

























Intersection												
Intersection Delay, s/veh	7.7											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	124	0	0	80	8	0	0	0	13	0	5
Future Vol, veh/h	8	124	0	0	80	8	0	0	0	13	0	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	124	0	0	80	8	0	0	0	13	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB				NB		SB	
Opposing Approach	WB				EB				SB		NB	
Opposing Lanes	1				1				1		1	
Conflicting Approach Left	SB				NB				EB		WB	
Conflicting Lanes Left	1				1				1		1	
Conflicting Approach Right	NB				SB				WB		EB	
Conflicting Lanes Right	1				1				1		1	
HCM Control Delay	7.8				7.5				0		7.5	
HCM LOS	A				A				-		A	
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		6%		0%		72%					
Vol Thru, %	100%		94%		91%		0%					
Vol Right, %	0%		0%		9%		28%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		132		88		18					
LT Vol	0		8		0		13					
Through Vol	0		124		80		0					
RT Vol	0		0		8		5					
Lane Flow Rate	0		132		88		18					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.148		0.098		0.021					
Departure Headway (Hd)	4.426		4.043		4.009		4.286					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		887		891		822					
Service Time	2.426		2.07		2.045		2.382					
HCM Lane V/C Ratio	0		0.149		0.099		0.022					
HCM Control Delay	7.4		7.8		7.5		7.5					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		0.5		0.3		0.1					

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	131	85	0	3	2
Future Vol, veh/h	5	131	85	0	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	131	85	0	3	2
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	85	0	-	0	226	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1512	-	-	-	762	974
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1512	-	-	-	759	974
Mov Cap-2 Maneuver	-	-	-	-	759	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	886	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1512	-	-	-	833	
HCM Lane V/C Ratio	0.003	-	-	-	0.006	
HCM Control Delay (s)	7.4	0	-	-	9.3	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	130	84	172	62	1
Future Vol, veh/h	4	130	84	172	62	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	130	84	172	62	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	256	0	-	0	308	170
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1309	-	-	-	684	874
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1309	-	-	-	682	874
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	889	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		10.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1309	-	-	-	684	
HCM Lane V/C Ratio	0.003	-	-	-	0.092	
HCM Control Delay (s)	7.8	0	-	-	10.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Projected 2029 AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	356	5	114	1492	24	1086	77	61	48	162	389
Future Volume (vph)	206	356	5	114	1492	24	1086	77	61	48	162	389
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.096			0.519			0.950			0.950		
Satd. Flow (perm)	171	3390	1180	556	4871	1460	1875	1784	1315	1066	1784	1270
Satd. Flow (RTOR)			279			279			279			323
Lane Group Flow (vph)	206	356	5	114	1492	24	1086	77	61	48	162	389
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	18.0	49.8		16.8	48.6		38.0	47.1		16.3	25.4	
Total Split (%)	13.8%	38.3%		12.9%	37.4%		29.2%	36.2%		12.5%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	56.2	43.0	130.0	50.0	41.4	130.0	30.8	43.4	130.0	8.2	18.0	130.0
Actuated g/C Ratio	0.43	0.33	1.00	0.38	0.32	1.00	0.24	0.33	1.00	0.06	0.14	1.00
v/c Ratio	0.96	0.32	0.00	0.39	0.96	0.02	0.96	0.13	0.05	0.45	0.66	0.31
Control Delay	85.0	33.6	0.0	25.3	59.0	0.0	67.6	32.9	0.1	71.9	66.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.0	33.6	0.0	25.3	59.0	0.0	67.6	32.9	0.1	71.9	66.6	0.6
LOS	F	C	A	C	E	A	E	C	A	E	E	A
Approach Delay		52.0			55.8			62.1			24.2	
Approach LOS		D			E			E			C	
Queue Length 50th (m)	37.4	36.0	0.0	16.8	137.4	0.0	98.0	14.2	0.0	12.0	39.9	0.0
Queue Length 95th (m)	#86.0	49.0	0.0	28.5	#169.0	0.0	#126.0	26.6	0.0	24.9	63.5	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	214	1121	1180	297	1551	1460	1132	595	1315	122	247	1270
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	0.96	0.32	0.00	0.38	0.96	0.02	0.96	0.13	0.05	0.39	0.66	0.31

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 52.5

Intersection LOS: D

Intersection Capacity Utilization 102.4%

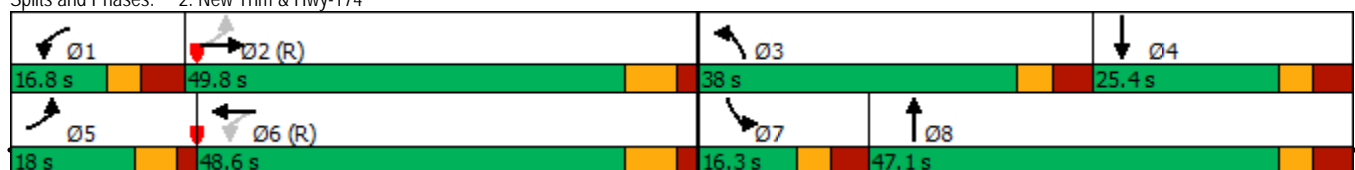
ICU Level of Service G




Analysis Period (min) 15





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




Queue shown is maximum after two cycles.




Splits and Phases: 2: New Trim & Hwy-174








Intersection						
Intersection Delay, s/veh	12.5					
Intersection LOS	B					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	302	295	9	218	103
Future Vol, veh/h	5	302	295	9	218	103
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	302	295	9	218	103
Number of Lanes	1	0	0	1	1	0
Approach	EB	WB		NB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left		NB		EB		
Conflicting Lanes Left	0	1		1		
Conflicting Approach Right	NB			WB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	11	13.1		13.4		
HCM LOS	B	B		B		
Lane	NBLn1	EBLn1	WBLn1			
Vol Left, %	68%	0%	97%			
Vol Thru, %	0%	2%	3%			
Vol Right, %	32%	98%	0%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	321	307	304			
LT Vol	218	0	295			
Through Vol	0	5	9			
RT Vol	103	302	0			
Lane Flow Rate	321	307	304			
Geometry Grp	1	1	1			
Degree of Util (X)	0.482	0.404	0.462			
Departure Headway (Hd)	5.408	4.732	5.467			
Convergence, Y/N	Yes	Yes	Yes			
Cap	668	761	660			
Service Time	3.441	2.766	3.501			
HCM Lane V/C Ratio	0.481	0.403	0.461			
HCM Control Delay	13.4	11	13.1			
HCM Lane LOS	B	B	B			
HCM 95th-ile Q	2.6	2	2.4			

Intersection												
Intersection Delay, s/veh	7.9											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	131	0	0	155	20	0	0	0	10	0	4
Future Vol, veh/h	10	131	0	0	155	20	0	0	0	10	0	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	2	2	2	2	2	2	2
Mvmt Flow	10	131	0	0	155	20	0	0	0	10	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB			NB		SB		
Opposing Approach	WB				EB			SB		NB		
Opposing Lanes	1				1			1		1		
Conflicting Approach Left	SB				NB			EB		WB		
Conflicting Lanes Left	1				1			1		1		
Conflicting Approach Right	NB				SB			WB		EB		
Conflicting Lanes Right	1				1			1		1		
HCM Control Delay	7.9				8			0		7.7		
HCM LOS	A				A			-		A		
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		7%		0%		71%					
Vol Thru, %	100%		93%		89%		0%					
Vol Right, %	0%		0%		11%		29%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		141		175		14					
LT Vol	0		10		0		10					
Through Vol	0		131		155		0					
RT Vol	0		0		20		4					
Lane Flow Rate	0		141		175		14					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.161		0.194		0.018					
Departure Headway (Hd)	4.626		4.103		3.994		4.577					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		870		894		787					
Service Time	2.627		2.147		2.036		2.577					
HCM Lane V/C Ratio	0		0.162		0.196		0.018					
HCM Control Delay	7.6		7.9		8		7.7					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		0.6		0.7		0.1					

























Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	138	167	0	9	5
Future Vol, veh/h	2	138	167	0	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	138	167	0	9	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	167	0	-	0	309	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1411	-	-	-	683	877
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1411	-	-	-	682	877
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	885	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		10		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1411	-	-	-	741	
HCM Lane V/C Ratio	0.001	-	-	-	0.019	
HCM Control Delay (s)	7.6	0	-	-	10	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	146	163	67	162	4
Future Vol, veh/h	1	146	163	67	162	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	146	163	67	162	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	230	0	-	0	345	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1338	-	-	-	652	844
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1338	-	-	-	651	844
Mov Cap-2 Maneuver	-	-	-	-	651	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	880	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		12.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1338	-	-	-	655	
HCM Lane V/C Ratio	0.001	-	-	-	0.253	
HCM Control Delay (s)	7.7	0	-	-	12.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	1	

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1	1	-	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-
Pot Cap-1 Maneuver	1022	1083	0	-	-	-
Stage 1	1022	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	1022	1083	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	-	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	-	0	0	-	-	
HCM Lane LOS	-	A	A	-	-	
HCM 95th %tile Q(veh)	-	-	-	-	-	

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Projected 2029 PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1405	5	130	598	44	539	151	151	40	140	264
Future Volume (vph)	355	1405	5	130	598	44	539	151	151	40	140	264
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.335			0.085			0.950			0.950		
Satd. Flow (perm)	584	3390	1180	152	4871	1460	1785	1784	1315	1127	1784	1270
Satd. Flow (RTOR)			329			329			329			329
Lane Group Flow (vph)	355	1405	5	130	598	44	539	151	151	40	140	264
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	29.0	66.6		15.0	52.6		23.0	34.1		14.3	25.4	
Total Split (%)	22.3%	51.2%		11.5%	40.5%		17.7%	26.2%		11.0%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	74.6	58.6	130.0	56.0	48.5	130.0	16.3	30.1	130.0	7.0	18.0	130.0
Actuated g/C Ratio	0.57	0.45	1.00	0.43	0.37	1.00	0.13	0.23	1.00	0.05	0.14	1.00
v/c Ratio	0.71	0.92	0.00	0.82	0.33	0.03	0.90	0.37	0.11	0.44	0.57	0.21
Control Delay	23.1	44.3	0.0	66.3	30.2	0.0	75.2	46.7	0.2	74.9	62.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	44.3	0.0	66.3	30.2	0.0	75.2	46.7	0.2	74.9	62.2	0.4
LOS	C	D	A	E	C	A	E	D	A	E	E	A
Approach Delay		39.9			34.6			56.6			26.6	
Approach LOS		D			C			E			C	
Queue Length 50th (m)	45.9	172.2	0.0	17.5	39.8	0.0	49.2	33.9	0.0	10.1	34.0	0.0
Queue Length 95th (m)	65.8	#208.3	0.0	#55.6	52.1	0.0	#70.8	54.5	0.0	22.3	55.6	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	534	1548	1180	158	1815	1460	599	413	1315	96	247	1270
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	0.66	0.91	0.00	0.82	0.33	0.03	0.90	0.37	0.11	0.42	0.57	0.21

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 39 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 40.9

Intersection LOS: D

Intersection Capacity Utilization 98.8%

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: 2: New Trim & Hwy-174









Parsons






Synchro 10 - Report

Intersection						
Intersection Delay, s/veh	17.2					
Intersection LOS	C					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	267	183	3	290	252
Future Vol, veh/h	9	267	183	3	290	252
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	267	183	3	290	252
Number of Lanes	1	0	0	1	1	0
Approach	EB	WB		NB		
Opposing Approach	WB	EB				
Opposing Lanes	1	1		0		
Conflicting Approach Left		NB		EB		
Conflicting Lanes Left	0	1		1		
Conflicting Approach Right	NB			WB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	11.5	11.8		22		
HCM LOS	B	B		C		
Lane	NBLn1	EBLn1	WBLn1			
Vol Left, %	54%	0%	98%			
Vol Thru, %	0%	3%	2%			
Vol Right, %	46%	97%	0%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	542	276	186			
LT Vol	290	0	183			
Through Vol	0	9	3			
RT Vol	252	267	0			
Lane Flow Rate	542	276	186			
Geometry Grp	1	1	1			
Degree of Util (X)	0.756	0.395	0.312			
Departure Headway (Hd)	5.021	5.147	6.03			
Convergence, Y/N	Yes	Yes	Yes			
Cap	721	698	595			
Service Time	3.057	3.195	4.083			
HCM Lane V/C Ratio	0.752	0.395	0.313			
HCM Control Delay	22	11.5	11.8			
HCM Lane LOS	C	B	B			
HCM 95th-tile Q	7	1.9	1.3			

Intersection												
Intersection Delay, s/veh	8.2											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	209	0	0	118	8	0	0	0	13	0	5
Future Vol, veh/h	9	209	0	0	118	8	0	0	0	13	0	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	209	0	0	118	8	0	0	0	13	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	8.4				7.8				0			
HCM LOS	A				A				-			
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		4%		0%		72%					
Vol Thru, %	100%		96%		94%		0%					
Vol Right, %	0%		0%		6%		28%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		218		126		18					
LT Vol	0		9		0		13					
Through Vol	0		209		118		0					
RT Vol	0		0		8		5					
Lane Flow Rate	0		218		126		18					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.246		0.143		0.023					
Departure Headway (Hd)	4.695		4.068		4.09		4.648					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		879		869		775					
Service Time	2.696		2.108		2.148		2.648					
HCM Lane V/C Ratio	0		0.248		0.145		0.023					
HCM Control Delay	7.7		8.4		7.8		7.8					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		1		0.5		0.1					

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	214	123	0	3	2
Future Vol, veh/h	5	214	123	0	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	214	123	0	3	2
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	123	0	-	0	347	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	224	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1464	-	-	-	650	928
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	813	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1464	-	-	-	647	928
Mov Cap-2 Maneuver	-	-	-	-	647	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	813	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		9.9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1464	-	-	-	736	
HCM Lane V/C Ratio	0.003	-	-	-	0.007	
HCM Control Delay (s)	7.5	0	-	-	9.9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	213	122	172	62	1
Future Vol, veh/h	4	213	122	172	62	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	213	122	172	62	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	294	0	-	0	429	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1268	-	-	-	583	832
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1268	-	-	-	581	832
Mov Cap-2 Maneuver	-	-	-	-	581	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	816	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		11.9		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1268	-	-	-	584	
HCM Lane V/C Ratio	0.003	-	-	-	0.108	
HCM Control Delay (s)	7.8	0	-	-	11.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1	1	-	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-
Pot Cap-1 Maneuver	1022	1083	0	-	-	-
Stage 1	1022	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1083	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	-	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	-	0	0	-	-	
HCM Lane LOS	-	A	A	-	-	
HCM 95th %tile Q(veh)	-	-	-	-	-	

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4506	4545	4528	4591	4386	4435	4688
Vehs Exited	4467	4495	4506	4524	4362	4380	4643
Starting Vehs	146	163	125	142	168	116	161
Ending Vehs	185	213	147	209	192	171	206
Travel Distance (km)	3491	3517	3533	3552	3405	3437	3669
Travel Time (hr)	195.2	225.6	182.8	166.7	183.1	164.4	201.1
Total Delay (hr)	143.1	173.5	130.4	113.7	132.6	112.9	146.7
Total Stops	6792	5566	5992	5930	5373	5724	6693
Fuel Used (l)	466.6	499.6	463.8	450.3	455.3	439.0	490.1

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4589	4663	4542	4545
Vehs Exited	4539	4544	4423	4489
Starting Vehs	147	128	142	140
Ending Vehs	197	247	261	197
Travel Distance (km)	3609	3585	3502	3530
Travel Time (hr)	182.8	201.4	208.7	191.2
Total Delay (hr)	129.5	148.0	156.6	138.7
Total Stops	6428	6336	6128	6095
Fuel Used (l)	468.4	480.3	482.8	469.6

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary

Baseline

08/17/2020

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4506	4545	4528	4591	4386	4435	4688
Vehs Exited	4467	4495	4506	4524	4362	4380	4643
Starting Vehs	146	163	125	142	168	116	161
Ending Vehs	185	213	147	209	192	171	206
Travel Distance (km)	3491	3517	3533	3552	3405	3437	3669
Travel Time (hr)	195.2	225.6	182.8	166.7	183.1	164.4	201.1
Total Delay (hr)	143.1	173.5	130.4	113.7	132.6	112.9	146.7
Total Stops	6792	5566	5992	5930	5373	5724	6693
Fuel Used (l)	466.6	499.6	463.8	450.3	455.3	439.0	490.1

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4589	4663	4542	4545
Vehs Exited	4539	4544	4423	4489
Starting Vehs	147	128	142	140
Ending Vehs	197	247	261	197
Travel Distance (km)	3609	3585	3502	3530
Travel Time (hr)	182.8	201.4	208.7	191.2
Total Delay (hr)	129.5	148.0	156.6	138.7
Total Stops	6428	6336	6128	6095
Fuel Used (l)	468.4	480.3	482.8	469.6

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	54.5	122.2	70.2
Average Queue (m)	44.8	65.9	34.7
95th Queue (m)	65.9	135.6	60.8
Link Distance (m)	50.2	135.2	253.9
Upstream Blk Time (%)	26	12	
Queuing Penalty (veh)	81	0	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	87.9	60.9	45.7	14.8	150.2	240.0	237.3	219.3	37.4	119.3	120.5	120.6
Average Queue (m)	43.4	29.8	23.1	0.5	55.4	158.7	156.7	145.0	7.3	113.3	110.7	102.9
95th Queue (m)	76.6	47.8	40.9	7.5	155.0	245.1	241.0	230.0	31.5	119.1	124.8	133.6
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)			3		0	21		56	0			
Queuing Penalty (veh)			0		0	23		13	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	105.9	7.1	157.4	244.7	37.5
Average Queue (m)	24.9	0.2	41.1	151.7	32.4
95th Queue (m)	81.2	3.6	137.5	266.3	50.9
Link Distance (m)				253.9	
Upstream Blk Time (%)				2	
Queuing Penalty (veh)				13	
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	1		0	56	2
Queuing Penalty (veh)	13		0	243	4

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 3: Jeanne D'Arc & Old Trim

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	32.4	19.0	10.0
Average Queue (m)	13.2	9.9	3.8
95th Queue (m)	40.5	14.2	11.0
Link Distance (m)	145.1	42.8	96.9
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Jeanne D'Arc & W Site Access

Movement	EB	B9	SB
Directions Served	LT	T	LR
Maximum Queue (m)	33.2	16.0	12.9
Average Queue (m)	7.3	3.3	3.4
95th Queue (m)	35.5	21.6	11.1
Link Distance (m)	33.9	42.8	79.2
Upstream Blk Time (%)	10	3	
Queuing Penalty (veh)	14	5	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Jeanne D'Arc & E Site Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	31.9	63.3
Average Queue (m)	10.3	32.0
95th Queue (m)	32.8	70.1
Link Distance (m)	33.9	64.2
Upstream Blk Time (%)	12	17
Queuing Penalty (veh)	18	0
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 10: Trim Rd & Taylor Creek/Dairy

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 11: Dairy/New Trim

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 15:

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 17: Hwy-174

Movement	EB	WB
Directions Served	R	T
Maximum Queue (m)	2.4	416.7
Average Queue (m)	0.1	39.2
95th Queue (m)	2.4	281.0
Link Distance (m)	130.2	571.2
Upstream Blk Time (%)		2
Queuing Penalty (veh)		17
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 444

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5039	5002	5218	5097	4982	5026	5135
Vehs Exited	5042	4974	5151	5112	4954	4999	5063
Starting Vehs	137	111	148	163	135	105	119
Ending Vehs	134	139	215	148	163	132	191
Travel Distance (km)	4271	4228	4400	4305	4247	4248	4377
Travel Time (hr)	154.1	140.8	218.6	159.1	146.5	148.7	169.8
Total Delay (hr)	90.6	77.7	153.1	94.3	83.3	84.8	104.6
Total Stops	5166	4811	5407	5252	4848	5133	5587
Fuel Used (l)	491.8	473.7	554.5	497.9	480.5	480.3	507.5

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5084	5099	5099	5077
Vehs Exited	5074	5052	5063	5047
Starting Vehs	103	128	106	120
Ending Vehs	113	175	142	152
Travel Distance (km)	4264	4265	4324	4293
Travel Time (hr)	145.9	163.9	152.4	160.0
Total Delay (hr)	81.7	99.8	88.1	95.8
Total Stops	4976	5022	5116	5130
Fuel Used (l)	485.5	499.2	492.2	496.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary

Baseline

08/17/2020

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5039	5002	5218	5097	4982	5026	5135
Vehs Exited	5042	4974	5151	5112	4954	4999	5063
Starting Vehs	137	111	148	163	135	105	119
Ending Vehs	134	139	215	148	163	132	191
Travel Distance (km)	4271	4228	4400	4305	4247	4248	4377
Travel Time (hr)	154.1	140.8	218.6	159.1	146.5	148.7	169.8
Total Delay (hr)	90.6	77.7	153.1	94.3	83.3	84.8	104.6
Total Stops	5166	4811	5407	5252	4848	5133	5587
Fuel Used (l)	491.8	473.7	554.5	497.9	480.5	480.3	507.5

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5084	5099	5099	5077
Vehs Exited	5074	5052	5063	5047
Starting Vehs	103	128	106	120
Ending Vehs	113	175	142	152
Travel Distance (km)	4264	4265	4324	4293
Travel Time (hr)	145.9	163.9	152.4	160.0
Total Delay (hr)	81.7	99.8	88.1	95.8
Total Stops	4976	5022	5116	5130
Fuel Used (l)	485.5	499.2	492.2	496.3

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	54.2	38.8	222.6
Average Queue (m)	31.2	18.0	120.6
95th Queue (m)	53.6	31.4	247.2
Link Distance (m)	50.2	135.2	253.9
Upstream Blk Time (%)	5		2
Queuing Penalty (veh)	13		10
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	152.5	217.8	210.2	26.0	62.3	64.2	61.1	52.2	14.7	114.4	110.2	98.0
Average Queue (m)	71.4	125.1	120.8	1.0	29.8	42.3	37.2	19.8	0.6	92.1	79.1	60.2
95th Queue (m)	144.3	206.1	199.9	10.8	56.8	59.5	56.6	45.6	8.3	124.5	115.9	103.1
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	4	3	41	0				1	0			
Queuing Penalty (veh)	26	12	2	0				0	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	73.7	33.0	30.6	100.4	37.1
Average Queue (m)	32.0	3.8	12.2	38.5	7.8
95th Queue (m)	63.0	20.5	26.2	77.2	30.4
Link Distance (m)				253.9	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	12	0		19	0
Queuing Penalty (veh)	86	0		57	0

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 3: Jeanne D'Arc & Old Trim

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	21.4	18.5	9.9
Average Queue (m)	11.8	9.7	3.7
95th Queue (m)	18.2	13.5	11.0
Link Distance (m)	145.1	42.8	96.9
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Jeanne D'Arc & W Site Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	6.4	8.7
Average Queue (m)	0.2	1.3
95th Queue (m)	2.7	6.4
Link Distance (m)	33.9	79.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Jeanne D'Arc & E Site Access

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	28.2	1.6	25.4
Average Queue (m)	2.8	0.1	9.8
95th Queue (m)	14.7	1.6	19.4
Link Distance (m)	33.9	50.2	64.2
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 10: Trim Rd & Taylor Creek/Dairy

Movement

Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 11: Dairy/New Trim

Movement

SB

Directions Served T
Maximum Queue (m) 21.7
Average Queue (m) 0.7
95th Queue (m) 21.4
Link Distance (m) 218.0
Upstream Blk Time (%) 0
Queuing Penalty (veh) 0
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 15:

Movement

Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 17: Hwy-174

Movement	EB	EB	EB	WB
Directions Served	T	T	R	T
Maximum Queue (m)	26.0	138.9	140.7	400.9
Average Queue (m)	1.7	51.8	58.0	19.1
95th Queue (m)	26.2	160.3	168.2	188.5
Link Distance (m)	130.2	130.2	130.2	571.2
Upstream Blk Time (%)	0	9	11	0
Queuing Penalty (veh)	0	0	0	0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 208

SimTraffic Simulation Summary

Baseline

08/17/2020

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5044	5138	5066	5027	4998	5025	5069
Vehs Exited	5056	5109	5032	5019	5018	4972	5027
Starting Vehs	123	135	120	139	146	102	119
Ending Vehs	111	164	154	147	126	155	161
Travel Distance (km)	4240	4362	4308	4280	4237	4248	4306
Travel Time (hr)	146.4	150.6	154.9	144.8	142.2	136.3	140.5
Total Delay (hr)	82.5	85.5	90.9	80.8	78.6	72.8	76.1
Total Stops	4995	5504	4862	5072	4996	4954	5121
Fuel Used (l)	482.6	494.6	495.5	482.5	477.8	473.9	478.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5067	5002	5092	5051
Vehs Exited	5041	4974	5087	5034
Starting Vehs	107	110	120	119
Ending Vehs	133	138	125	140
Travel Distance (km)	4267	4245	4345	4284
Travel Time (hr)	147.0	140.5	140.4	144.4
Total Delay (hr)	82.9	76.7	75.6	80.2
Total Stops	5307	5049	5012	5087
Fuel Used (l)	484.1	477.9	486.1	483.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary

Baseline

08/17/2020

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5044	5138	5066	5027	4998	5025	5069
Vehs Exited	5056	5109	5032	5019	5018	4972	5027
Starting Vehs	123	135	120	139	146	102	119
Ending Vehs	111	164	154	147	126	155	161
Travel Distance (km)	4240	4362	4308	4280	4237	4248	4306
Travel Time (hr)	146.4	150.6	154.9	144.8	142.2	136.3	140.5
Total Delay (hr)	82.5	85.5	90.9	80.8	78.6	72.8	76.1
Total Stops	4995	5504	4862	5072	4996	4954	5121
Fuel Used (l)	482.6	494.6	495.5	482.5	477.8	473.9	478.9

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5067	5002	5092	5051
Vehs Exited	5041	4974	5087	5034
Starting Vehs	107	110	120	119
Ending Vehs	133	138	125	140
Travel Distance (km)	4267	4245	4345	4284
Travel Time (hr)	147.0	140.5	140.4	144.4
Total Delay (hr)	82.9	76.7	75.6	80.2
Total Stops	5307	5049	5012	5087
Fuel Used (l)	484.1	477.9	486.1	483.4

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (m)	54.3	43.8	56.6	43.0
Average Queue (m)	31.3	18.9	25.2	18.2
95th Queue (m)	53.7	34.1	44.3	33.7
Link Distance (m)	50.2	131.4	253.9	253.9
Upstream Blk Time (%)	4			
Queuing Penalty (veh)	12			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	150.3	197.3	188.7	25.4	66.0	63.3	61.0	49.6	8.1	110.3	103.1	83.4
Average Queue (m)	63.9	118.5	115.0	1.1	29.4	41.7	37.8	19.5	0.3	87.2	73.4	52.3
95th Queue (m)	124.9	178.5	174.4	11.2	55.0	58.1	55.8	44.0	5.6	117.1	105.9	88.8
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	0	3	41	0				1	0			
Queuing Penalty (veh)	0	10	2	0				0	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	84.5	36.8	28.7	103.2	36.9
Average Queue (m)	33.4	5.2	12.2	41.7	8.6
95th Queue (m)	65.8	24.9	25.9	85.0	32.4
Link Distance (m)				253.9	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	14	0		19	0
Queuing Penalty (veh)	97	0		59	0

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 3: Jeanne D'Arc & Old Trim

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	20.9	17.0	9.2
Average Queue (m)	12.0	9.5	4.1
95th Queue (m)	18.6	13.3	11.3
Link Distance (m)	145.1	42.8	96.9
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Jeanne D'Arc & W Site Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	4.9	8.8
Average Queue (m)	0.3	1.3
95th Queue (m)	3.1	6.3
Link Distance (m)	33.9	79.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Jeanne D'Arc & E Site Access

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	18.7	23.8
Average Queue (m)	2.2	9.5
95th Queue (m)	11.8	19.1
Link Distance (m)	33.9	64.2
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 10: Trim Rd & Taylor Creek/Dairy

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 11: Dairy/New Trim

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 15:

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 17: Hwy-174

Movement	EB	EB	EB	WB
Directions Served	T	T	R	T
Maximum Queue (m)	60.4	140.2	139.5	117.5
Average Queue (m)	2.4	45.1	45.4	5.8
95th Queue (m)	31.0	150.3	150.7	100.9
Link Distance (m)	130.2	130.2	130.2	571.2
Upstream Blk Time (%)	0	9	10	0
Queuing Penalty (veh)	0	0	0	0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 181

APPENDIX M

SIMTRAFFIC: QUEUE LENGTH SENSITIVITY ANALYSIS

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private AM No Storage Lanes

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	54.5	122.2	70.2
Average Queue (m)	44.8	65.9	34.7
95th Queue (m)	65.9	135.6	60.8
Link Distance (m)	50.2	135.2	253.9
Upstream Blk Time (%)	26	12	
Queuing Penalty (veh)	81	0	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	87.9	60.9	45.7	14.8	150.2	240.0	237.3	219.3	37.4	119.3	120.5	120.6
Average Queue (m)	43.4	29.8	23.1	0.5	55.4	158.7	156.7	145.0	7.3	113.3	110.7	102.9
95th Queue (m)	76.6	47.8	40.9	7.5	155.0	245.1	241.0	230.0	31.5	119.1	124.8	133.6
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)			3		0	21		56	0			
Queuing Penalty (veh)			0		0	23		13	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	105.9	7.1	157.4	244.7	37.5
Average Queue (m)	24.9	0.2	41.1	151.7	32.4
95th Queue (m)	81.2	3.6	137.5	266.3	50.9
Link Distance (m)				253.9	
Upstream Blk Time (%)				2	
Queuing Penalty (veh)				13	
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	1		0	56	2
Queuing Penalty (veh)	13		0	243	4

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private PM No Storage Lanes

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	54.2	38.8	222.6
Average Queue (m)	31.2	18.0	120.6
95th Queue (m)	53.6	31.4	247.2
Link Distance (m)	50.2	135.2	253.9
Upstream Blk Time (%)	5		2
Queuing Penalty (veh)	13		10
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	152.5	217.8	210.2	26.0	62.3	64.2	61.1	52.2	14.7	114.4	110.2	98.0
Average Queue (m)	71.4	125.1	120.8	1.0	29.8	42.3	37.2	19.8	0.6	92.1	79.1	60.2
95th Queue (m)	144.3	206.1	199.9	10.8	56.8	59.5	56.6	45.6	8.3	124.5	115.9	103.1
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	4	3	41	0				1	0			
Queuing Penalty (veh)	26	12	2	0				0	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	73.7	33.0	30.6	100.4	37.1
Average Queue (m)	32.0	3.8	12.2	38.5	7.8
95th Queue (m)	63.0	20.5	26.2	77.2	30.4
Link Distance (m)				253.9	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	12	0		19	0
Queuing Penalty (veh)	86	0		57	0

Queuing and Blocking Report

Baseline

08/17/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private PM Full NBL and NBR Lanes

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (m)	54.3	43.8	56.6	43.0
Average Queue (m)	31.3	18.9	25.2	18.2
95th Queue (m)	53.7	34.1	44.3	33.7
Link Distance (m)	50.2	131.4	253.9	253.9
Upstream Blk Time (%)	4			
Queuing Penalty (veh)	12			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	150.3	197.3	188.7	25.4	66.0	63.3	61.0	49.6	8.1	110.3	103.1	83.4
Average Queue (m)	63.9	118.5	115.0	1.1	29.4	41.7	37.8	19.5	0.3	87.2	73.4	52.3
95th Queue (m)	124.9	178.5	174.4	11.2	55.0	58.1	55.8	44.0	5.6	117.1	105.9	88.8
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	0	3	41	0				1	0			
Queuing Penalty (veh)	0	10	2	0				0	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	84.5	36.8	28.7	103.2	36.9
Average Queue (m)	33.4	5.2	12.2	41.7	8.6
95th Queue (m)	65.8	24.9	25.9	85.0	32.4
Link Distance (m)				253.9	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	14	0		19	0
Queuing Penalty (veh)	97	0		59	0

Queuing and Blocking Report

Baseline

08/21/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private 50m NBR Storage

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (m)	53.4	48.9	138.5	53.7
Average Queue (m)	32.5	19.5	31.0	20.7
95th Queue (m)	55.7	37.2	85.2	42.1
Link Distance (m)	50.2	131.4	253.9	
Upstream Blk Time (%)	7		0	
Queuing Penalty (veh)	18		0	
Storage Bay Dist (m)				50.0
Storage Blk Time (%)			2	0
Queuing Penalty (veh)			4	1

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	157.3	227.2	216.3	18.4	56.7	64.0	63.6	57.2	27.6	113.6	100.9	78.3
Average Queue (m)	72.7	126.8	124.3	0.6	27.9	42.4	38.8	23.5	1.3	86.9	71.9	49.9
95th Queue (m)	142.8	219.3	212.3	8.4	52.3	59.4	59.4	51.7	12.4	117.7	101.7	78.4
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	1	5	40	0				2	0			
Queuing Penalty (veh)	8	17	2	0				1	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	76.2	37.0	56.3	108.4	37.2
Average Queue (m)	31.5	4.2	13.0	42.9	9.3
95th Queue (m)	58.7	22.1	36.7	91.7	33.5
Link Distance (m)				253.9	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	13	0		21	0
Queuing Penalty (veh)	89	0		63	0

Queuing and Blocking Report

Baseline

08/21/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private 60m NBR Storage

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (m)	54.0	43.1	114.6	49.3
Average Queue (m)	34.3	19.0	28.3	19.7
95th Queue (m)	57.7	35.1	73.1	39.5
Link Distance (m)	50.2	131.4	253.9	
Upstream Blk Time (%)	8		0	
Queuing Penalty (veh)	22		0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)			1	0
Queuing Penalty (veh)			2	0

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	151.2	194.1	186.5	18.2	60.9	67.4	64.0	57.2	22.4	115.7	107.9	86.8
Average Queue (m)	62.0	120.1	118.6	0.8	28.7	42.4	38.0	20.3	1.1	87.3	73.5	51.8
95th Queue (m)	122.3	173.1	171.0	9.8	53.1	61.8	59.1	48.5	11.7	119.0	104.8	81.7
Link Distance (m)		571.2	571.2			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	0	3	42	0				1	0			
Queuing Penalty (veh)	0	9	2	0				1	0			

Intersection: 2: New Trim & Hwy-174

Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	71.1	34.7	30.8	99.4	36.9
Average Queue (m)	30.7	4.4	13.1	38.7	7.1
95th Queue (m)	56.7	21.9	26.3	77.7	29.1
Link Distance (m)				253.9	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	13	0		19	0
Queuing Penalty (veh)	90	0		57	0

Queuing and Blocking Report

Baseline

08/21/2020

Intersection: 1: New Trim & Jeanne D'Arc/Inlet Private 60m NBL Storage

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (m)	54.5	40.6	57.8	99.7
Average Queue (m)	31.9	17.8	28.1	21.8
95th Queue (m)	54.6	31.8	49.9	65.9
Link Distance (m)	52.0	133.3		254.2
Upstream Blk Time (%)	5			0
Queuing Penalty (veh)	13			0
Storage Bay Dist (m)			60.0	
Storage Blk Time (%)			1	0
Queuing Penalty (veh)			2	0

Intersection: 2: New Trim & Hwy-174

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	T	R	L	L	L
Maximum Queue (m)	140.9	198.4	199.0	25.8	56.8	68.7	66.1	52.7	19.2	114.3	106.4	91.6
Average Queue (m)	67.8	126.1	124.6	1.3	28.1	42.1	37.9	20.0	0.8	90.4	75.9	54.1
95th Queue (m)	133.4	207.4	203.8	12.7	49.8	60.4	58.7	46.0	9.1	121.6	108.5	88.9
Link Distance (m)		571.3	571.3			701.9	701.9	701.9				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	150.0			30.0	150.0				30.0	200.0	200.0	200.0
Storage Blk Time (%)	0	5	41	0				1	0			
Queuing Penalty (veh)	0	16	2	0				1	0			

Intersection: 2: New Trim & Hwy-174

























Movement	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R
Maximum Queue (m)	78.4	36.8	32.3	103.3	37.2
Average Queue (m)	32.3	3.8	12.9	42.4	9.9
95th Queue (m)	61.8	20.8	27.9	86.6	35.2
Link Distance (m)				254.2	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0	150.0		30.0
Storage Blk Time (%)	13	0		22	0
Queuing Penalty (veh)	87	1		66	0

APPENDIX N

SYCNHRO: FUTURE CONDITIONS IF MODE SHARE TARGETS NOT MET

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Tod not met 2029 AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	356	5	114	1492	26	1086	87	61	54	186	473
Future Volume (vph)	238	356	5	114	1492	26	1086	87	61	54	186	473
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.094			0.539			0.950			0.950		
Satd. Flow (perm)	168	3390	1180	558	4871	1460	2064	1784	1315	1074	1784	1286
Satd. Flow (RTOR)			279			279			279			330
Lane Group Flow (vph)	238	356	5	114	1492	26	1086	87	61	54	186	473
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	20.0	50.8		16.8	47.6		37.0	45.6		16.8	25.4	
Total Split (%)	15.4%	39.1%		12.9%	36.6%		28.5%	35.1%		12.9%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	59.3	44.1	130.0	48.9	40.4	130.0	29.8	42.0	130.0	8.6	18.0	130.0
Actuated g/C Ratio	0.46	0.34	1.00	0.38	0.31	1.00	0.23	0.32	1.00	0.07	0.14	1.00
v/c Ratio	0.99	0.31	0.00	0.40	0.99	0.02	0.99	0.15	0.05	0.48	0.75	0.37
Control Delay	89.9	32.8	0.0	25.1	64.6	0.0	75.2	34.2	0.1	72.6	73.4	0.8
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	89.9	32.8	0.0	25.1	64.6	0.0	75.2	34.2	0.1	72.6	73.4	0.8
LOS	F	C	A	C	E	A	E	C	A	E	E	A
Approach Delay		55.2			60.8			68.6			25.2	
Approach LOS		E			E			E			C	
Queue Length 50th (m)	45.8	35.5	0.0	16.5	139.0	0.0	99.0	16.5	0.0	13.5	46.5	0.0
Queue Length 95th (m)	#99.2	48.4	0.0	28.0	#172.7	0.0	#129.5	29.9	0.0	27.3	#80.1	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	241	1148	1180	293	1513	1460	1095	576	1315	129	247	1286
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	0.99	0.31	0.00	0.39	0.99	0.02	0.99	0.15	0.05	0.42	0.75	0.37

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 56.2

Intersection LOS: E

Intersection Capacity Utilization 104.3%

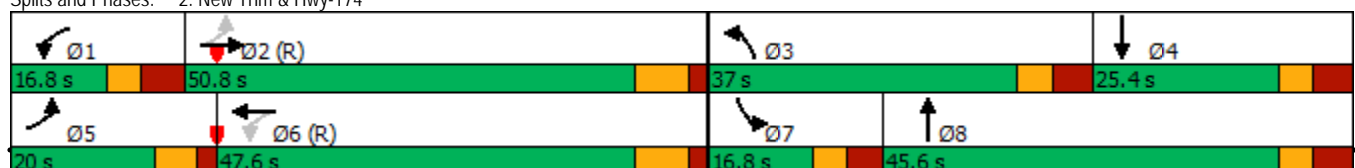
ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.




Splits and Phases: 2: New Trim & Hwy-174



1: New Trim & Jeanne D'Arc/Inlet Private





Intersection




Intersection Delay, s/veh	15.3
Intersection LOS	C




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	416	295	9	262	103
Future Vol, veh/h	5	416	295	9	262	103
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	416	295	9	262	103
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.7	14.5	16.6
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	72%	0%	97%
Vol Thru, %	0%	1%	3%
Vol Right, %	28%	99%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	365	421	304
LT Vol	262	0	295
Through Vol	0	5	9
RT Vol	103	416	0
Lane Flow Rate	365	421	304
Geometry Grp	1	1	1
Degree of Util (X)	0.584	0.58	0.494
Departure Headway (Hd)	5.758	4.961	5.85
Convergence, Y/N	Yes	Yes	Yes
Cap	624	724	614
Service Time	3.81	3.018	3.911
HCM Lane V/C Ratio	0.585	0.581	0.495
HCM Control Delay	16.6	14.7	14.5
HCM Lane LOS	C	B	B
HCM 95th-tile Q	3.8	3.8	2.7

























Intersection												
Intersection Delay, s/veh	8											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	133	0	0	161	20	0	0	0	10	0	4
Future Vol, veh/h	10	133	0	0	161	20	0	0	0	10	0	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	2	2	2	2	2	2	2
Mvmt Flow	10	133	0	0	161	20	0	0	0	10	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB			NB		SB		
Opposing Approach	WB				EB			SB		NB		
Opposing Lanes	1				1			1		1		
Conflicting Approach Left	SB				NB			EB		WB		
Conflicting Lanes Left	1				1			1		1		
Conflicting Approach Right	NB				SB			WB		EB		
Conflicting Lanes Right	1				1			1		1		
HCM Control Delay	8				8.1			0		7.7		
HCM LOS	A				A			-		A		
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		7%		0%		71%					
Vol Thru, %	100%		93%		89%		0%					
Vol Right, %	0%		0%		11%		29%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		143		181		14					
LT Vol	0		10		0		10					
Through Vol	0		133		161		0					
RT Vol	0		0		20		4					
Lane Flow Rate	0		143		181		14					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.163		0.201		0.018					
Departure Headway (Hd)	4.642		4.107		3.998		4.594					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		869		894		784					
Service Time	2.643		2.152		2.04		2.594					
HCM Lane V/C Ratio	0		0.165		0.202		0.018					
HCM Control Delay	7.6		8		8.1		7.7					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		0.6		0.7		0.1					

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	139	169	0	15	9
Future Vol, veh/h	3	139	169	0	15	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	139	169	0	15	9
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	169	0	-	0	314	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1409	-	-	-	679	875
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	882	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1409	-	-	-	678	875
Mov Cap-2 Maneuver	-	-	-	-	678	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	882	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		10		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1409	-	-	-	741	
HCM Lane V/C Ratio	0.002	-	-	-	0.032	
HCM Control Delay (s)	7.6	0	-	-	10	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	152	163	111	270	6
Future Vol, veh/h	2	152	163	111	270	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	152	163	111	270	6
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	274	0	-	0	375	219
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1289	-	-	-	626	821
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1289	-	-	-	625	821
Mov Cap-2 Maneuver	-	-	-	-	625	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	872	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		15.2		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1289	-	-	-	628	
HCM Lane V/C Ratio	0.002	-	-	-	0.439	
HCM Control Delay (s)	7.8	0	-	-	15.2	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	2.2	

Lanes, Volumes, Timings
2: New Trim & Hwy-174

Tod not met 2029 PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	461	1405	5	130	598	51	539	182	151	43	151	303
Future Volume (vph)	461	1405	5	130	598	51	539	182	151	43	151	303
Satd. Flow (prot)	1695	3390	1517	1695	4871	1517	4780	1784	1517	1695	1784	1517
Flt Permitted	0.314			0.100			0.950			0.950		
Satd. Flow (perm)	549	3390	1180	169	4871	1460	1928	1784	1315	1151	1784	1286
Satd. Flow (RTOR)			269			269			269			275
Lane Group Flow (vph)	461	1405	5	130	598	51	539	182	151	43	151	303
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	25.2		12.5	25.2		12.2	25.4		11.9	25.4	
Total Split (s)	41.0	66.6		15.0	40.6		23.0	32.4		16.0	25.4	
Total Split (%)	31.5%	51.2%		11.5%	31.2%		17.7%	24.9%		12.3%	19.5%	
Yellow Time (s)	4.0	5.1		3.3	5.1		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.1		4.2	2.1		3.9	4.1		3.6	4.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	7.2		7.5	7.2		7.2	7.4		6.9	7.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	75.1	58.5	130.0	49.0	41.5	130.0	16.3	29.1	130.0	7.9	18.0	130.0
Actuated g/C Ratio	0.58	0.45	1.00	0.38	0.32	1.00	0.13	0.22	1.00	0.06	0.14	1.00
v/c Ratio	0.84	0.92	0.00	0.84	0.38	0.03	0.90	0.46	0.11	0.42	0.61	0.24
Control Delay	31.3	44.4	0.0	71.7	36.3	0.0	75.2	49.8	0.2	70.7	64.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	44.4	0.0	71.7	36.3	0.0	75.2	49.8	0.2	70.7	64.2	0.4
LOS	C	D	A	E	D	A	E	D	A	E	E	A
Approach Delay		41.1			39.8			56.9			25.9	
Approach LOS		D			D			E			C	
Queue Length 50th (m)	64.8	172.2	0.0	17.9	42.9	0.0	49.2	42.2	0.0	10.7	36.9	0.0
Queue Length 95th (m)	94.9	#208.3	0.0	#60.9	60.1	0.0	#70.8	66.3	0.0	23.1	59.4	0.0
Internal Link Dist (m)		572.1			692.6			218.7			259.5	
Turn Bay Length (m)	150.0		30.0	150.0		30.0	200.0		30.0	150.0		30.0
Base Capacity (vph)	625	1548	1180	155	1554	1460	599	399	1315	118	247	1286
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	0.74	0.91	0.00	0.84	0.38	0.03	0.90	0.46	0.11	0.36	0.61	0.24

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 39 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 42.4

Intersection LOS: D

Intersection Capacity Utilization 98.8%

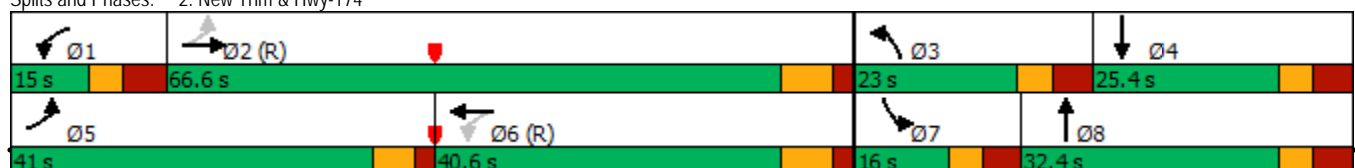
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: New Trim & Hwy-174



1: New Trim & Jeanne D'Arc/Inlet Private




Intersection

Intersection Delay, s/veh

42





Intersection LOS




E




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	320	183	3	434	252
Future Vol, veh/h	9	320	183	3	434	252
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	320	183	3	434	252
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.9	13.4	62.7
HCM LOS	B	B	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	63%	0%	98%
Vol Thru, %	0%	3%	2%
Vol Right, %	37%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	686	329	186
LT Vol	434	0	183
Through Vol	0	9	3
RT Vol	252	320	0
Lane Flow Rate	686	329	186
Geometry Grp	1	1	1
Degree of Util (X)	1.019	0.521	0.346
Departure Headway (Hd)	5.349	5.696	6.807
Convergence, Y/N	Yes	Yes	Yes
Cap	679	628	532
Service Time	3.409	3.785	4.807
HCM Lane V/C Ratio	1.01	0.524	0.35
HCM Control Delay	62.7	14.9	13.4
HCM Lane LOS	F	B	B
HCM 95th-tile Q	16.8	3	1.5

Intersection												
Intersection Delay, s/veh	8.3											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	217	0	0	121	8	0	0	0	13	0	5
Future Vol, veh/h	9	217	0	0	121	8	0	0	0	13	0	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	217	0	0	121	8	0	0	0	13	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	8.5				7.9				0			
HCM LOS	A				A				-			
Lane	NBLn1		EBLn1		WBLn1		SBLn1					
Vol Left, %	0%		4%		0%		72%					
Vol Thru, %	100%		96%		94%		0%					
Vol Right, %	0%		0%		6%		28%					
Sign Control	Stop		Stop		Stop		Stop					
Traffic Vol by Lane	0		226		129		18					
LT Vol	0		9		0		13					
Through Vol	0		217		121		0					
RT Vol	0		0		8		5					
Lane Flow Rate	0		226		129		18					
Geometry Grp	1		1		1		1					
Degree of Util (X)	0		0.256		0.147		0.023					
Departure Headway (Hd)	4.722		4.07		4.097		4.673					
Convergence, Y/N	Yes		Yes		Yes		Yes					
Cap	0		879		868		771					
Service Time	2.722		2.111		2.158		2.673					
HCM Lane V/C Ratio	0		0.257		0.149		0.023					
HCM Control Delay	7.7		8.5		7.9		7.8					
HCM Lane LOS	N		A		A		A					
HCM 95th-tile Q	0		1		0.5		0.1					

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	217	124	0	6	4
Future Vol, veh/h	10	217	124	0	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	217	124	0	6	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	124	0	-	0	361	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1463	-	-	-	638	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1463	-	-	-	633	927
Mov Cap-2 Maneuver	-	-	-	-	633	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	802	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		10		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1463	-	-	-	725	
HCM Lane V/C Ratio	0.007	-	-	-	0.014	
HCM Control Delay (s)	7.5	0	-	-	10	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	216	122	316	112	2
Future Vol, veh/h	7	216	122	316	112	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	216	122	316	112	2
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	438	0	-	0	510	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	230	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1122	-	-	-	523	759
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1122	-	-	-	519	759
Mov Cap-2 Maneuver	-	-	-	-	519	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	808	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		13.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1122	-	-	-	522	
HCM Lane V/C Ratio	0.006	-	-	-	0.218	
HCM Control Delay (s)	8.2	0	-	-	13.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.8	