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MacEwan Site
Rezoning and District Plan Amendment
11520 Ellerslie Road, Edmonton AB
Mobility Assessment
FINAL REPORT

Version 6.3

Prepared for
Stantec

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CORPORATE AUTHORIZATION

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1. INTRODUCTION

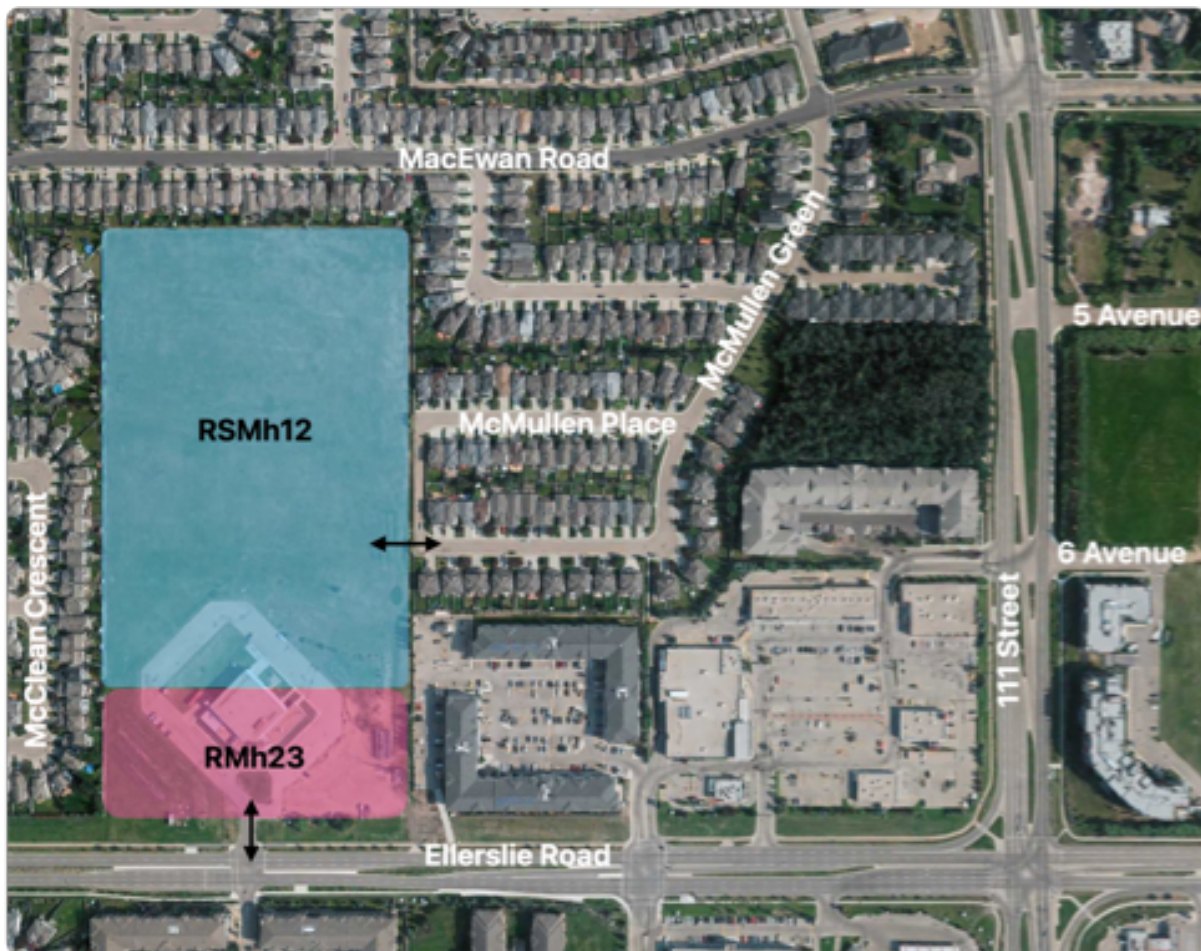
1.1. Preamble

Stantec, in partnership with Qualico and Assisted Care Services Inc., is in the process of seeking rezoning and subdivision approvals for an approximately 8.11-hectare parcel of land in the MacEwan neighbourhood of the City of Edmonton. The site is legally described as Lot B, Plan 1548MC, and is located north of Ellerslie Road and south of MacEwan Road SW, between 119 Street and 111 Street. The municipal address is 11520 – Ellerslie Road SW.

The proposed rezoning is from an Urban Facilities (UF) zone to a mix of RSMh12 and RMh23 zones, which is anticipated to be subdivided along the north limit of the RMh23 zone.

The site context, adjacent roadway network, and general study area are illustrated in **Exhibit 1.1**.

Exhibit 1.1: Site and Study Area



1.2. Study Need and Scope

The City of Edmonton (Edmonton) requested that a Traffic Impact Assessment (TIA) be prepared in support of the rezoning application and District Plan amendment.

HTCI submitted a scope of work to the City in May 2025, which is reproduced in **Appendix A**. The City generally accepted this scope, with a number of additional requirements and notes:

- Collect one 24-hour weekday traffic count at the intersection of MacEwan Road and 111 Street;
- Include the intersections of MacEwan Road and 111 Street, and Ellerslie Road and 111 Street in the microsimulation analysis;
- Consider site integration with the neighbourhood as outlined in District Policy 2.4.9.1; and
- Include pending area developments within background growth projections (based on historic growth patterns).

In general, this TIA considers the following:

- Existing and future area transportation networks, including active and transit modes networks;
- The review of existing multimodal volumes and operations on study area roadways, which generally considers the area bounded by Ellerslie Road, MacEwan Road, 111 Street, the site, and the local roadway network to the northeast of the site (collectively referred to as the McMullens); and
- A qualitative and quantitative commentary of potential development impacts on future traffic operations at study intersections, roadways, and alley intersections, including recommendations for potential pedestrian crossing or traffic control improvements.

1.3. Study Methodology

The study methodology employed represents a combination of multi-modal plan development along with traditional traffic impact analysis. The study adheres to the City of Edmonton's TIA and Infill Development guidelines, recognizing that this development is taking place within a relatively mature context. In addition to reviewing the potential impacts on the adjacent public transportation infrastructure, the study considers the transportation interface between the site and the adjacent community.

The methodology recognizes and acknowledges that growth within Edmonton cannot be evaluated solely on its impact on road capacity and intersection operations. The methodology acknowledges that Ellerslie Road and 111 Street represent major travel corridors. For these reasons, transportation impact studies must identify program and infrastructure requirements and improvements necessary to promote the use of the active mode network.

1.4. Report Organization

In addition to this introductory section, this report contains five chapters. A summary of existing and future area conditions, including a review of roadway, parking, transit, bicycle facilities pedestrian movements, is included in **Chapter Two**. This background information helped inform the preparation of the mobility assessment.

Chapter Three reviews a number of the key land use and mobility characteristics associated with the development parcel and preliminary information regarding the multi-storey building being considered upon rezoning approval.

Chapter Four includes commentary on the projected traffic characteristics associated with the development parcels, while **Chapter Five** includes the traffic assessment. **Chapter Six** provides a summary of the report findings.

2. AREA CONTEXT

2.1. Land Use

The development site is located in southwest Edmonton within the MacEwan neighbourhood and the Southwest Planning District. The subject site is partially developed. The southern portion, approximately one-third of the site, is occupied by a church (Christ The Way Seventh-day Adventist Church). A cellular service tower is also located in the southeastern portion of the site, with access to the tower appearing to exist off of Ellerslie Road.

MacEwan is largely a fully developed neighbourhood. The subject site represents the final (partially) undeveloped parcel of land in the immediate study area.

To the immediate west and north of the site are generally lower-density residential uses. There is, however, no connectivity between the site and these areas. Lower-density residential land uses are also located to the east of the subject site, with connectivity potential through the local roadway network. Medium-density residential developments are also located to the east and to the south of the subject parcel. There are no schools in the MacEwan neighbourhood.

2.2. Roadway Network

The development parcel is located along Ellerslie Road, a major arterial roadway that runs in an east-west direction across much of south Edmonton. An all-directional access to Ellerslie Road into the parcel was constructed and is located opposite a single medium-density residential site south of Ellerslie Road. The intersection is presently supported by a half (pedestrian) traffic signal.

Though not presently configured, the local roadway network to the east of the site is arranged in a way that would support a connection or connections into the site. This is investigated in detail in **Section 3** and **Section 5** of the report.

Beyond the site, MacEwan Road is an east-west collector roadway that provides local access to MacEwan with arterial connections to Ellerslie Road (west of the site access) and 111 Street (east of the site access).

Ellerslie Road is a major east-west arterial roadway that will eventually be widened to six lanes (which the City of Edmonton is responsible for and timing for which will depend on factors such as volumes and priorities). 111 Street is a north-south arterial that provides connectivity to Anthony Henday Drive, central Edmonton to the north, and southeastern Heritage Valley to the south.

Virtual and on-site investigations of the site and its surroundings were conducted to establish a database of the existing conditions. Several roadways are likely to be used as vehicular routes to the development parcel. **Table 2.1** summarizes the general operating characteristics of each street.

Table 2.1: Existing Roadway Characteristics Adjacent to Site

Roadway	Classification	Cross-Section		Posted Speed	Facilities			
		Lanes	Median		Parking	Bike Route ¹	Bike Lanes	Bus Stops
Ellerslie Road	Arterial	4	Yes	60 km/h	No	Yes	Shared pathway	No
111 Street	Arterial	4	Yes	60 km/h	No	Yes	Shared pathway	No
MacEwan Road	Collector	2	No	40 km/h	On-street	No	No	Yes
McMullen Place	Local	2	No	40 km/h	On-street	No	No	No
McMullen Green	Local	2	No	40 km/h	On-street	No	No	No
McMullen Way	Local	2	No	40 km/h	On-street	No	No	No

2.3. Pedestrian and Cycling Network

A relatively robust pedestrian network exists in the immediate site area, though potential site integration is limited in the west and north directions due to existing development patterns.

A shared pathway runs along the north side of Ellerslie Road and the west side of 111 Street (south of MacEwan Road). Sidewalks are generally provided on both sides of local and collector streets within the MacEwan neighbourhood. A walkway connection exists between McMullen Green and the significant commercial area at the northwest corner of the intersection of Ellerslie Road and 111 Street. Other features within the study area include:

- A half (pedestrian) signal on the west leg of the existing Ellerslie Road site access intersection;
- A signed and marked crossing on the east leg of the intersection of McMullen Green and MacEwan Road; and
- Ellerslie Road and 111 Street form part of the 'District Connector' city-wide bicycle network.

Discussion of how the site will integrate with these features and provide new connectivity for existing residents in MacEwan is discussed in Section 3.2

2.4. Transit Network

Transit connections near the site were reviewed from the City system mapping on the City website (dated as of April 27, 2025). Bus service exists immediately adjacent to the site on Ellerslie Road. Bus routes 721 and 700X both stop at this location. Bus route 719 runs within the MacEwan neighbourhood on MacEwan Road, and bus route 722 runs along 111 Street. Walking distances to these stops are presented in **Exhibit 3.3**.

The City of Edmonton is investing in transit in general alignment with the Mass Transit Strategy that was developed alongside City Plan. In the vicinity of the site, several improvements to the network are associated with the 1.25 million scenario of City Plan, and are anticipated to come online in the next few years:

- Extension of the Capital Line to the Heritage Valley Park and Ride; and
- The R3 rapid city-wide district route along Ellerslie Road

¹ <https://www.edmonton.ca/sites/default/files/public-files/EdmontonBikeMap.pdf?cb=1748033179>

While construction of the Capital Line extension is underway, the timelines for implementation of the rapid city-wide route are not clear. Details on the City's website suggest that work to determine the route alignments (which streets the buses will run on) is underway for the district routes².

2.5. Traffic Data and Growth

Twenty four-hour all modes turning movement counts were completed at three of the four study intersections on Thursday, May 22, 2025:

1. Ellerslie Road and Site Access/Rutherford Gate
2. MacEwan Road and McMullen Green
3. MacEwan Road and 111 Street

These traffic counts are supplemented by the City's rich set of historic data along Ellerslie Road and 111 Street available on the City's *AAWDT Volume Flow Map*. This data is summarized graphically in **Exhibit 2.1**.

Ellerslie Road

Traffic volumes east of the study site access have been between 17,000 – 21,000 vehicles per day over the last ten years (noting that the 2025 volume is measured slightly west of the City's count location). No discernable trend (other than a Covid-related decrease in 2020 and 2021) is present. Future widening of Ellerslie Road to six lanes is a City responsibility, the timing of which will be based on traffic volumes and priorities.

111 Street

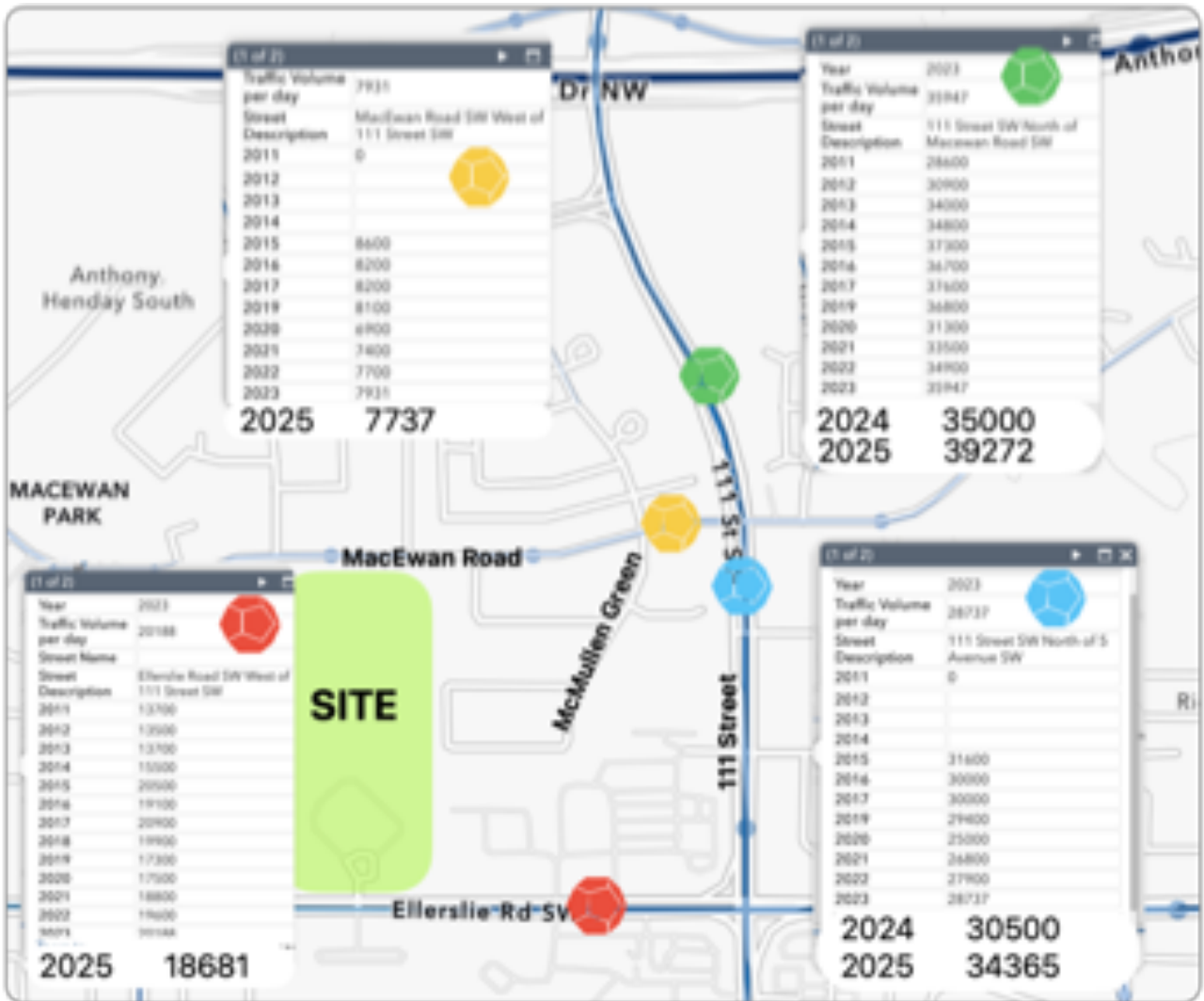
Traffic volumes north of MacEwan Road have been between 35,000 – 37,000 vehicles per day over the last ten years, other than a Covid-related decrease in 2020 and 2021. However, the turning movement count for this study measured 39,272 vehicles on 111 Street in a comparable location. Given the relative stability in this location, some of this increase in traffic may be related to other factors. Ongoing construction activity in the general area, including Capital Line-related on 111 Street north of Anthony Henday Drive and Ellerslie Road widening west of 141 Street, may have influenced traffic somewhat. The 2025 traffic volume is seen as valid, but not indicative of a new overall growth trend along 111 Street.

MacEwan Road

Traffic volumes on MacEwan Road west of 111 Street are stable and reflective of a developed neighbourhood.

² [Bus-based Mass Transit for 1.25 Million People](#), City of Edmonton (retrieved June 2025)

Exhibit 2.1: Historic and Current Daily Volumes



2.6. Pedestrian and Bicycle Data

Active modes data was collected as part of the twenty-four-hour traffic counts. The full dataset has been provided to the City as part of this study. The findings below all reference total crossings observed over the twenty-four-hour count period.

Ellerslie Road and Site Access/Rutherford Gate

- A total of 61 crossings were observed at the west leg, which is supported by a pedestrian signal. No crossings occurred on the unsupported east leg;
- 94 and 77 crossings were observed on the north and south legs, respectively. A portion of these crossings are most likely associated with the bus stops located at the intersection; and
- Cyclist activity at the intersection was low, with the majority (19 or 66%) of crossings on the south leg.

MacEwan Road and McMullen Green

- The majority of crossings (190) occurred at the east leg, which is supported by a signed and marked pedestrian crossing. The City has identified that this crossing will be upgraded to a rapid flashing beacon sometime in 2025;
- A much lower number of crossings were observed on the other intersection legs, including 31 crossings on the unmarked west leg; and
- Cycling activity at the intersection was very low.

MacEwan Road and 111 Street

- Pedestrian activity was observed on all legs of the intersection. The highest number of crossings (161) occurred at the north leg, with other crossings seeing approximately half of that amount. At least some crossings are most likely associated with bus stops located at the intersection; and
- 50 cyclists were observed on the east leg. These crossings may be part of a longer cycling trip, as there is no cycling facility on the west side of 111 Street north of MacEwan Road. The second highest number of crossings was at the north leg (21)

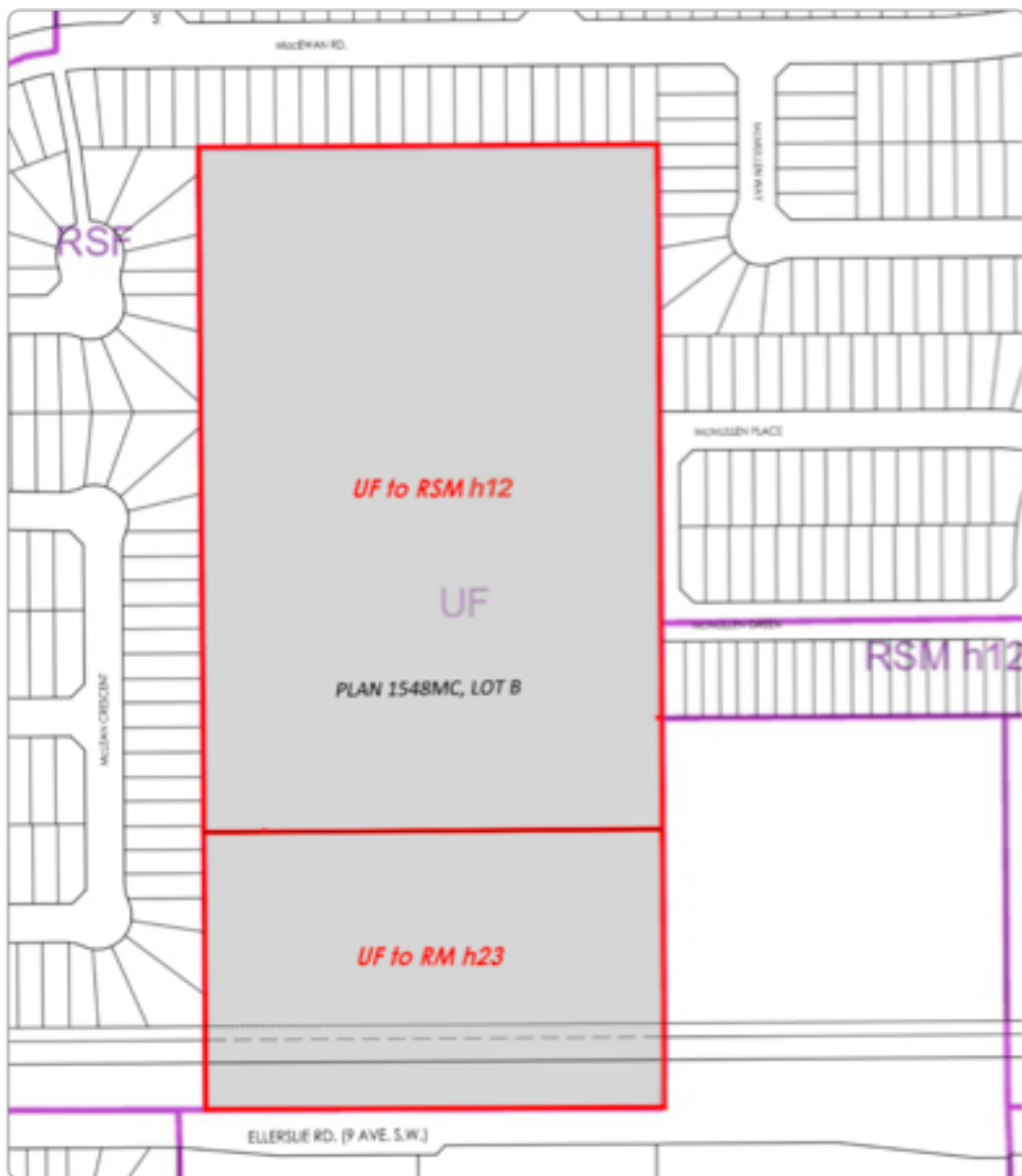
3. PROPOSED DEVELOPMENT

3.1 Description

At the time of preparing this study, a specific development site plan has not been advanced. A zoning figure has been prepared and is shown below in **Exhibit 3.1**. The actual design of the site will be determined at the development permit process, subsequent to the zoning and subdivision stages.

The southern portion of the site (approximately 2.04 ha) is proposed to be RMh23 zoning. The larger northern section (approximately 6.07 ha) is proposed to be RSMh12 zoning. At this time, only residential uses are envisioned for the site.

Exhibit 3.1: Proposed Zoning Plan



3.2 Site Access and Connectivity

The site will have two access points to the existing public roadway system. The primary access will be to Ellerslie Road at the existing site access location. This access is seen as the primary access, given the arterial classification of Ellerslie and its proximity to the higher-density land uses of the site. A second access will be to McMullen Green at its current terminus at the east lot line of the development site. A view of each access is shown in **Exhibit 3.2**.

Exhibit 3.2: Site Access Points



Vehicle circulation is expected to be via a series of roadways similar to contemporary multi-unit developments in Edmonton. It is expected (and recommended) that sidewalks will be provided alongside these roadways in a manner similar to existing local roadways. Vehicle circulation within the site will ultimately be determined at the subdivision stage, recognizing that there are multiple mechanisms for achieving this.

Connectivity between the proposed RMh23 site and the RSMh12 site is planned to be publicly accessible. This vehicle connection would provide a path of travel between McMullen Green and Ellerslie Road. Given the roadway format proposed for the site (which will be designed for the efficiency of the site itself rather than neighbourhood connectivity), and the existing long-established public collector roadway connectivity (which are designed to move traffic safely and efficiently) within the neighbourhood (119 Street and MacEwan Road), this new connection is not anticipated to draw significant vehicle traffic from outside of the site. This connectivity is investigated in detail in **Section 4.2**.

To accommodate the anticipated traffic volumes anticipated on the primary connection between Ellerslie Road and McMullen Green, the roadway street elements (e.g. travel lanes, boulevards, sidewalks/shared pathways) will generally follow Complete Streets Design and Construction Standards guidance as follows (and as illustrated in **Exhibit 3.5**):

1. The north-south roadway between Ellerslie Road to the northern limit of the RMh23 site will be designed to achieve the functionality of an 'Enhanced Local' standard;
2. The 'Enhanced Local' will transition to a local roadway format at or north of the north lot line of the RMh23 site, with the transition occurring at an intersection which will include traffic calming;
3. Traffic calming features will be required on the 'Enhanced Local' at the first intersection from the Ellerslie Road arterial;
4. The connection east to McMullen Green will be designed to a local roadway format; and
5. A traffic calming gateway feature (or some other form of traffic calming) will be included at the site's intersection with McMullen Green.

Comprehensive site planning, including the roadway network, will occur at the subdivision and development permit stage. This planning will heed the above direction, recognizing that exact alignment and location of these roadways may vary as required to accommodate the myriad factors impacting site design.

The implications of this connection from a vehicle perspective are examined in detail in **Section 5** of this report. Active modes opportunities are investigated in **Section 3.3**.

The north-south road between McMullen Place and McMullen Green, which can be seen in **Exhibit 3.2** (right) above, appears to be in good condition. The road surface is approximately 6 m in width (approximately 8 m right-of-way) and does not provide access to individual properties; rather, it provides a connection between the two McMullen roadways. While the road could potentially provide an alley level of functionality and access to residential units within the site, it is not anticipated that this will be pursued. Should this be pursued at the development permit stage, both the existing condition and the width of the road are such that upgrades would not likely be required. However, the curb running along the west side of the road would need to be removed while maintaining appropriate drainage.

Finally, an existing access on Ellerslie Road provides access to a cell tower. This access is anticipated to be removed and relocated to internal in the site as part of the redevelopment.

3.3 Active Modes

Strong site integration with the existing pedestrian and bicycle network adjacent development will help to achieve the City's goals with respect to modal choice and supporting local trips for day-to-day activities.

Exhibit 3.3 illustrates potential walking and cycling destinations in proximity to the site. Both 400 m and 600 m walk/cycle sheds are shown, acknowledging that actual walking and cycling distances would vary depending on the route taken. District (bike) connectors are shown in red along the arterial roadways. A variety of destinations – commercial (blue), recreational/open space (green), institutional (white), and modal (cyan) – are all relatively close by.

Existing development patterns on the west and north side of the site restrict any new active modes connections. However, two connection points are available on the east side of the site. McMullen Green is planned as an all-modes connection. This connection establishes a link to the active modes/open space network within the neighbourhood, commercial at Ellerslie Corners, and transit along 111 Street.

Exhibit 3.3: Active Modes Catchment Areas

Establishing a walkway connection between the site and the terminus of McMullen Place would further improve the connectivity of the site, and more directly link it to Ellerslie Corners. Similarly, these connections provide another, potentially more direct, route to Ellerslie Road for existing residents in the McMullens area. Both of these connections are anticipated to support active modes of connectivity to the emerging Heritage Valley transit hub. **Exhibit 3.4** shows the existing walkway connection and McMullen Place streetscape.

Exhibit 3.4: McMullen Place Walkway Connection and Streetscape

By including these two connections to the east along with the Ellerslie Road site access, the site can successfully integrate into the surrounding urban structure and align with the City's strategic goals for an urban and connected city.

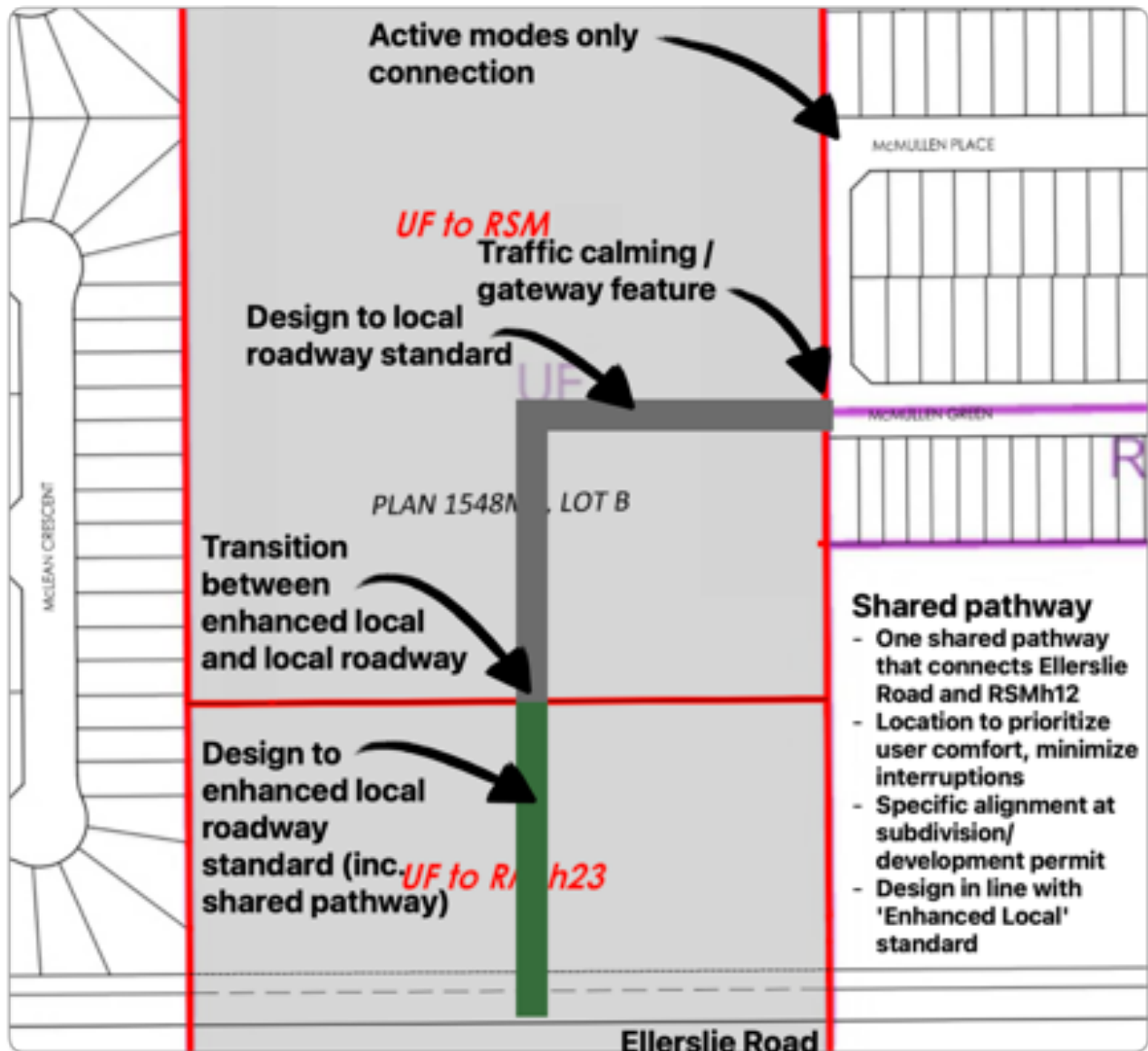
Within the site, it is recommended that a single shared pathway extend in a north-south alignment from Ellerslie Road into the site. It is recommended that the shared pathway extend through the proposed RMh23 site and ultimately connect to the walkway connections that connect to McMullen Green and McMullen Place.

Aligning this pathway with the main site access roadway would provide a direct connection to a safe crossing on Ellerslie Road. It would also help to support a vibrant main entryway, which the developer has indicated is desirable. However, this roadway will have intersecting access points to the east and west. It is recommended that a maximum of two access points intersect with the shared pathway within the RMh23 site. The pathway should otherwise be continuous and unobstructed. The alignment, extent, and connectivity of the shared pathway should maximize the safety and comfort of its users. These details will be determined at the development permit stage when site-specific layouts are available.

It is recommended and understood that public accessibility will be provided between Ellerslie Road and the site's connections at McMullen Green and McMullen Place. The design and construction of these publicly accessible facilities (i.e., the shared pathway and sidewalks/walkways) should be informed by the City's *Complete Streets Design and Construction Standards*. Facilities outside of this core corridor should be designed per the City's typical practice for multifamily sites under RSMh12 and RMh23 zoning.

Exhibit 3.5 illustrates how the above measures will help to successfully integrate the site with the larger network.

Exhibit 3.5: On-site Active Modes Connectivity



3.4 Parking

Off-street vehicle parking (within the site) will be provided according to zoning bylaw requirements. The actual parking supply and layout of parking will be determined at the development permit stage. It is anticipated that the parking supply will be based on market trends and that a sufficient supply will be provided such that no spillover onto adjacent local roadways occurs. No changes to the existing on-street parking regulations are proposed at this time. Off-street parking will be reviewed further at the development permit stage.

Similarly, bicycle parking will be provided according to zoning bylaw requirements. Per Table 8.5 of the *Zoning Bylaw*, one bicycle parking space per dwelling unit is required for multi-family developments greater than nine units (with 85-90% of these provided as long-term spaces). Inclusive bicycle parking will also be required.

3.5 Waste Management, Loading and Emergency Response

Waste management vehicles will need to access the site. Review of these maneuvers will occur at the development permit stage.

Emergency access to site is also required and is regulated within the City's *Design and Construction Standards*. Single access routes exceeding 120 m require a secondary emergency access. Accordingly, a connection to McMullen Green is required in part for emergency access. Emergency access, including swept path analysis, will be reviewed in detail at later stages of development.

3.6 Public Consultation

A public consultation process was included as part of the rezoning application. The process included a public open house held on November 5, 2025, and a digital Engaged Edmonton website, both of which gathered feedback from the public. Transportation themes from the consultation (and corresponding sections that discuss them in the report) included:

- Congestion on MacEwan Road at 111 Street (**Section 5.3, 5.5**)
- General congestion on surrounding arterial roadways (**Section 2.5, 5**)
- Emergency access and fire risks (**Section 3.5**)

4. TRAVEL DEMAND MODEL AND TRAFFIC GROWTH

4.1 Trip Generation

The development is anticipated to generate person-trip by various modes, including auto, bicycle, transit, and pedestrians. City of Edmonton trip rates established in its *Transportation Impact Assessment Guidelines (2016)* have been used to estimate trip-making activity.

At this time, the precise design of buildings and the number of units is unknown. It is understood that no commercial uses are being considered at this time. To estimate the number of units, densities for each of the proposed zones have been selected based on what the Client Group perceives as realistic for the site, including its own recent permit data.

A density of 175 units per hectare was initially identified for the RMh23 site. However, the City indicated that permit data for RMh23 sites larger than 0.5 hectares have densities between 195 and 235 units per hectare. Recognizing that zoning requirements for the RMh23 will require transition setbacks on the west side of the site, as well as the recommended active modes connectivity discussed in **Section 3.3**, a density of 205 units per hectare has been selected.

A density of 65 units per hectare is identified for the RSMh12 parcel. This is based on the intended lower-density mix of single-family homes and townhomes for this area, and is reflective of the small to medium scale of the zone and the lower height modifier being pursued.

These densities and the corresponding trip generation rates are summarized in **Table 4.1**, with the gross and net trip estimates following in **Table 4.2**.

Table 4.1: Site Trip Generation Rates

Land Use (LUC)	Units	AM Peak Hour	PM Peak Hour	Daily
RF5 (RSMh12)	410	0.46 / unit 21% in, 79% out	0.58 / unit 65% in, 35% out	6.59 / unit
RA7 & RA8 (RMh23)	420	0.34 / unit 17% in, 83% out	0.40 / unit 63% in, 37% out	5.81 / unit

Table 4.2: Gross Trip Generation Estimates

Land Use	AM Peak Hour			PM Peak Hour			Daily		
	Total	In	Out	Total	In	out	Total	In	Out
RSMh12/14	179	38	142	226	143	84	2570	1285	1285
RMh23	139	24	116	164	107	57	2382	1191	1191
Gross Trips	319	61	257	390	249	141	4952	2476	2476
Mode Split (15%)	-48	-9	-39	-59	-37	-21	-743	-371	-371
Net Trips	271	52	219	332	212	120	4209	2105	2105

The gross trip generation estimates summarized in **Table 4.2** reflect all trips anticipated if there were no significant influence from other factors such as the site location to commercial uses in the MacEwan neighbourhood, active transportation facilities along Ellerslie Road, and the proximity of significant higher-order transit.

The majority of the site is within 400 m walking distance to the Ellerslie Corner shopping centre, which includes a grocery store and many day-to-day amenities (banking, pharmacy, restaurants, etc.) that are considered part of a 15-minute district. Connectivity via McMullen Place and McMullen Green, and along Ellerslie Road, provides options for future residents.

The site is located approximately 1-1.5 km east of the Heritage Valley Park and Ride and future Capital Line LRT stop. While beyond a standard walking distance, this proximity, together with improvements to transit service levels along Ellerslie Road, is likely to influence travel patterns for this site over time.

In recognition of these factors, a fifteen percent mode split has been applied to the gross trip generation rates. This mode split brings this portion of MacEwan closer to higher mode split suburban neighbourhoods, such as Rutherford. The net trip generation estimates are also summarized in **Table 4.2**.

The redeveloped site could generate in the order of about 271 vehicle trips during the AM peak hour, 332 vehicle trips during the PM peak hour, and about 4,209 daily vehicle trips. This translates to approximately five or six vehicles every minute during the AM and PM peaks.

It is noted that an earlier version of this report with slightly different land-use, density, and mode split assumptions forecast 283/346 peak hour trips and 4,377 daily trips. The updated trips in **Table 4.2** are slightly less than the previous forecast due to a reduction in density in the RSMh12 parcel.

4.2 Trip Distribution and Assignment

The distribution of trips is based on the collected turning movement data at the study intersections, origin-destination data (included in **Appendix D**), as well as judgment on likely travel patterns to and from the site.

In general, trips to and from the RMh23 site have been assigned to the Ellerslie Road access due to its proximity and high degree of connectivity to the City's (and Provincial) roadway network. However, for trips that are heading north on 111 Street, it is anticipated that some vehicles may meander through the RSMh12 site to McMullen Green, and eventually to 111 Street (and a reverse of this on inbound trips).

Trips to and from the RSMh12 site have been assigned to both the Ellerslie Road access and to MacEwan Road (via McMullen Green) equally. Due to the road network within MacEwan, trips have only been assigned to MacEwan Road east of McMullen Green. Trips that would travel west on MacEwan Road (to access Ellerslie Road) are instead routed within the site to Ellerslie Road, which is a much shorter, more direct route.

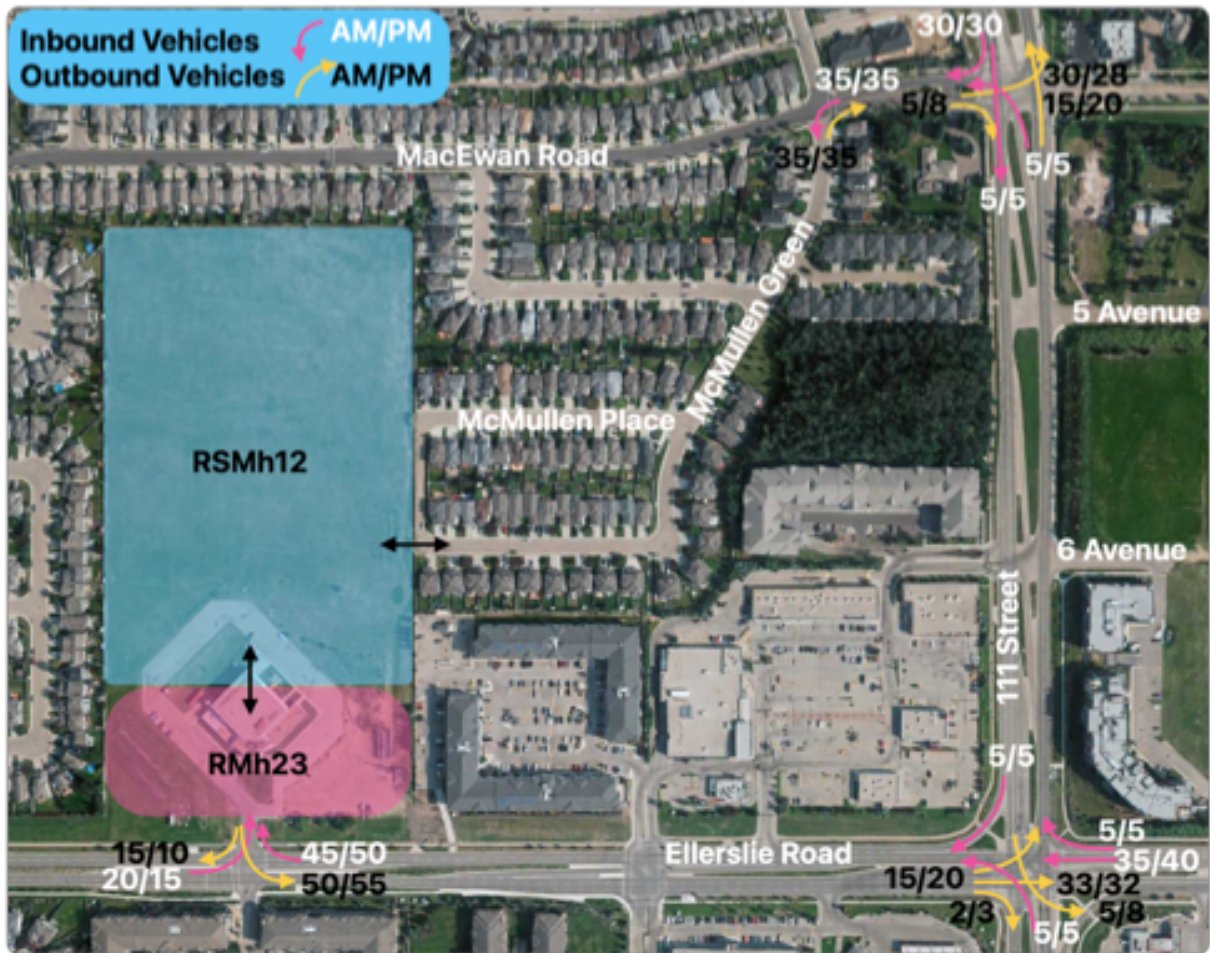
Overall, approximately 2/3 of site traffic is assigned to the Ellerslie Road access, and 1/3 to the McMullen Green access. This is considered realistic, in recognition that motorists typically prioritize speed, and the fastest route to the arterial network. A clear example of this is shown at the MacEwan Road and McMullen Green intersection. The northbound (south leg) movement in the morning is extremely biased to 111 Street at both peak periods. The fastest route to the arterial network for the entire site is via the Ellerslie Road access, with at least half of the units on the overall site anticipated to be within 140 m of Ellerslie Road. Additionally, the site design is anticipated to naturally orient towards Ellerslie Road.

Finally, traffic from the MacEwan neighbourhood, particularly McMullen Place and McMullen Green, could feasibly use the subject site to access Ellerslie Road. This would ultimately draw traffic away from MacEwan Road. However, given the existing significant bias towards 111 Street at McMullen Green, this is not

anticipated to be a significant draw. Routing existing neighbourhood traffic to Ellerslie Road suggests that site traffic should also be more heavily biased towards Ellerslie Road.

Further factors influencing this trend are discussed in **Section 5** of this report. The trip assignment is illustrated in **Exhibit 4.1**.

Exhibit 4.1: Site Traffic Assignment – Peak Hour



4.3 Site Traffic Assignment

The product of the net trips in **Table 4.2** and the site traffic percentages in **Exhibit 4.1** is the site traffic. Site traffic for the impacted movements at the study intersections is summarized in **Table 4.3**.

Table 4.3: Site Traffic

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
Ellerslie Road / Site Access	L/T/T/R			L/T/TR			LTR			LTR		
AM	11					25				113		34
PM	33					110				69		13
MacEwan Road / McMullen Green	LTR			LTR			LTR			LTR		
AM				19					79			
PM				77					44			
MacEwan Road / 111 Street	L/TR			L/TR			L/T/T/R			L/T/T/R		
AM	68		11				3	34			3	16
PM	35		10				11	25			11	66
Ellerslie Road / 111 Street	L/L/T/T/R			L/T/T/R			L/T/T/R			L/L/T/T/R		
AM	34	75	5		19	3	3			11		55
PM	25	40	4		88	11	11			10		11

4.4 Background Traffic Growth

Historic and current traffic volumes are discussed in **Section 2.5** of this report. Both Ellerslie Road and 111 Street have stable daily traffic volumes over the last ten years. However, traffic volumes on 111 Street were noticeably higher in the traffic count conducted for this study. These volumes may be inflated from construction activity; however, they are considered valid and not indicative of a new growth trend.

A one percent (compounded) growth rate applied to both Ellerslie Road and 111 Street provides coverage for any future growth. While conditions have been stable in spite of significant growth in the Heritage Valley area, a modest growth rate provides coverage for these critical roadways.

Regarding 111 Street, it is expected that the former Rugby Lands northeast of the intersection of Ellerslie Road and 111 Street will be redeveloped over time. By applying a 1% growth rate to the 2025 traffic volumes on 111 Street (which is about 10% higher than the ten-year trend), the 2032 background volumes increase by roughly 17% over the stable ten-year trend. This notable growth is expected to sufficiently reflect any redevelopment activity in the area. In fact, the Richford Transportation Impact Assessment by Invistec Consulting Ltd., June 2025, indicates that the total (post-development) daily volume on 111 Street south of 5 Avenue (and north of the new 6 Avenue extension) will be 34,900, aligning with the 2025 background volumes shown in Exhibit 2.1.

The 2022 City turning movement count for the intersection of Ellerslie Road and 111 Street is similarly grown by one percent each year, with through volumes on 111 Street, southbound left-turns, and westbound right-turns grown by two percent per year between 2022 and 2025 to reflect the abovementioned growth.

It is again recognized that the City is continuing to invest in transit in this area. As these investments come online and offer competitive travel time and convenience to vehicle travel, it is anticipated that some existing or potential future traffic could be diverted to transit.

5. TRAFFIC REVIEW

5.1 Analysis Assumptions

The capacity analysis was completed using Synchro 11.0 analysis software. Intersection operations are typically rated by two measures. The volume-to-capacity (v/c) ratio describes the extent to which the traffic volumes can be accommodated by the physical capacity of the road configuration and traffic control. A value (measured during the peak hour) less than 0.90 indicates that generally there is sufficient capacity and the projected traffic volumes can be accommodated at the intersection. A value between 0.90 and 1.0 suggests unstable operations may occur, and volumes are nearing capacity conditions. A calculated value over 1.0 indicates that traffic volumes are theoretically exceeding capacity. The second measure of performance, Level of Service (LOS), is based on the estimated average delay per vehicle among all traffic passing through the intersection. A low average delay merits a LOS A rating, while a large delay merits a LOS F (a LOS F is reached when vehicles experience an average delay greater than 50 seconds at an unsignalized intersection and a delay greater than 80 seconds at a signalized intersection).

As per the HCM 2010 methodology, assessment results for the unsignalized intersection assessed are reported for critical movements only. The following assumptions were used in the analysis:

- Saturation Flow Rate – 1,900 vehicles per hour (vph)
- Peak Hour Factor and %HV – as per existing count information

5.2 Existing (2025) Operations

Existing AM and PM traffic volumes were analyzed in Synchro to determine the background (2025) operations at the study intersections. **Tables 5.1 – 5.4** summarize the intersection operations under existing conditions. A brief discussion of each intersection follows.

Table 5.1: Ellerslie Road and Site Access – Existing (2025) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2025 Background Conditions - Unsignalized											
Geometry	L / TT / R			L / TTR			LTR			LTR		
Volume (vph)	5	729	6	11	367	5	8	5	30	5	5	5
v/c	0.01			0.01			0.13			0.06		
Delay (s)	8			9			17			19		
LOS	A			A			C			C		
95th Queue (m)	0			0			0			0		
		INTERSECTION DELAY (s):				1			INTERSECTION LOS:			A
	PM Peak Hour - 2025 Background Conditions - Unsignalized											
Geometry	L / TT / R			L / TTR			LTR			LTR		
Volume (vph)	5	567	15	39	1035	5	5	5	30	5	5	5
v/c	0.01			0.05			0.18			0.18		
Delay (s)	11			9			23			53		
LOS	B			A			C			F		
95th Queue (m)	0			0			1			1		
		INTERSECTION DELAY (s):				1			INTERSECTION LOS:			A

As expected, the Ellerslie Road and Site Access/Rutherford Gate intersection operates well with a half signal. The southbound afternoon peak delay is related to the lack of gaps on Ellerslie Road, given the significant westbound through volume.

Table 5.2: MacEwan Road and McMullen Green/McAllister Loop – Existing (2025) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			
Movement	L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour - 2025 Background Conditions - Unsignalized												
Geometry	LTR			LTR			LTR			LTR			
Volume (vph)	5	411	5	5	71	30	5	5	48	114	5	9	
v/c	0.00			0.00			0.12			0.41			
Delay (s)	8			8			13			22			
LOS	A			A			B			C			
95th Queue (m)	0			0			0			2			
		INTERSECTION DELAY (s):				5			INTERSECTION LOS:				A
	PM Peak Hour - 2025 Background Conditions - Unsignalized												
Geometry	LTR			LTR			LTR			LTR			
Volume (vph)	11	165	5	33	293	117	5	5	34	72	5	5	
v/c	0.01			0.03			0.08			0.29			
Delay (s)	8			8			11			21			
LOS	A			A			B			C			
95th Queue (m)	0			0			0			1			
		INTERSECTION DELAY (s):				3			INTERSECTION LOS:				A

The collector-local roadway intersection also operates well. Additional discussion of this intersection is included in **Section 5.3**. Factoring peak morning and afternoon traffic suggests existing daily traffic on McMullen Green south of MacEwan Road is 900. This volume is likely overstated as a minimum of 5 vehicles have been added to all movements for the microsimulation analysis. Several movements at this intersection were lower than 5 vehicles.

Table 5.3: MacEwan Road and 111 Street – Existing (2025) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2025 Background Conditions - Signalized											
Geometry	L / TR			L / TR			L / TT / R			L / TT / R		
Volume (vph)	488	7	72	47	5	158	25	1408	36	36	581	80
v/c	1.23	0.14		0.26	0.67		0.07	0.79	0.04	0.48	0.34	0.10
Delay (s)	151	7		38	45		12	28	1	41	13	3
LOS	F	A		D	D		B	C	A	D	B	A
95th Queue (m)	180	10		18	46		7	155	1	21	48	7
		INTERSECTION DELAY (s):				45			INTERSECTION LOS:		D	
	PM Peak Hour - 2025 Background Conditions - Signalized											
Geometry	L / TR			L / TR			L / TT / R			L / TT / R		
Volume (vph)	202	6	63	44	7	75	92	1094	64	124	1548	341
v/c	0.71	0.17		0.15	0.20		0.38	0.68	0.09	0.44	0.90	0.38
Delay (s)	41	8		24	8		12	20	3	12	29	4
LOS	D	A		C	A		B	B	A	B	C	A
95th Queue (m)	50	10		13	11		14	106	5	17	199	21
		INTERSECTION DELAY (s):				22			INTERSECTION LOS:		C	

The collector-arterial intersection shows movement delays during the morning peak. This is related to the high volume of vehicles/commuters leaving the MacEwan neighbourhood (and turning left). These conditions were observed during a site visit on June 12, 2025, which is reported on in **Section 5.3**.

Table 5.4: Ellerslie Road and 111 Street – Existing (2025) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2025 Background Conditions - Signalized											
Geometry	LL / TT / R			L / TT / R			L / TT / R			LL / TT / R		
Volume (vph)	319	702	56	97	196	256	71	783	310	279	265	177
v/c	0.82	0.69	0.10	0.44	0.26	0.53	0.17	0.79	0.54	0.81	0.21	0.27
Delay (s)	67	39	0	27	38	15	18	44	15	68	25	4
LOS	E	D	A	C	D	B	B	D	B	E	C	A
95th Queue (m)	64	106	0	26	33	41	18	123	51	57	34	14
	INTERSECTION DELAY (s):					37			INTERSECTION LOS:			D
	PM Peak Hour - 2025 Background Conditions - Signalized											
Geometry	LL / TT / R			L / TT / R			L / TT / R			LL / TT / R		
Volume (vph)	253	397	78	271	652	357	166	542	201	289	813	480
v/c	0.70	0.46	0.17	0.63	0.73	0.61	0.56	0.50	0.33	0.71	0.65	0.62
Delay (s)	62	40	3	30	46	15	25	36	6	60	35	12
LOS	E	D	A	C	D	B	C	D	A	E	C	B
95th Queue (m)	44	58	5	64	97	47	34	73	17	49	107	57
	INTERSECTION DELAY (s):					34			INTERSECTION LOS:			C

The major arterial-arterial intersection operates relatively well and consistently over both peak periods.

5.3 MacEwan Road and 111 Street

The microsimulation analysis at this intersection revealed delay and relatively extensive queueing occurring on eastbound MacEwan Road during the morning peak period. This was investigated on-site on June 12, 2025. **Exhibit 5.1** shows the queueing on MacEwan Road, with both left and right photos looking east towards the McMullen Green/McAllister Loop intersection.

Eastbound queues (those leaving the neighbourhood) were observed to extend back to the McMullen Green/McAllister Loop intersection on nearly every cycle, approximately 95 m (see **Exhibit 5.1** at right). This queue extends alongside the bus stop located at the east (far) side of the intersection. The transit stop is used by both Edmonton Transit and school buses. East of the intersection, MacEwan Road has a painted centreline with an approximate six-metre-wide eastbound carriageway. This width accommodates two lanes of traffic, which is clearly seen in **Exhibit 5.1** at left, and was observed to occur frequently.

Queues extended beyond the intersection (with motorists observed to leave a gap/not block the intersection) on roughly half of the cycles (see **Exhibit 5.1** at left). The longest queue observed stretched approximately 225 m, which is generally in line with the microsimulation 95th percentile estimate of 180 m. Notably, queues were able to clear on all but one cycle, where four or five vehicles were forced to wait (and cleared the next cycle).

Exhibit 5.1: Eastbound MacEwan Road Queueing

Given that queues were observed to clear on all but one cycle, it is thought that the delay (151 seconds) is somewhat overstated. Notwithstanding this, the demand for the eastbound left-turn movement is significant in the morning peak period.

Public feedback gathered through the application process (highlighted in **Section 3.6**) noted that existing queueing on MacEwan Road is in excess of what is noted above. It was commented that queues are longer in the winter months. It is possible that if such excessive queueing exists then a greater proportion of site traffic may use the primary Ellerslie Road site access rather than McMullen Green.

5.4 Background (2032) Operations

The anticipated 2032 background traffic volumes were also analyzed in Synchro to forecast baseline operations at the time of significant development of the site. **Tables 5.5 – 5.8** summarize the intersection operations under AM and PM peak hour 2032 background traffic conditions.

Table 5.5: Ellerslie Road and Site Access – Background (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Background Conditions - Unsignalized											
Geometry	L / TT / R			L / TTR			LTR			LTR		
Volume (vph)	5	782	6	12	393	5	9	5	32	5	5	5
v/c	0.01			0.02			0.15			0.07		
Delay (s)	8			10			18			21		
LOS	A			A			C			C		
95th Queue (m)	0			0			1			0		
	INTERSECTION DELAY (s):		1				INTERSECTION LOS:		A			
	PM Peak Hour - 2032 Background Conditions - Unsignalized											
Geometry	L / TT / R			L / TTR			LTR			LTR		
Volume (vph)	5	608	16	42	1110	5	5	5	32	5	5	5
v/c	0.01			0.05			0.22			0.23		
Delay (s)	12			9			27			68		
LOS	B			A			D			F		
95th Queue (m)	0			0			1			1		
	INTERSECTION DELAY (s):		1				INTERSECTION LOS:		A			

The Ellerslie Road and Site Access/Rutherford Gate intersection continues to operate well in the 2032 background horizon.

Table 5.6: MacEwan Road and McMullen Green/McAllister Loop – Background (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Background Conditions - Unsignalized											
Geometry	LTR			LTR			LTR			LTR		
Volume (vph)	5	411	5	5	71	30	5	5	48	114	5	9
v/c	0.00			0.01			0.12			0.41		
Delay (s)	8			8			13			22		
LOS	A			A			B			C		
95th Queue (m)	0			0			0			2		
		INTERSECTION DELAY (s):				5			INTERSECTION LOS:			A
	PM Peak Hour - 2032 Background Conditions - Unsignalized											
Geometry	LTR			LTR			LTR			LTR		
Volume (vph)	11	165	5	33	293	117	5	5	34	72	5	5
v/c	0.01			0.03			0.08			0.23		
Delay (s)	8			8			11			21		
LOS	A			A			B			C		
95th Queue (m)	0			0			0			1		
		INTERSECTION DELAY (s):				3			INTERSECTION LOS:			A

The collector-local roadway also continues to operate without delay in the 2032 background horizon.

Table 5.7: MacEwan Road and 111 Street – Background (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Background Conditions - Signalized											
Geometry	L / TR			L / TR			L / TT / R			L / TT / R		
Volume (vph)	488	7	72	47	5	158	25	1510	36	36	623	80
v/c	1.31	0.15		0.26	0.68		0.07	0.82	0.04	0.49	0.35	0.10
Delay (s)	183	7		38	47		12	37	1	41	13	3
LOS	F	A		D	D		B	D	A	D	B	A
95th Queue (m)	185	10		18	47		7	171	1	21	50	7
	INTERSECTION DELAY (s):					53			INTERSECTION LOS:			D
	PM Peak Hour - 2032 Background Conditions - Signalized											
Geometry	L / TR			L / TR			L / TT / R			L / TT / R		
Volume (vph)	202	6	63	44	7	75	92	1173	64	124	1660	341
v/c	0.72	0.18		0.16	0.21		0.38	0.72	0.09	0.47	0.96	0.38
Delay (s)	42	8		25	8		12	21	3	14	35	5
LOS	D	A		C	A		B	C	A	B	D	A
95th Queue (m)	50	10		13	11		13	115	5	19	217	23
	INTERSECTION DELAY (s):					26			INTERSECTION LOS:			C

The MacEwan Road and 111 Street intersection deteriorates in the 2032 background horizon (though some movements improve as a result of minor changes in signal timing). This is a result of the traffic growth on 111 Street (approximately 7%). Intersection delay increases by about 8 seconds during the morning peak, though overall LOS remains at D. The afternoon peak-operates with less delay.

Table 5.8: Ellerslie Road and 111 Street – Background (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Background Conditions - Signalized											
Geometry	LL / TT / R			L / TT / R			L / TT / R			LL / TT / R		
Volume (vph)	342	752	60	104	210	274	76	839	332	299	284	190
v/c	0.84	0.72	0.11	0.50	0.28	0.57	0.19	0.87	0.60	0.85	0.23	0.29
Delay (s)	67	40	0	29	38	17	19	50	19	73	26	5
LOS	E	D	A	C	D	B	B	D	B	E	C	A
95th Queue (m)	67	114	0	27	35	47	19	143	62	63	38	15
	INTERSECTION DELAY (s):						39			INTERSECTION LOS:		D
	PM Peak Hour - 2032 Background Conditions - Signalized											
Geometry	LL / TT / R			L / TT / R			L / TT / R			LL / TT / R		
Volume (vph)	272	425	84	291	699	382	178	581	215	309	872	515
v/c	0.74	0.49	0.18	0.69	0.79	0.66	0.64	0.53	0.34	0.77	0.69	0.68
Delay (s)	64	41	4	33	49	19	29	36	6	65	36	15
LOS	E	D	A	C	D	B	C	D	A	E	D	B
95th Queue (m)	47	62	6	68	105	59	37	78	17	53	117	74
	INTERSECTION DELAY (s):						36			INTERSECTION LOS:		D

The Ellerslie Road and 111 Street intersection continues to operate relatively well in spite of the growth in arterial traffic, though overall intersection LOS drops to a D.

5.5 Total Traffic (2032) Operations

The total AM and PM traffic volumes were analyzed in Synchro to determine the total (2032) operations at the study intersections. The total traffic conditions are based on an older, slightly higher trip generation scenario. These operations are still considered broadly representative of the total traffic scenario, though slightly (approximately four percent) conservative. **Tables 5.9 – 5.12** summarize the intersection operations under total traffic conditions. A brief discussion of each intersection follows.

Table 5.9: Ellerslie Road and Site Access – Total (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Total Traffic Conditions - Signalized											
Geometry	L / TT / R			L / TT / R			LTR			LTR		
Volume (vph)	12	782	6	12	393	25	9	5	32	114	5	36
v/c	0.03	0.54	0.01	0.05	0.27	0.04	0.11			0.42		
Delay (s)	6	8	1	6	6	3	6			12		
LOS	A	A	A	A	A	A	A			B		
95th Queue (m)	2	30	0	2	14	2	6			18		
	INTERSECTION DELAY (s):						8			INTERSECTION LOS:		A
	PM Peak Hour - 2032 Total Traffic Conditions -Signalized											
Geometry	L / TT / R			L / TT / R			LTR			LTR		
Volume (vph)	36	608	16	42	1110	114	5	5	32	71	5	17
v/c	0.21	0.34	0.02	0.11	0.62	0.14	0.13			0.35		
Delay (s)	8	5	2	5	8	2	8			16		
LOS	A	A	A	A	A	A	A			B		
95th Queue (m)	5	20	1	5	43	4	6			15		
		INTERSECTION DELAY (s):				7			INTERSECTION LOS:		A	

This intersection is signalized in the post-development scenario and operates without delay. Daily volumes on the site access approach to Ellerslie Road are estimated to be approximately 2550. Operations on this approach are Level of Service B (with minimal queueing) during the morning and afternoon peak periods under a shared left/through/right-turn lane configuration. However, providing space for separate through and right-turn movements would reinforce this intersection as the primary site access and provide residual capacity (again noting existing delays on MacEwan Road). This level of detail will be reviewed at the subdivision stage.

While the assessment and scope of this study considers Ellerslie Road as a four-lane arterial, it is recognized that future widening to six lanes may eventually occur. At that time, a right-turn lane could be considered for this site. Based on Table 5.7 in the *Access Management Guidelines*, two of the four design exceptions (including the primary factor, turn volumes less than ten percent of approach volumes, and bus stops in line with a travel lane) are anticipated to be met. Further to this, the Concept Plan does not include right-turn lanes for the commercial accesses east of the primary site access. Any right-turn lane would also likely encroach on a pipeline right-of-way (similar to a future right-turn lane at 119 Street). Accordingly, a right-turn lane is not recommended at this time. A note could potentially be added to the Concept Plan to review this consideration in the future should that be desired by the City.

The intersection was also analyzed without a traffic signal. Delays for the southbound (site access) extend to 600 seconds and clearly fails. This configuration would also not support pedestrian crossings and is not recommended.

The City has suggested that the shared pathway along the north side of Ellerslie Road will likely need to shift north of the pipeline right-of-way, and additional land for the private property will likely need to be registered as road right-of-way. These details will be reviewed at the subdivision stage of planning.

Table 5.10: MacEwan Road and McMullen Green/McAllister Loop – Total (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			
Movement	L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour - 2032 Total Traffic Conditions - Unsignalized												
Geometry	LTR			LTR			LTR			LTR			
Volume (vph)	5	411	5	24	71	30	5	5	127	114	5	9	
v/c	0.00			0.03			0.28			0.56			
Delay (s)	8			8			14			35			
LOS	A			A			B			D			
95th Queue (m)	0			0			1			3			
		INTERSECTION DELAY (s):				8			INTERSECTION LOS:				A
	PM Peak Hour - 2032 Total Traffic Conditions - Unsignalized												
Geometry	LTR			LTR			LTR			LTR			
Volume (vph)	11	165	5	110	293	117	5	5	78	72	5	5	
v/c	0.01			0.09			0.15			0.44			
Delay (s)	8			8			12			35			
LOS	A			A			B			E			
95th Queue (m)	0			0			1			2			
		INTERSECTION DELAY (s):				6			INTERSECTION LOS:				A

The addition of development traffic to the MacEwan Road and McMullen Green/McAllister Loop intersection does not materially impact operations. However, this intersection is impacted by the adjacent MacEwan Road and 111 Street intersection. The northbound right-turn and southbound left-turn may have longer delays than reported.

Daily volumes on McMullen Green south of MacEwan Road are estimated to be 2,450. This volume is thought to be somewhat overstated, given the minimum turning movements for microsimulation analysis. Daily volume is, however, anticipated to be in excess of 2000 vehicles per day. As shown above, the intersection operates acceptably with these volumes, again noting that eastbound volume on MacEwan Road is anticipated to impact this intersection during the morning peak. The peak hour queues and delays noted in **Table 5.10** do not suggest that any mitigations are required. The presence of front driveways on McMullen Green will limit on-street parking in proximity to MacEwan Road, such that additional signage restricting parking is not required.

Table 5.11: MacEwan Road and 111 Street – Total (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Total Traffic Conditions - Signalized											
Geometry	L / TR			L / TR			L / TT / R			L / TT / R		
Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
v/c	1.40	0.16		0.25	0.68		0.08	0.87	0.04	0.49	0.36	0.12
Delay (s)	220	6		38	48		13	51	1	42	14	3
LOS	F	A		D	D		B	D	A	D	B	A
95th Queue (m)	212	11		18	47		8	201	1	21	52	8
	INTERSECTION DELAY (s):					69			INTERSECTION LOS:			E
	PM Peak Hour - 2032 Total Traffic Conditions - Signalized											
Geometry	L / TR			L / TR			L / TT / R			L / TT / R		
Volume (vph)	237	6	73	44	7	75	114	1198	64	124	1671	396
v/c	0.76	0.18		0.14	0.19		0.48	0.76	0.09	0.52	1.00	0.45
Delay (s)	44	7		23	8		17	24	3	19	45	6
LOS	D	A		C	A		B	C	A	B	D	A
95th Queue (m)	59	10		13	10		21	129	5	24	235	30
	INTERSECTION DELAY (s):					31			INTERSECTION LOS:			C

The morning peak period of the MacEwan Road and 111 Street continues to suffer in the post-development 2032 horizon. Overall queues and delays for the eastbound movement extend and intersection LOS drops to an E.

Significant additional green time for the eastbound movements is not likely feasible given the magnitude of arterial volumes, particularly the northbound through movement which is near capacity. Additional capacity would come from either widening 111 Street or providing a second eastbound left-turn lane.

Widening 111 Street presents significant construction (and other) costs. Changes to the west leg of the intersection are more readily achievable. The existing median could be converted into a second left-turn lane. Given the complexity of the intersection and the existing nature of delays, the City may undertake a review of the intersection separate from the rezoning application process. A variety of configurations are included in **Appendix C** as a starting point for any future review by the City. Aspects such as turning swept paths, cycle length, afternoon and off-peak considerations, and coordination on 111 Street, among other aspects need to be considered. An excerpt from one configuration is summarized in **Table 5.12**.

Table 5.12: MacEwan Road and 111 Street (West Leg Reconfiguration) – Total (2032) AM Operations

East/west leg split phasing

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			
Movement	L	T	R	L	T	R	L	T	R	L	T	R	
	AM Peak Hour - 2032 Total Traffic Conditions - Signalized												
Geometry	LL / TR			L / TR			L / TT / R			L / TT / R			
Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96	
v/c	0.75	0.22		0.21	0.61		0.09	1.03	0.05	0.25	0.43	0.14	
Delay (s)	46	11		44	32		20	90	0	23	25	6	
LOS	D	B		D	C		B	F	A	C	C	A	
95th Queue (m)	98	15		21	41		12	379	0	15	105	13	
	INTERSECTION DELAY (s):					59		INTERSECTION LOS:					E

Operations for both the west leg and the overall intersection improve during the morning peak period. While the northbound and southbound left-turns were not observed to have protected phases during the site visit, these movements were modelled as protected-permitted in line with typical City of Edmonton practice.

While the reconfiguration improves overall intersection operations, particularly for the eastbound left-turn and westbound turning movements, there may be other changes to area traffic patterns. The current (and even long-term pre- and post-development) operations for the west leg may serve to discourage short-cutting through the MacEwan neighbourhood. Traffic travelling east on Ellerslie Road (and destined to travel north on 111 Street) could be induced to use 119 Street. Similarly, while not short-cutting, there may be a larger draw from the site itself.

The likelihood and magnitude of these changes are difficult to forecast. Given the number of assumptions in this report, including the significant background growth in traffic on 111 Street, any changes to the intersection should be monitored.

Table 5.13: Ellerslie Road and 111 Street – Total (2032) Operations

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
	AM Peak Hour - 2032 Total Traffic Conditions - Signalized											
Geometry	LL / TT / R			L / TT / R			L / TT / R			LL / TT / R		
Volume (vph)	376	827	65	104	229	277	79	839	332	310	284	193
v/c	0.90	0.76	0.11	0.60	0.30	0.58	0.20	0.88	0.60	0.88	0.23	0.29
Delay (s)	74	40	0	36	38	18	19	50	20	76	26	4
LOS	E	D	A	D	D	B	B	D	B	E	C	A
95th Queue (m)	78	125	0	27	38	48	20	143	63	66	37	15
	INTERSECTION DELAY (s):					41			INTERSECTION LOS:			D
	PM Peak Hour - 2032 Total Traffic Conditions - Signalized											
Geometry	LL / TT / R			L / TT / R			L / TT / R			LL / TT / R		
Volume (vph)	297	465	88	291	787	404	189	581	215	319	872	526
v/c	0.80	0.53	0.17	0.71	0.87	0.71	0.73	0.53	0.34	0.84	0.67	0.68
Delay (s)	68	42	1	33	54	25	37	36	6	71	35	16
LOS	E	D	A	C	D	C	D	D	A	E	C	B
95th Queue (m)	55	68	0	67	125	75	44	78	17	61	113	79
	INTERSECTION DELAY (s):					38			INTERSECTION LOS:			D

The Ellerslie Road and 111 Street intersection absorbs the additional site traffic, with no significant changes to operations observed.

6. SUMMARY

6.1 Findings and Recommendations

Stantec, in partnership with Qualico and Assisted Care Services Inc., is in the process of seeking rezoning and subdivision approvals for lands at 11520 Ellerslie Road in the MacEwan neighbourhood of the City of Edmonton, Alberta. The proposed rezoning will bring new residents into a developed area of the City and establish new connectivity for the MacEwan neighbourhood, benefiting both existing and future residents. Critically, these connections will support travel by a variety of modes and link the site to existing day-to-day commercial opportunities.

Based on the analysis completed for the site, several findings and recommendations are presented:

Vehicles

- The development (both the proposed RSMh12 and RMh23) is forecast to generate 283 and 346 trips during the morning and afternoon peak periods, respectively;
- A traffic signal and the westbound right-turn are required at the Ellerslie Road and site access/Rutherford Gate intersection to support the development (and should be a condition of development). A majority (2/3) of site traffic is anticipated to use this access;
- The study intersections all generally operate at acceptable levels of service in the current and future horizons, with the exception of specific movements at the MacEwan Road and 111 Street intersection;
- The eastbound left-turn on MacEwan Road at 111 Street currently experiences some longer queues during the morning peak period. Modifying the west leg to accommodate a second left-turn lane (by converting the existing median into a second left-turn lane) provides a higher level of service for this movement. The City should investigate the feasibility of implementing changes to this intersection to improve its overall operations. Any changes should be monitored to ensure it does not induce any short-cutting. No changes will be required with development of the site;
- Traffic data collected on 111 Street (at MacEwan Road) showed significantly higher traffic volumes than in the last ten years. While this count may have been impacted by area construction, it was deemed valid and is anticipated to provide a conservative assessment for future operations;
- The north-south road between McMullen Place and McMullen Green is not anticipated to provide access to residential units within the site. Should vehicle access (i.e., rear-lane) access be proposed, the alley may generally remain 'as-is', given its existing condition and width; and
- The cell tower access on Ellerslie Road should be removed, and alternative access should be provided.

Active Modes / Site Design

- Site design should integrate into the surrounding urban structure by connecting streets and paths through the site. The site can achieve this in part by:
 - Establishing an all-modes connection with a traffic calming gateway feature at McMullen Green, increasing neighbourhood connectivity;
 - Introducing a walkway connection at McMullen Place to support walking (and cycling) trips between the site and adjacent commercial opportunities;

- Introducing a traffic signal at the Ellerslie Road and site access/Rutherford Gate intersection, which will establish a safe crossing on the west leg of the intersection; and
 - Providing connections that are publicly accessible.
- The design and construction of the active modes facilities providing a connection between Ellerslie Road and McMullen Place and McMullen Green (i.e., the shared pathway and sidewalks/walkways) should be informed by the City's *Complete Street Design and Construction Standards*; and
- The site itself should be broken up with a network of 'streets', with block lengths comparable to those in the larger MacEwan neighbourhood.

APPENDIX A

Scoping Document

TECHNICAL MEMORANDUM

DATE: April 25, 2025
PROJECT NO: 25-234
PROJECT: 11520 Ellerslie Road Rezoning, Traffic Impact Assessment
SUBJECT: Terms of Reference – Scoping Document
TO: Kirk Kwan, Senior Engineer, City of Edmonton
FROM: Mark Huberman, P. Eng., Greg Ablett, P.Eng.

HTCI has been retained to prepare a Traffic Impact Assessment (TIA) for an upcoming rezoning and subdivision at 11520 Ellerslie Road. The subject site, which is located north of Ellerslie Road, will encompass multiple zones and land uses. A preliminary draft plan of the development site is reproduced in **Figure 1** on the following page.

The following scope of work has been prepared for the TIA. We would appreciate a brief meeting to discuss this scope and confirm key assumptions for the report.

Project Overview

The program includes both a redevelopment (RMh23) to the south and a greenfield development (RMh16) to the north. A pre-application meeting was held on March 26, 2025. An application including a District Plan amendment, Zoning Bylaw amendment, and subdivision is anticipated to be submitted to Planning Coordination in late April or early May 2025.

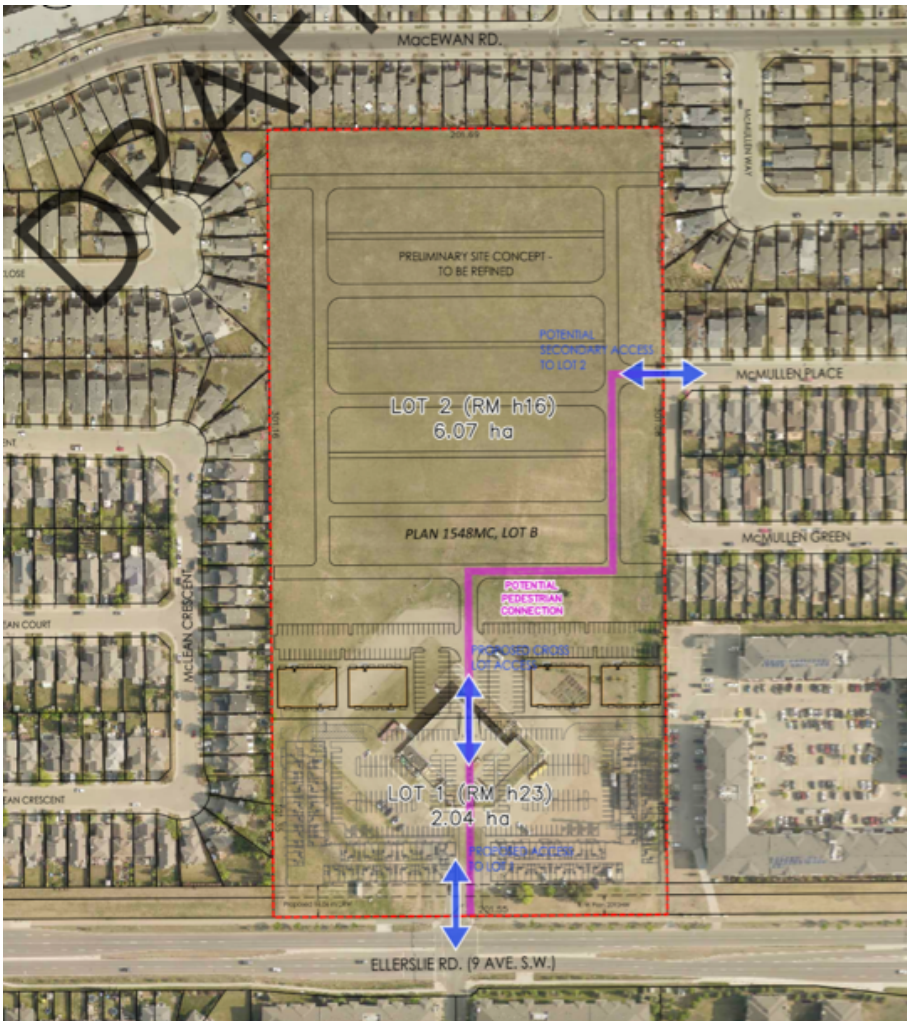
The precise mix of development under each zone is not yet known. The study will assume development to an appropriate density based on market trends in this suburban context. The study will not include a scenario of maximum allowable development if this is not seen as reasonably achievable.

Importantly, the concept includes a roadway connection to existing low-density residential via McMullen Place and a connection between the RMh23 and RMh16 areas (potentially through an access easement). This means the development site will create a vehicle connection between Ellerslie Road and MacEwan Road. We respectfully request that the City indicate that this connection is supported and/or what specific metrics it would like to see to evaluate such a connection (i.e., daily volume thresholds on local roadways, etc.). This is critical to understand at the outset of the study.

Data Collection and Study Intersections

Traffic data (one 24-hour weekday) will be collected at:

- Ellerslie Road and 9 Avenue SW
- MacEwan Road and McMullen Green/McAllister Loop

Figure 1: Draft Site Plan

Capacity analysis (Synchro) will be conducted only for these two intersections. The study will not analyze the intersection of MacEwan Road and 111 Street, as we understand this intersection has been considered in several other applications. Should this intersection be required, we will request that the City provide turning movement assumptions (for 2032 background) rather than an updated count, recognizing that all future potential growth will limit precision.

Qualitative analysis will be provided at other site area locations. This analysis will consider the impact to local roadways in the MacEwan neighbourhood.

The study assumes that the City supports an all-direction traffic signal at Ellerslie Road and 9 Avenue SW, should one be required to support the development, which is implied in the pre-application meeting notes.

Development Phasing and Timing

The timeframe of development is considered to be in the next five to seven years (2030-2032). The study will consider two scenarios:

- 2032 background (no development)
- 2032 with full development

While the development will be staged over several years, the scope and scale of development does not require the analysis of multiple phases (similar to how once neighbourhoods are first planned, interim studies are not typically required to support subdivisions).

The TIA will assume some traffic growth on Ellerslie Road and 111 Street based on historic factors. No traffic growth will be applied to local/collector roadways. The TIA otherwise assumes no changes in the area roadway network (i.e., Arterial widening, new signals, etc.). We respectfully request the City provide any information that may impact this assumption.

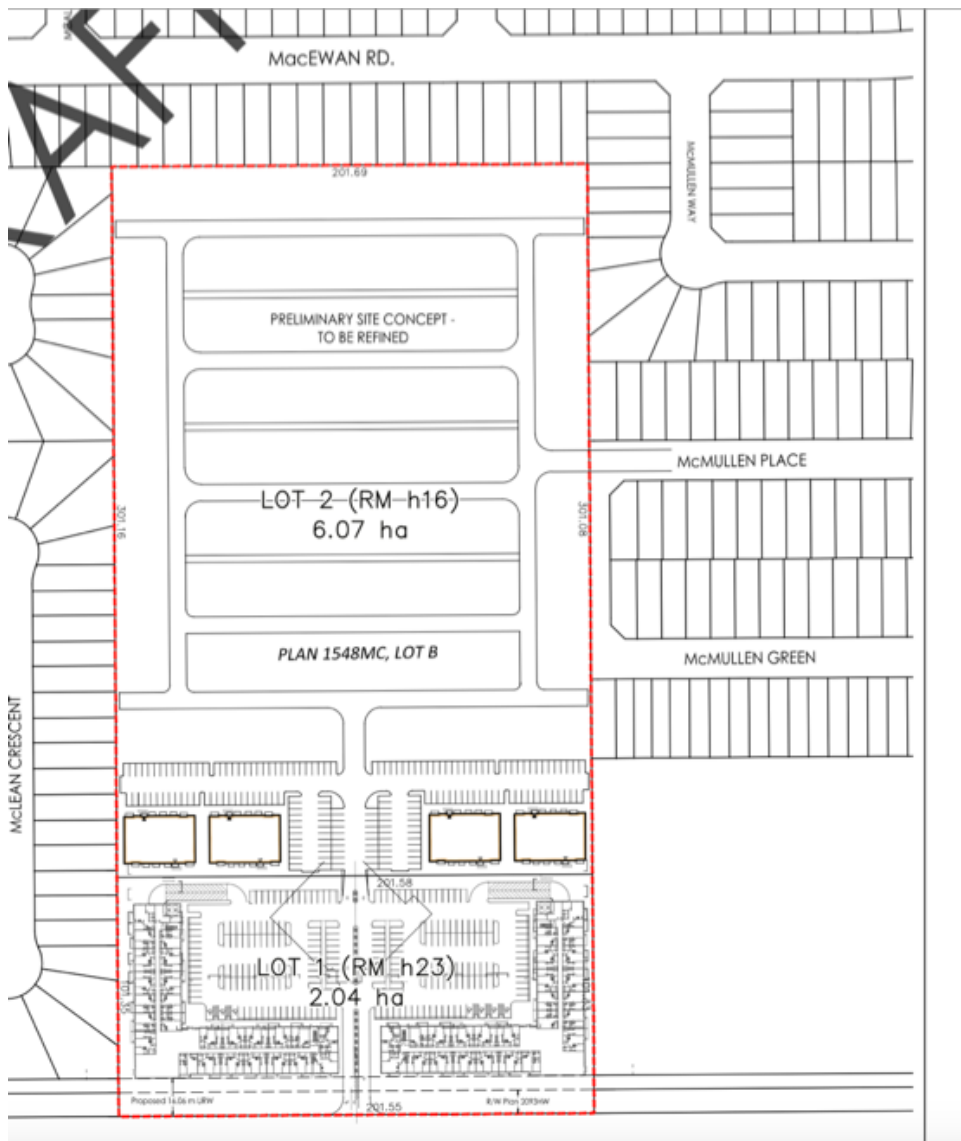
Subdivision Plan

The TIA may comment on the subdivision plan that is submitted as part of the application, shown in DRAFT format in **Figure 2**. As this plan may change/evolve over the scope of the TIA, analysis of the particulars of the subdivision will be kept at a reasonably high level. That is, where active modes connections are generally planned, what existing local roadways will be connected to. The TIA will not outline specific cross-sections for local roadways, which is more appropriately dealt with at the subdivision stage.

Key Study Investigations (from Pre-Application Meeting)

The study will ultimately support City needs outlined in the meeting record as documented in the March 26, 2025, pre-application meeting record. These include:

- Any land and construction requirements associated with access to Ellerslie Road (shared pathway, turn lanes, traffic signal, etc.);
- Traffic circulation through the proposed development (and impacts on existing roadways), with an understanding that travel between Ellerslie Road and MacEwan Road through the site is currently proposed;
- Exploring options of extending one or both east-west local roadways (McMullen Place SW and McMullen Green SW) into the site;
- Identifying any requirements for the existing north-south local roadway (between McMullen Place SW and McMullen Green SW) immediately adjacent to the site;
- Active modes connections within and external to the site; and
- Review the short and long-term access requirements to the existing Rogers Telecommunication tower within the site.

Figure 2: Draft Subdivision Plan

Study Outline

The TIA will otherwise follow the City TIA Guidelines and Infill Development Supplement and generally contain the following information.

Phase 1: Pre-development Conditions

- Obtain information on network constraints and opportunities and overall area traffic concerns the City may have regarding overall area mobility and access
- Review all pertinent statutory documentation applicable to the project site (i.e., City Plan, The Bicycle Plan, Mass Transit Plan, etc.), any planned or ongoing improvements, development activity, and any previous transportation work
- Undertake a pre-development conditions assessment, including a site visit to document existing conditions within the study area; and
- Identify observed safety issues or challenges, such as access or intersection sightline impediments, and identify any congestion or queueing issues

Phase 2: Site Plan Review

- Review all mobility/traffic interactions where the development site joins the road network, as well as internal to the site itself
- Provide qualitative commentary on vehicular capacity (including queueing) at the access points and in the general vicinity
- Investigate the development of a new connection to McMullen Place SW and McMullen Green SW and its impact on the adjacent network.

Phase 3: Data Collection and Trip Forecasting

- Review available traffic data and transit service
- Complete two (2) weekday 24-hour traffic counts at Ellerslie Road and 9 Avenue SW, and at MacEwan Road and McMullen Green
- Estimate gross and net multi-modal trip generation forecasts (using City trip generation data) and trip distribution (using the City's 2030 Origin-Destination Car-Driver tables based on expected development densities and land use programs)
- Note that the opening day for the redevelopment is assumed to be in 2032, and some growth of traffic on arterial roadways will be assumed

Phase 4: Assessment

- Prepare traffic exhibits for pre- and post-redevelopment conditions (2032)
- Assess against approved COE traffic volume thresholds for various roadway designations (including local roadways)
- Identify improvements and/or mitigation measures, including roadway and active transportation upgrades to Ellerslie Road, to maintain acceptable levels of service in support of site-generated traffic
- Intersection capacity analyses for the two study intersections will be completed using HCM/Synchro software, and qualitative commentary on surrounding roadways
- Review and propose TDM measures that could enhance and promote alternate modes of transportation

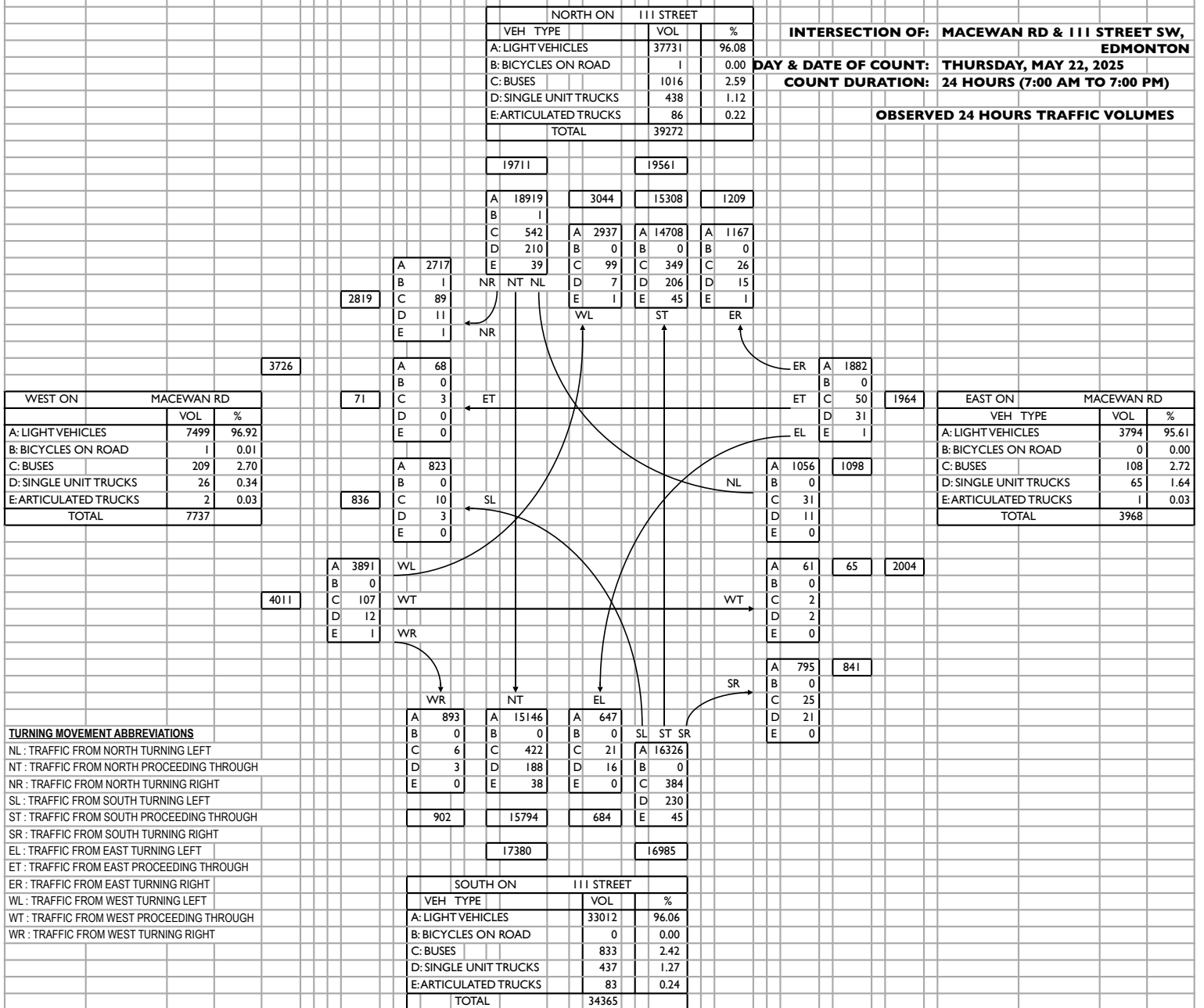
Phase 5: Study Documentation

- A draft report will be prepared to identify the assumptions used in the analysis and summarize the study's findings, conclusions, and recommendations
- A final will be prepared to incorporate comments received from review agencies

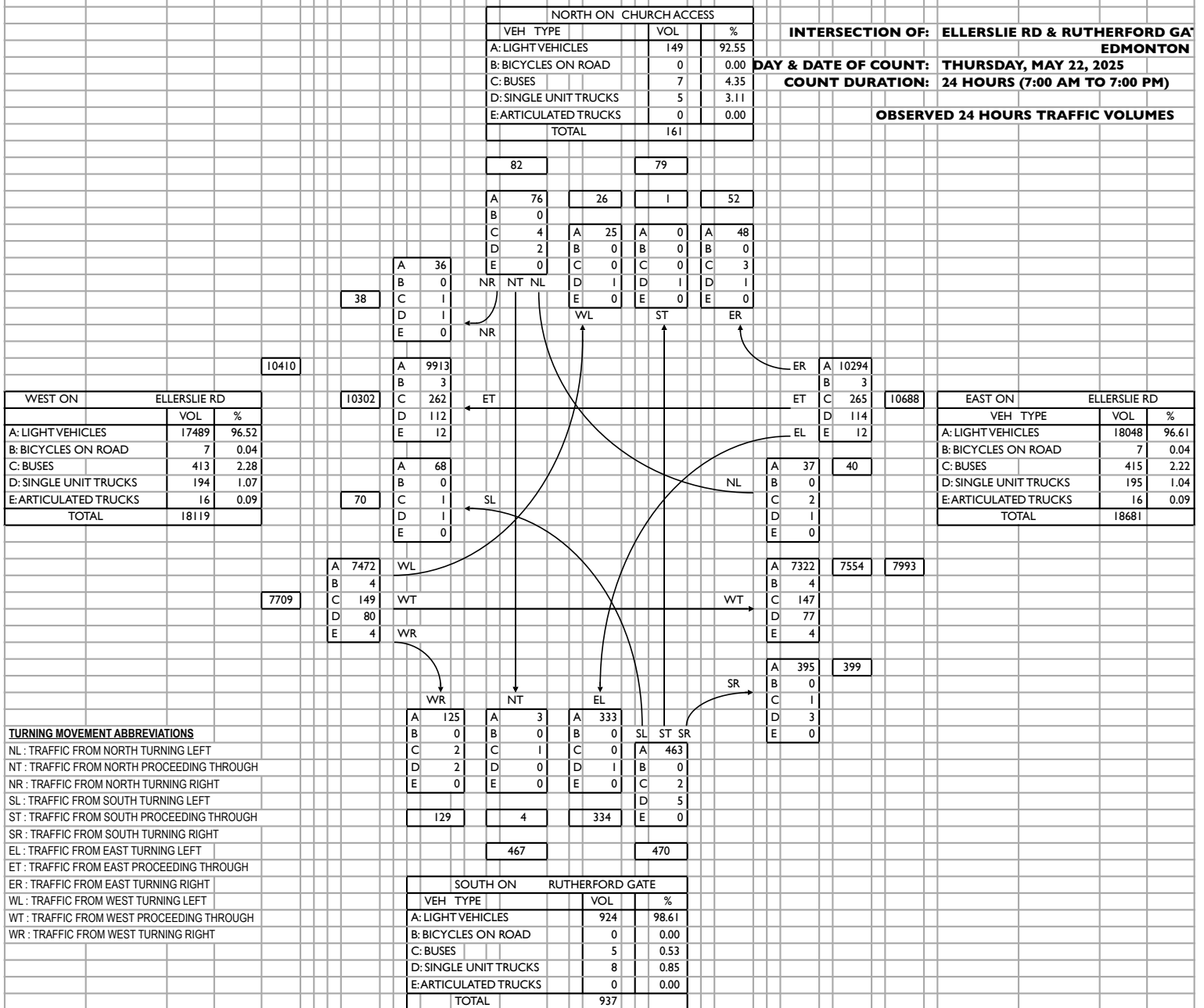
APPENDIX B

Traffic Counts

TURNING MOVEMENT SUMMARY DIAGRAM



TURNING MOVEMENT SUMMARY DIAGRAM



TURNING MOVEMENT SUMMARY DIAGRAM

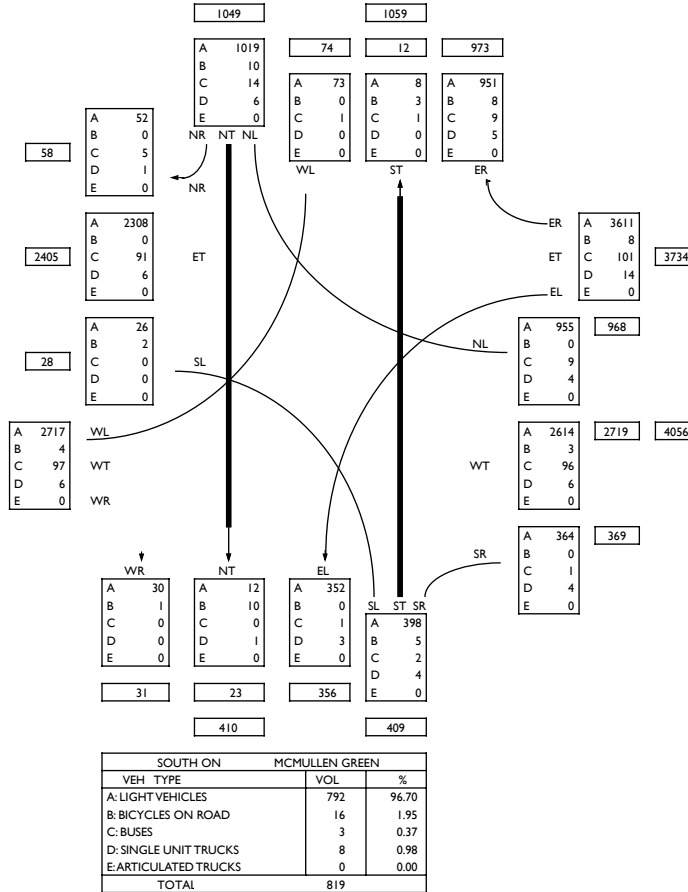
NORTH ON MCALLISTER LOOP		
VEH TYPE	VOL	%
A: LIGHT VEHICLES	2051	97.30
B: BICYCLES ON ROAD	21	1.00
C: BUSES	25	1.19
D: SINGLE UNIT TRUCKS	11	0.52
E: ARTICULATED TRUCKS	0	0.00
TOTAL	2108	

INTERSECTION OF: MACEWAN RD & MCMULLEN GREEN & MCALLISTER LOOP SW, EDMONTON
DAY & DATE OF COUNT: THURSDAY, MAY 22, 2025
COUNT DURATION: 24 HOURS (7:00 AM TO 7:00 PM)

OBSERVED 24 HOURS TRAFFIC VOLUMES

WEST ON MACEWAN RD		
VEH TYPE	VOL	%
A: LIGHT VEHICLES	5103	96.01
B: BICYCLES ON ROAD	6	0.11
C: BUSES	193	3.63
D: SINGLE UNIT TRUCKS	13	0.24
E: ARTICULATED TRUCKS	0	0.00
TOTAL	5315	

EAST ON MACEWAN RD		
VEH TYPE	VOL	%
A: LIGHT VEHICLES	7544	96.84
B: BICYCLES ON ROAD	11	0.14
C: BUSES	207	2.66
D: SINGLE UNIT TRUCKS	28	0.36
E: ARTICULATED TRUCKS	0	0.00
TOTAL	7790	



APPENDIX C

Synchro Assessments

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	488	7	72	47	5	158	25	1408	36	36	581	80
Future Volume (vph)	488	7	72	47	5	158	25	1408	36	36	581	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		1.00	0.98		1.00		0.97			0.98
Frt		0.863			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1584	0	1738	1547	0	1690	3476	1555	1772	3380	1555
Flt Permitted	0.444			0.703			0.384			0.079		
Satd. Flow (perm)	815	1584	0	1280	1547	0	682	3476	1502	147	3380	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			27				77			84
Link Speed (k/h)		48			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		9.5			17.9			8.9			6.4	
Confl. Peds. (#/hr)	9		6	6		9	1		5	5		1
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	3%	3%	5%	3%	4%	8%	5%	5%	3%	8%	5%
Adj. Flow (vph)	514	7	76	49	5	166	26	1482	38	38	612	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	514	83	0	49	171	0	26	1482	38	38	612	84
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		26.0	26.0	26.0	26.0	26.0	26.0
Minimum Split (s)	9.5	47.0		47.0	47.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	17.0	64.0		47.0	47.0		56.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	14.2%	53.3%		39.2%	39.2%		46.7%	46.7%	46.7%	46.7%	46.7%	46.7%
Maximum Green (s)	12.5	57.0		40.0	40.0		51.0	51.0	51.0	51.0	51.0	51.0
Yellow Time (s)	3.5	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	4.0		4.0	4.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0		7.0	7.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag							

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes			Yes		Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)		7.0		7.0	7.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Don't Walk (s)		33.0		33.0	33.0		19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effect Green (s)	33.6	31.1		14.1	14.1		50.7	50.7	50.7	50.7	50.7	50.7
Actuated g/C Ratio	0.36	0.33		0.15	0.15		0.54	0.54	0.54	0.54	0.54	0.54
v/c Ratio	1.23	0.14		0.26	0.67		0.07	0.79	0.04	0.48	0.34	0.10
Control Delay (s/veh)	151.3	6.7		38.3	45.0		12.2	21.8	0.6	40.5	13.2	3.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	5.7	0.0	0.0	0.0	0.0
Total Delay (s/veh)	151.3	6.7		38.3	45.0		12.2	27.5	0.6	40.5	13.2	3.1
LOS	F	A		D	D		B	C	A	D	B	A
Approach Delay (s/veh)		131.2			43.5			26.6			13.5	
Approach LOS		F			D			C			B	
Queue Length 50th (m)	~109.0	0.9		8.0	24.9		2.1	105.1	0.0	4.0	30.4	0.0
Queue Length 95th (m)	#180.3	10.1		18.1	45.6		6.9	155.2	1.1	#20.9	47.7	7.0
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	417	993		546	676		371	1892	853	80	1840	866
Starvation Cap Reductn	0	0		0	0		0	355	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	1.23	0.08		0.09	0.25		0.07	0.96	0.04	0.48	0.33	0.10

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 93.8

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.23

Intersection Signal Delay (s/veh): 44.8

Intersection LOS: D

Intersection Capacity Utilization 96.5%

ICU Level of Service F

Analysis Period (min) 15

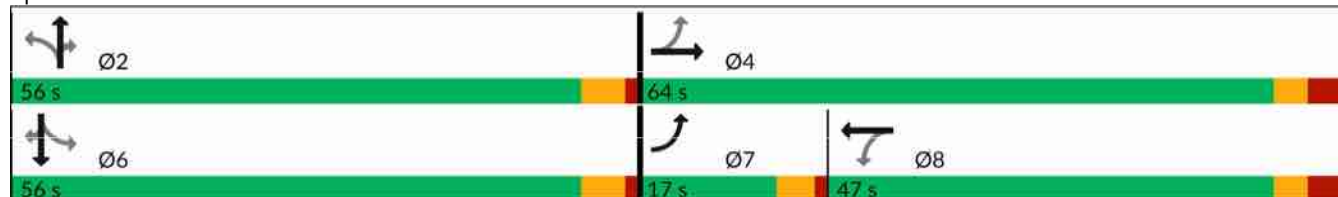
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	319	702	56	97	196	256	71	783	310	279	265	177
Future Volume (vph)	319	702	56	97	196	256	71	783	310	279	265	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	100.0		100.0	100.0		100.0	100.0		250.0
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3309	3544	1585	1772	3476	1555	1772	3544	1585	3372	3476	1555
Flt Permitted	0.950			0.243			0.572			0.950		
Satd. Flow (perm)	3299	3544	1556	453	3476	1533	1066	3544	1556	3363	3476	1535
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			209			222			197
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		510.6			281.5			102.4			365.8	
Travel Time (s)		30.6			16.9			6.1			21.9	
Confl. Peds. (#/hr)	2		4	4		2	1		5	5		1
Confl. Bikes (#/hr)			2						2			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	3%	3%	3%	5%	5%	3%	3%	3%	5%	5%	5%
Adj. Flow (vph)	354	780	62	108	218	284	79	870	344	310	294	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	780	62	108	218	284	79	870	344	310	294	197
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8	2		2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0	29.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.0	35.0	35.0	11.0	35.0	35.0	11.0	41.0	41.0	13.0	41.0	41.0
Total Split (s)	22.0	44.0	44.0	13.0	35.0	35.0	11.0	43.0	43.0	20.0	52.0	52.0
Total Split (%)	18.3%	36.7%	36.7%	10.8%	29.2%	29.2%	9.2%	35.8%	35.8%	16.7%	43.3%	43.3%
Maximum Green (s)	16.0	38.0	38.0	9.0	29.0	29.0	7.0	37.0	37.0	14.0	46.0	46.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0
Flash Don't Walk (s)		22.0	22.0		22.0	22.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	15.5	38.0	38.0	39.5	29.0	29.0	46.0	37.0	37.0	13.6	47.9	47.9
Actuated g/C Ratio	0.13	0.32	0.32	0.33	0.24	0.24	0.39	0.31	0.31	0.11	0.40	0.40
v/c Ratio	0.82	0.69	0.10	0.44	0.26	0.53	0.17	0.79	0.54	0.81	0.21	0.27
Control Delay (s/veh)	67.1	39.4	0.3	26.9	37.6	15.2	18.0	43.9	15.3	68.3	24.6	4.3
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 (s/veh)	67.1	39.4	0.3	26.9	37.6	15.2	18.0	43.9	15.3	68.3	24.6	4.3
LOS	E	D	A	C	D	B	B	D	B	E	C	A
Approach Delay (s/veh)		45.6			25.3			34.7			36.5	
Approach LOS		D			C			C			D	
Queue Length 50th (m)	42.2	84.4	0.0	14.8	21.9	14.2	9.6	98.7	21.9	37.1	24.3	0.0
Queue Length 95th (m)	#63.5	106.3	0.0	26.1	32.8	40.6	18.1	122.9	51.0	#56.9	34.4	14.4
Internal Link Dist (m)		486.6			257.5			78.4			341.8	
Turn Bay Length (m)	100.0			100.0		100.0	100.0		100.0	100.0		250.0
Base Capacity (vph)	444	1134	603	251	847	531	453	1101	636	396	1397	734
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	0.80	0.69	0.10	0.43	0.26	0.53	0.17	0.79	0.54	0.78	0.21	0.27

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.1

Natural Cycle: 105

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.82

Intersection Signal Delay (s/veh): 36.9

Intersection LOS: D

Intersection Capacity Utilization 90.4%

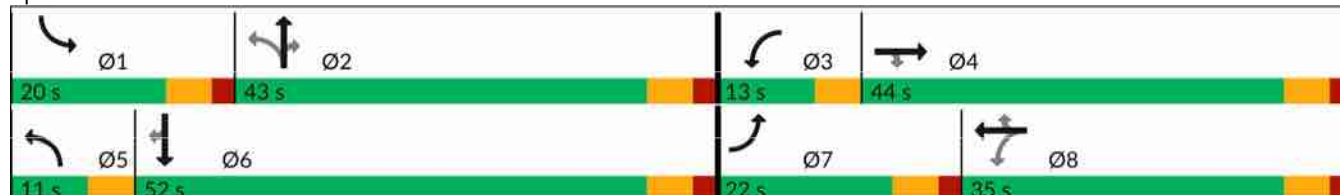
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: 111 Street SW & Ellerslie Road SW



Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	411	5	5	71	30	5	5	48	114	5	9
Future Vol, veh/h	5	411	5	5	71	30	5	5	48	114	5	9
Conflicting Peds, #/hr	5	0	1	1	0	5	0	0	8	8	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	4	3	3	5	3	3	3	3	3	3	3
Mvmt Flow	6	467	6	6	81	34	6	6	55	130	6	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	474	0	0	601	615	479	636	601	103
Stage 1	-	-	-	-	-	-	483	483	-	115	115	-
Stage 2	-	-	-	-	-	-	118	132	-	521	486	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1462	-	-	1083	-	-	411	405	585	389	413	949
Stage 1	-	-	-	-	-	-	563	551	-	887	798	-
Stage 2	-	-	-	-	-	-	884	785	-	537	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1082	-	-	398	398	580	341	406	944
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	398	-	341	406	-
Stage 1	-	-	-	-	-	-	559	547	-	877	789	-
Stage 2	-	-	-	-	-	-	863	776	-	475	545	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			12.6			21.7		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	538	1455	-	-	1082	-	-	359				
HCM Lane V/C Ratio	0.123	0.004	-	-	0.005	-	-	0.405				
HCM Control Delay (s)	12.6	7.5	0	-	8.3	0	-	21.7				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	1.9				

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱	↱	↱	↱↱			↱↱			↱↱	
Traffic Vol, veh/h	5	729	6	11	367	5	8	5	30	5	5	5
Future Vol, veh/h	5	729	6	11	367	5	8	5	30	5	5	5
Conflicting Peds, #/hr	5	0	8	8	0	5	7	0	0	0	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	80	80	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	5	3	3	5	3	3	3	3	3	3	3
Mvmt Flow	5	767	6	12	386	5	8	5	32	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	396	0	0	781	0	0	1012	1205	392	814	1209	208
Stage 1	-	-	-	-	-	-	785	785	-	418	418	-
Stage 2	-	-	-	-	-	-	227	420	-	396	791	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1152	-	-	826	-	-	192	181	604	268	180	795
Stage 1	-	-	-	-	-	-	350	399	-	580	587	-
Stage 2	-	-	-	-	-	-	752	585	-	598	397	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1146	-	-	820	-	-	181	175	599	243	174	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	175	-	243	174	-
Stage 1	-	-	-	-	-	-	346	394	-	575	575	-
Stage 2	-	-	-	-	-	-	724	573	-	556	392	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			16.8			19.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	350	1146	-	-	820	-	-	269
HCM Lane V/C Ratio	0.129	0.005	-	-	0.014	-	-	0.059
HCM Control Delay (s)	16.8	8.2	-	-	9.5	-	-	19.2
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	6	63	44	7	75	92	1094	64	124	1548	341
Future Volume (vph)	202	6	63	44	7	75	92	1094	64	124	1548	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.99		1.00	0.98				0.96			0.97
Frt		0.862			0.862				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1772	1585	0	1772	1573	0	1772	3544	1585	1772	3544	1585
Flt Permitted	0.702			0.710			0.105			0.143		
Satd. Flow (perm)	1297	1585	0	1320	1573	0	196	3544	1518	267	3544	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			78				87			307
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		11.4			17.9			8.9			6.4	
Confl. Peds. (#/hr)	14		5	5		14	4		11	11		4
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	210	6	66	46	7	78	96	1140	67	129	1613	355
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	72	0	46	85	0	96	1140	67	129	1613	355
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	26.0	26.0	7.0	26.0	26.0
Minimum Split (s)	47.0	47.0		47.0	47.0		11.0	31.0	31.0	11.0	31.0	31.0
Total Split (s)	47.0	47.0		47.0	47.0		11.0	42.0	42.0	11.0	42.0	42.0
Total Split (%)	47.0%	47.0%		47.0%	47.0%		11.0%	42.0%	42.0%	11.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		40.0	40.0		7.0	37.0	37.0	7.0	37.0	37.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	4.0	4.0		4.0	4.0		0.0	1.0	1.0	0.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0			5.0	5.0		5.0	5.0
Flash Don't Walk (s)	33.0	33.0		33.0	33.0			19.0	19.0		19.0	19.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effect Green (s)	17.8	17.8		17.8	17.8		45.2	37.2	37.2	46.1	39.6	39.6
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.58	0.48	0.48	0.59	0.51	0.51
v/c Ratio	0.71	0.17		0.15	0.20		0.38	0.68	0.09	0.44	0.90	0.38
Control Delay (s/veh)	41.4	8.2		24.3	8.0		11.8	19.3	2.7	12.2	28.6	4.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.3	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.4	8.2		24.3	8.0		11.8	19.6	2.7	12.2	28.6	4.3
LOS	D	A		C	A		B	B	A	B	C	A
Approach Delay (s/veh)		32.9			13.7			18.1			23.5	
Approach LOS		C			B			B			C	
Queue Length 50th (m)	28.6	0.7		5.4	0.8		4.9	64.5	0.0	6.6	113.5	3.6
Queue Length 95th (m)	49.9	9.6		13.2	10.5		13.8	106.3	5.0	17.3	#199.4	20.6
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	667	848		679	847		255	1687	768	293	1798	933
Starvation Cap Reductn	0	0		0	0		0	129	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	0.31	0.08		0.07	0.10		0.38	0.73	0.09	0.44	0.90	0.38

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 78.1

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 22.0

Intersection LOS: C

Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	253	397	78	271	652	357	166	542	201	289	813	480
Future Volume (vph)	253	397	78	271	652	357	166	542	201	289	813	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	100.0		100.0	100.0		100.0	100.0		250.0
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.98	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3309	3544	1585	1772	3544	1585	1772	3544	1585	3340	3544	1555
Flt Permitted	0.950			0.406			0.228			0.950		
Satd. Flow (perm)	3283	3544	1549	753	3544	1547	425	3544	1549	3311	3544	1529
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			275			203			361
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		510.6			281.5			102.4			365.8	
Travel Time (s)		30.6			16.9			6.1			21.9	
Confl. Peds. (#/hr)	9		8	8		9	5		11	11		5
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	3%	3%	3%	3%	3%	3%	3%	3%	6%	3%	5%
Adj. Flow (vph)	256	401	79	274	659	361	168	547	203	292	821	485
Shared Lane Traffic (%)												
Lane Group Flow (vph)	256	401	79	274	659	361	168	547	203	292	821	485
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8	2		2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0	29.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.0	35.0	35.0	11.0	35.0	35.0	11.0	41.0	41.0	13.0	41.0	41.0
Total Split (s)	20.0	35.0	35.0	21.0	36.0	36.0	16.0	42.0	42.0	22.0	48.0	48.0
Total Split (%)	16.7%	29.2%	29.2%	17.5%	30.0%	30.0%	13.3%	35.0%	35.0%	18.3%	40.0%	40.0%
Maximum Green (s)	14.0	29.0	29.0	17.0	30.0	30.0	12.0	36.0	36.0	16.0	42.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0
Flash Don't Walk (s)		22.0	22.0		22.0	22.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	12.9	29.1	29.1	47.2	29.7	29.7	49.0	36.3	36.3	14.4	42.0	42.0
Actuated g/C Ratio	0.11	0.25	0.25	0.40	0.25	0.25	0.42	0.31	0.31	0.12	0.36	0.36
v/c Ratio	0.70	0.46	0.17	0.63	0.73	0.61	0.56	0.50	0.33	0.71	0.65	0.62
Control Delay (s/veh)	61.7	39.9	2.8	29.9	46.3	14.7	24.8	35.5	5.8	59.9	34.8	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.7	39.9	2.8	29.9	46.3	14.7	24.8	35.5	5.8	59.9	34.8	12.0
LOS	E	D	A	C	D	B	C	D	A	E	C	B
Approach Delay (s/veh)		43.5			34.0			27.0			32.5	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	30.1	42.5	0.0	42.2	75.3	16.1	21.2	55.8	0.0	34.1	85.1	20.9
Queue Length 95th (m)	43.9	57.9	4.6	63.6	96.6	47.4	34.3	73.2	16.7	48.6	106.9	57.0
Internal Link Dist (m)		486.6			257.5			78.4			341.8	
Turn Bay Length (m)	100.0			100.0		100.0	100.0		100.0	100.0		250.0
Base Capacity (vph)	395	879	472	458	906	600	319	1096	619	455	1268	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.46	0.17	0.60	0.73	0.60	0.53	0.50	0.33	0.64	0.65	0.62

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 117.4

Natural Cycle: 105

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 33.6

Intersection LOS: C

Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: 111 Street SW & Ellerslie Road SW



Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	165	5	33	293	117	5	5	34	72	5	5
Future Vol, veh/h	11	165	5	33	293	117	5	5	34	72	5	5
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	11	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	12	185	6	37	329	131	6	6	38	81	6	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	192	0	0	690	751	200	718	689	401
Stage 1	-	-	-	-	-	-	213	213	-	473	473	-
Stage 2	-	-	-	-	-	-	477	538	-	245	216	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1092	-	-	1375	-	-	358	338	838	343	367	647
Stage 1	-	-	-	-	-	-	787	724	-	570	557	-
Stage 2	-	-	-	-	-	-	567	521	-	756	722	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1088	-	-	1374	-	-	337	320	828	306	348	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	320	-	306	348	-
Stage 1	-	-	-	-	-	-	777	715	-	561	534	-
Stage 2	-	-	-	-	-	-	535	500	-	699	713	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.6			11.4			20.8		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	615	1088	-	-	1374	-	-	319
HCM Lane V/C Ratio	0.08	0.011	-	-	0.027	-	-	0.289
HCM Control Delay (s)	11.4	8.3	0	-	7.7	0	-	20.8
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	1.2

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	567	15	39	1035	5	5	5	30	5	5	5
Future Vol, veh/h	5	567	15	39	1035	5	5	5	30	5	5	5
Conflicting Peds, #/hr	5	0	1	1	0	5	4	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	80	80	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	5	623	16	43	1137	5	5	5	33	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1147	0	0	640	0	0	1295	1867	313	1555	1881	580
Stage 1	-	-	-	-	-	-	634	634	-	1231	1231	-
Stage 2	-	-	-	-	-	-	661	1233	-	324	650	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	599	-	-	933	-	-	119	71	680	76	70	455
Stage 1	-	-	-	-	-	-	431	469	-	186	246	-
Stage 2	-	-	-	-	-	-	416	245	-	660	461	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	596	-	-	932	-	-	105	67	679	65	66	451
Mov Cap-2 Maneuver	-	-	-	-	-	-	105	67	-	65	66	-
Stage 1	-	-	-	-	-	-	427	465	-	184	233	-
Stage 2	-	-	-	-	-	-	381	233	-	615	457	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			23.3			52.5		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	596	-	-	932	-	-	92
HCM Lane V/C Ratio	0.183	0.009	-	-	0.046	-	-	0.179
HCM Control Delay (s)	23.3	11.1	-	-	9	-	-	52.5
HCM Lane LOS	C	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.6

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	488	7	72	47	5	158	25	1510	36	36	623	80
Future Volume (vph)	488	7	72	47	5	158	25	1510	36	36	623	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		1.00	0.98		1.00		0.97			0.98
Frt		0.863			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1584	0	1738	1547	0	1690	3476	1555	1772	3380	1555
Flt Permitted	0.444			0.703			0.364			0.076		
Satd. Flow (perm)	815	1584	0	1280	1547	0	647	3476	1502	142	3380	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			22				77			84
Link Speed (k/h)		48			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		9.5			17.9			8.9			6.4	
Confl. Peds. (#/hr)	9		6	6		9	1		5	5		1
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	3%	3%	5%	3%	4%	8%	5%	5%	3%	8%	5%
Adj. Flow (vph)	514	7	76	49	5	166	26	1589	38	38	656	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	514	83	0	49	171	0	26	1589	38	38	656	84
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		26.0	26.0	26.0	26.0	26.0	26.0
Minimum Split (s)	9.5	47.0		47.0	47.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	15.8	62.8		47.0	47.0		57.2	57.2	57.2	57.2	57.2	57.2
Total Split (%)	13.2%	52.3%		39.2%	39.2%		47.7%	47.7%	47.7%	47.7%	47.7%	47.7%
Maximum Green (s)	11.3	55.8		40.0	40.0		52.2	52.2	52.2	52.2	52.2	52.2
Yellow Time (s)	3.5	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	4.0		4.0	4.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0		7.0	7.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag							

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)		7.0		7.0	7.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Don't Walk (s)		33.0		33.0	33.0		19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effect Green (s)	32.5	30.0		14.2	14.2		52.3	52.3	52.3	52.3	52.3	52.3
Actuated g/C Ratio	0.34	0.32		0.15	0.15		0.55	0.55	0.55	0.55	0.55	0.55
v/c Ratio	1.31	0.15		0.26	0.68		0.07	0.82	0.04	0.49	0.35	0.10
Control Delay (s/veh)	182.5	6.9		38.3	47.0		11.7	22.7	0.6	40.6	12.7	3.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	14.2	0.0	0.0	0.0	0.0
Total Delay (s/veh)	182.5	6.9		38.3	47.0		11.7	36.9	0.6	40.6	12.7	3.0
LOS	F	A		D	D		B	D	A	D	B	A
Approach Delay (s/veh)		158.1			45.0			35.7			13.1	
Approach LOS		F			D			D			B	
Queue Length 50th (m)	~120.6	0.9		8.0	25.9		2.1	115.5	0.0	3.9	32.1	0.0
Queue Length 95th (m)	#184.7	10.3		18.1	46.6		6.7	171.1	1.1	#21.1	50.4	6.8
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	393	969		543	669		358	1927	866	78	1873	880
Starvation Cap Reductn	0	0		0	0		0	357	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	1.31	0.09		0.09	0.26		0.07	1.01	0.04	0.49	0.35	0.10

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 94.3

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay (s/veh): 53.4

Intersection LOS: D

Intersection Capacity Utilization 99.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	752	60	104	210	274	76	839	332	299	284	190
Future Volume (vph)	342	752	60	104	210	274	76	839	332	299	284	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	100.0		100.0	100.0		100.0	100.0		250.0
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3309	3544	1585	1772	3476	1555	1772	3544	1585	3372	3476	1555
Flt Permitted	0.950			0.215			0.560			0.950		
Satd. Flow (perm)	3299	3544	1556	400	3476	1533	1044	3544	1556	3364	3476	1535
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			209			214			211
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		510.6			281.5			102.4			365.8	
Travel Time (s)		30.6			16.9			6.1			21.9	
Confl. Peds. (#/hr)	2		4	4		2	1		5	5		1
Confl. Bikes (#/hr)			2						2			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	3%	3%	3%	5%	5%	3%	3%	3%	5%	5%	5%
Adj. Flow (vph)	380	836	67	116	233	304	84	932	369	332	316	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	380	836	67	116	233	304	84	932	369	332	316	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8	2		2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0	29.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.0	40.0	40.0	12.0	35.0	35.0	12.0	41.0	41.0	13.0	41.0	41.0
Total Split (s)	23.0	45.0	45.0	13.0	35.0	35.0	12.0	42.0	42.0	20.0	50.0	50.0
Total Split (%)	19.2%	37.5%	37.5%	10.8%	29.2%	29.2%	10.0%	35.0%	35.0%	16.7%	41.7%	41.7%
Maximum Green (s)	17.0	39.0	39.0	9.0	29.0	29.0	8.0	36.0	36.0	14.0	44.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0
Flash Don't Walk (s)		22.0	22.0		22.0	22.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	16.4	38.9	38.9	39.5	29.0	29.0	45.7	36.0	36.0	13.8	46.3	46.3
Actuated g/C Ratio	0.14	0.33	0.33	0.33	0.24	0.24	0.38	0.30	0.30	0.12	0.39	0.39
v/c Ratio	0.84	0.72	0.11	0.50	0.28	0.57	0.19	0.87	0.60	0.85	0.23	0.29
Control Delay (s/veh)	66.8	39.9	0.4	28.6	37.9	17.4	18.6	49.7	18.9	72.5	26.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.8	39.9	0.4	28.6	37.9	17.4	18.6	49.7	18.9	72.5	26.0	4.5
LOS	E	D	A	C	D	B	B	D	B	E	C	A
Approach Delay (s/veh)		45.8			26.7			39.6			38.7	
Approach LOS		D			C			D			D	
Queue Length 50th (m)	45.3	91.2	0.0	15.7	23.6	18.2	10.4	109.6	30.0	40.1	27.0	0.0
Queue Length 95th (m)	#67.1	114.0	0.0	27.3	34.8	47.1	19.4	#143.0	61.8	#62.9	38.0	15.3
Internal Link Dist (m)		486.6			257.5			78.4			341.8	
Turn Bay Length (m)	100.0			100.0		100.0	100.0		100.0	100.0		250.0
Base Capacity (vph)	471	1160	613	237	845	530	451	1070	619	396	1351	725
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	0.81	0.72	0.11	0.49	0.28	0.57	0.19	0.87	0.60	0.84	0.23	0.29

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.2

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay (s/veh): 39.3

Intersection LOS: D

Intersection Capacity Utilization 91.6%

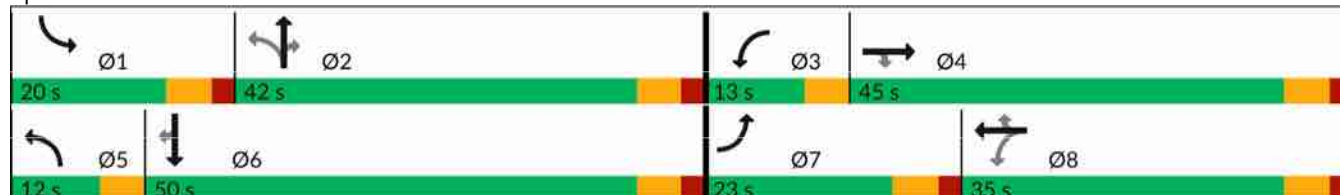
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: 111 Street SW & Ellerslie Road SW



Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	411	5	5	71	30	5	5	48	114	5	9
Future Vol, veh/h	5	411	5	5	71	30	5	5	48	114	5	9
Conflicting Peds, #/hr	5	0	1	1	0	5	0	0	8	8	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	4	3	3	5	3	3	3	3	3	3	3
Mvmt Flow	6	467	6	6	81	34	6	6	55	130	6	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	474	0	0	601	615	479	636	601	103
Stage 1	-	-	-	-	-	-	483	483	-	115	115	-
Stage 2	-	-	-	-	-	-	118	132	-	521	486	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1462	-	-	1083	-	-	411	405	585	389	413	949
Stage 1	-	-	-	-	-	-	563	551	-	887	798	-
Stage 2	-	-	-	-	-	-	884	785	-	537	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1082	-	-	398	398	580	341	406	944
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	398	-	341	406	-
Stage 1	-	-	-	-	-	-	559	547	-	877	789	-
Stage 2	-	-	-	-	-	-	863	776	-	475	545	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			12.6			21.7		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	538	1455	-	-	1082	-	-	359				
HCM Lane V/C Ratio	0.123	0.004	-	-	0.005	-	-	0.405				
HCM Control Delay (s)	12.6	7.5	0	-	8.3	0	-	21.7				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	1.9				

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	782	6	12	393	5	9	5	32	5	5	5
Future Vol, veh/h	5	782	6	12	393	5	9	5	32	5	5	5
Conflicting Peds, #/hr	5	0	8	8	0	5	7	0	0	0	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	80	80	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	5	3	3	5	3	3	3	3	3	3	3
Mvmt Flow	5	823	6	13	414	5	9	5	34	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	424	0	0	837	0	0	1084	1291	420	872	1295	222
Stage 1	-	-	-	-	-	-	841	841	-	448	448	-
Stage 2	-	-	-	-	-	-	243	450	-	424	847	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1125	-	-	786	-	-	170	161	579	243	160	779
Stage 1	-	-	-	-	-	-	323	376	-	557	569	-
Stage 2	-	-	-	-	-	-	736	568	-	576	374	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1120	-	-	780	-	-	159	156	575	218	155	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	159	156	-	218	155	-
Stage 1	-	-	-	-	-	-	319	371	-	552	556	-
Stage 2	-	-	-	-	-	-	707	556	-	532	370	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			18.3			20.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	1120	-	-	780	-	-	243
HCM Lane V/C Ratio	0.152	0.005	-	-	0.016	-	-	0.065
HCM Control Delay (s)	18.3	8.2	-	-	9.7	-	-	20.8
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	6	63	44	7	75	92	1173	64	124	1660	341
Future Volume (vph)	202	6	63	44	7	75	92	1173	64	124	1660	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.99		1.00	0.98				0.96			0.97
Frt		0.862			0.862				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1772	1585	0	1772	1573	0	1772	3544	1585	1772	3544	1585
Flt Permitted	0.702			0.710			0.105			0.120		
Satd. Flow (perm)	1297	1585	0	1320	1573	0	196	3544	1518	224	3544	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			78				87			286
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		11.4			17.9			8.9			6.4	
Confl. Peds. (#/hr)	14		5	5		14	4		11	11		4
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	210	6	66	46	7	78	96	1222	67	129	1729	355
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	72	0	46	85	0	96	1222	67	129	1729	355
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	26.0	26.0	7.0	26.0	26.0
Minimum Split (s)	47.0	47.0		47.0	47.0		11.0	31.0	31.0	11.0	31.0	31.0
Total Split (s)	47.0	47.0		47.0	47.0		11.0	42.0	42.0	11.0	42.0	42.0
Total Split (%)	47.0%	47.0%		47.0%	47.0%		11.0%	42.0%	42.0%	11.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		40.0	40.0		7.0	37.0	37.0	7.0	37.0	37.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	4.0	4.0		4.0	4.0		0.0	1.0	1.0	0.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0			5.0	5.0		5.0	5.0
Flash Don't Walk (s)	33.0	33.0		33.0	33.0			19.0	19.0		19.0	19.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effect Green (s)	17.4	17.4		17.4	17.4		45.2	37.2	37.2	46.1	39.6	39.6
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.58	0.48	0.48	0.59	0.51	0.51
v/c Ratio	0.72	0.18		0.16	0.21		0.38	0.72	0.09	0.47	0.96	0.38
Control Delay (s/veh)	42.4	8.3		24.5	8.2		11.5	20.2	2.6	14.2	35.4	4.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.4	8.3		24.5	8.2		11.5	20.5	2.6	14.2	35.4	4.8
LOS	D	A		C	A		B	C	A	B	D	A
Approach Delay (s/veh)		33.7			13.9			19.0			29.3	
Approach LOS		C			B			B			C	
Queue Length 50th (m)	28.6	0.7		5.4	0.8		4.8	71.2	0.0	6.6	~133.7	5.2
Queue Length 95th (m)	50.1	9.6		13.2	10.5		13.3	114.7	4.9	19.0	#216.6	23.4
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	670	851		683	851		256	1695	771	272	1806	925
Starvation Cap Reductn	0	0		0	0		0	125	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	0.31	0.08		0.07	0.10		0.38	0.78	0.09	0.47	0.96	0.38

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 77.7

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 25.5

Intersection LOS: C

Intersection Capacity Utilization 85.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	425	84	291	699	382	178	581	215	309	872	515
Future Volume (vph)	272	425	84	291	699	382	178	581	215	309	872	515
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	100.0		100.0	100.0		100.0	100.0		250.0
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	1.00		0.98	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3309	3544	1585	1772	3544	1585	1772	3544	1585	3340	3544	1555
Flt Permitted	0.950			0.376			0.191			0.950		
Satd. Flow (perm)	3285	3544	1549	698	3544	1547	356	3544	1549	3312	3544	1529
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			264			217			346
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		510.6			281.5			102.4			365.8	
Travel Time (s)		30.6			16.9			6.1			21.9	
Confl. Peds. (#/hr)	9		8	8		9	5		11	11		5
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	3%	3%	3%	3%	3%	3%	3%	3%	6%	3%	5%
Adj. Flow (vph)	275	429	85	294	706	386	180	587	217	312	881	520
Shared Lane Traffic (%)												
Lane Group Flow (vph)	275	429	85	294	706	386	180	587	217	312	881	520
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8	2		2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0	29.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.0	35.0	35.0	11.0	35.0	35.0	11.0	41.0	41.0	13.0	41.0	41.0
Total Split (s)	20.0	35.0	35.0	21.0	36.0	36.0	16.0	43.0	43.0	21.0	48.0	48.0
Total Split (%)	16.7%	29.2%	29.2%	17.5%	30.0%	30.0%	13.3%	35.8%	35.8%	17.5%	40.0%	40.0%
Maximum Green (s)	14.0	29.0	29.0	17.0	30.0	30.0	12.0	37.0	37.0	15.0	42.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0
Flash Don't Walk (s)		22.0	22.0		22.0	22.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	13.2	29.1	29.1	47.7	29.8	29.8	50.0	37.0	37.0	14.3	42.3	42.3
Actuated g/C Ratio	0.11	0.25	0.25	0.40	0.25	0.25	0.42	0.31	0.31	0.12	0.36	0.36
v/c Ratio	0.74	0.49	0.18	0.69	0.79	0.66	0.64	0.53	0.34	0.77	0.69	0.68
Control Delay (s/veh)	64.0	40.9	3.5	32.8	49.2	18.6	28.5	35.9	5.6	64.5	36.3	15.4
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 (s/veh)	64.0	40.9	3.5	32.8	49.2	18.6	28.5	35.9	5.6	64.5	36.3	15.4
LOS	E	D	A	C	D	B	C	D	A	E	D	B
Approach Delay (s/veh)		45.0			37.2			27.9			35.1	
Approach LOS		D			D			C			D	
Queue Length 50th (m)	32.6	46.1	0.0	46.2	82.2	24.4	22.8	60.1	0.0	37.1	93.8	33.4
Queue Length 95th (m)	47.0	62.0	6.1	68.4	104.5	59.2	36.5	78.0	17.0	#53.2	116.6	73.9
Internal Link Dist (m)		486.6			257.5			78.4			341.8	
Turn Bay Length (m)	100.0			100.0		100.0	100.0		100.0	100.0		250.0
Base Capacity (vph)	392	871	469	442	899	589	297	1108	633	423	1268	769
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	0.70	0.49	0.18	0.67	0.79	0.66	0.61	0.53	0.34	0.74	0.69	0.68

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 118.3

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay (s/veh): 35.8

Intersection LOS: D

Intersection Capacity Utilization 96.6%

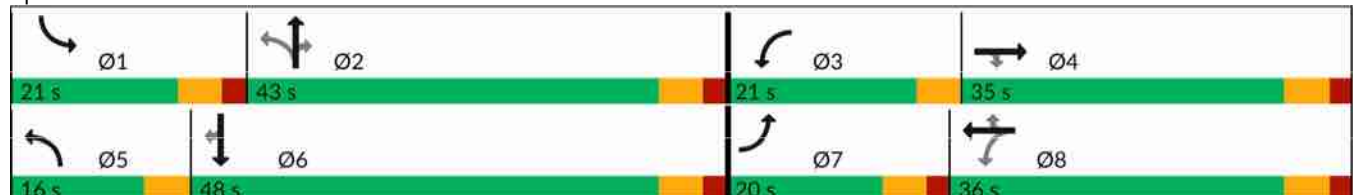
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: 111 Street SW & Ellerslie Road SW



Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	165	5	33	293	117	5	5	34	72	5	5
Future Vol, veh/h	11	165	5	33	293	117	5	5	34	72	5	5
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	11	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	12	185	6	37	329	131	6	6	38	81	6	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	192	0	0	690	751	200	718	689	401
Stage 1	-	-	-	-	-	-	213	213	-	473	473	-
Stage 2	-	-	-	-	-	-	477	538	-	245	216	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1092	-	-	1375	-	-	358	338	838	343	367	647
Stage 1	-	-	-	-	-	-	787	724	-	570	557	-
Stage 2	-	-	-	-	-	-	567	521	-	756	722	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1088	-	-	1374	-	-	337	320	828	306	348	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	320	-	306	348	-
Stage 1	-	-	-	-	-	-	777	715	-	561	534	-
Stage 2	-	-	-	-	-	-	535	500	-	699	713	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.6			11.4			20.8		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	615	1088	-	-	1374	-	-	319				
HCM Lane V/C Ratio	0.08	0.011	-	-	0.027	-	-	0.289				
HCM Control Delay (s)	11.4	8.3	0	-	7.7	0	-	20.8				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	1.2				

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	608	16	42	1110	5	5	5	32	5	5	5
Future Vol, veh/h	5	608	16	42	1110	5	5	5	32	5	5	5
Conflicting Peds, #/hr	5	0	1	1	0	5	4	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	80	80	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	5	668	18	46	1220	5	5	5	35	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1230	0	0	687	0	0	1388	2001	335	1667	2017	622
Stage 1	-	-	-	-	-	-	679	679	-	1320	1320	-
Stage 2	-	-	-	-	-	-	709	1322	-	347	697	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	557	-	-	896	-	-	101	58	658	62	57	427
Stage 1	-	-	-	-	-	-	405	447	-	164	223	-
Stage 2	-	-	-	-	-	-	389	222	-	639	438	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	554	-	-	895	-	-	87	54	657	51	53	423
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	54	-	51	53	-
Stage 1	-	-	-	-	-	-	401	443	-	162	211	-
Stage 2	-	-	-	-	-	-	353	210	-	592	434	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			26.8			68.1		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	211	554	-	-	895	-	-	73
HCM Lane V/C Ratio	0.219	0.01	-	-	0.052	-	-	0.226
HCM Control Delay (s)	26.8	11.6	-	-	9.2	-	-	68.1
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.8	0	-	-	0.2	-	-	0.8

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Future Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		1.00	0.98		1.00		0.97			0.98
Frt		0.861			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1580	0	1738	1547	0	1690	3476	1555	1772	3380	1555
Flt Permitted	0.446			0.696			0.359			0.078		
Satd. Flow (perm)	819	1580	0	1267	1547	0	638	3476	1502	145	3380	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			18				77			101
Link Speed (k/h)		48			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		9.5			17.9			8.9			6.4	
Confl. Peds. (#/hr)	9		6	6		9	1		5	5		1
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	3%	3%	5%	3%	4%	8%	5%	5%	3%	8%	5%
Adj. Flow (vph)	585	7	87	49	5	166	29	1625	38	38	659	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	585	94	0	49	171	0	29	1625	38	38	659	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		26.0	26.0	26.0	26.0	26.0	26.0
Minimum Split (s)	9.5	47.0		47.0	47.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	17.0	64.0		47.0	47.0		56.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	14.2%	53.3%		39.2%	39.2%		46.7%	46.7%	46.7%	46.7%	46.7%	46.7%
Maximum Green (s)	12.5	57.0		40.0	40.0		51.0	51.0	51.0	51.0	51.0	51.0
Yellow Time (s)	3.5	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	4.0		4.0	4.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0		7.0	7.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag							

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)		7.0		7.0	7.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Don't Walk (s)		33.0		33.0	33.0		19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effect Green (s)	33.9	31.4		14.4	14.4		51.1	51.1	51.1	51.1	51.1	51.1
Actuated g/C Ratio	0.36	0.33		0.15	0.15		0.54	0.54	0.54	0.54	0.54	0.54
v/c Ratio	1.40	0.16		0.25	0.68		0.08	0.87	0.04	0.49	0.36	0.12
Control Delay (s/veh)	220.4	6.3		38.2	47.9		12.6	25.8	0.6	41.6	13.6	3.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	25.6	0.0	0.0	0.0	0.0
Total Delay (s/veh)	220.4	6.3		38.2	47.9		12.6	51.4	0.6	41.6	13.6	3.0
LOS	F	A		D	D		B	D	A	D	B	A
Approach Delay (s/veh)		190.7			45.7			49.6			13.6	
Approach LOS		F			D			D			B	
Queue Length 50th (m)	~143.3	0.9		8.0	26.6		2.4	125.5	0.0	4.0	33.7	0.0
Queue Length 95th (m)	#211.9	10.6		18.1	47.4		7.7	#201.2	1.1	#21.3	52.4	7.7
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	418	988		537	665		344	1877	847	78	1826	867
Starvation Cap Reductn	0	0		0	0		0	326	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	1.40	0.10		0.09	0.26		0.08	1.05	0.04	0.49	0.36	0.12

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 94.5

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.40

Intersection Signal Delay (s/veh): 69.1

Intersection LOS: E

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 15

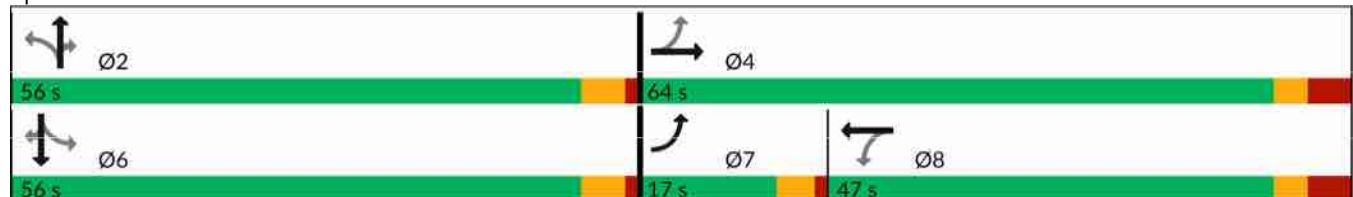
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

3: Rutherford Gate/Site Access & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	782	6	12	393	25	9	5	32	114	5	36
Future Volume (vph)	12	782	6	12	393	25	9	5	32	114	5	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		80.0	80.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97		1.00			1.00	
Frt			0.850			0.850		0.904			0.969	
Flt Protected	0.950			0.950				0.991			0.964	
Satd. Flow (prot)	1772	3476	1585	1772	3476	1585	0	1671	0	0	1736	0
Flt Permitted	0.509			0.315				0.928			0.752	
Satd. Flow (perm)	945	3476	1533	586	3476	1542	0	1564	0	0	1354	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30			30		34			37	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		351.5			510.6			74.5			48.7	
Travel Time (s)		21.1			30.6			6.7			3.5	
Confl. Peds. (#/hr)	5		8	8		5	7					7
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	5%	3%	3%	5%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	13	823	6	13	414	26	9	5	34	120	5	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	823	6	13	414	26	0	48	0	0	163	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	29.5	29.5		29.5	29.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	30.0	30.0		30.0	30.0	
Total Split (%)	45.5%	45.5%	45.5%	45.5%	45.5%	45.5%	54.5%	54.5%		54.5%	54.5%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	
Lead/Lag												

Lanes, Volumes, Timings

3: Rutherford Gate/Site Access & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effect Green (s)	14.1	14.1	14.1	14.1	14.1	14.1		8.7			8.7	
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44		0.27			0.27	
v/c Ratio	0.03	0.54	0.01	0.05	0.27	0.04		0.11			0.42	
Control Delay (s/veh)	5.8	8.3	0.5	6.3	6.4	2.8		6.4			12.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	5.8	8.3	0.5	6.3	6.4	2.8		6.4			12.2	
LOS	A	A	A	A	A	A		A			B	
Approach Delay (s/veh)		8.2			6.2			6.4			12.2	
Approach LOS		A			A			A			B	
Queue Length 50th (m)	0.3	13.8	0.0	0.3	6.0	0.0		0.5			4.9	
Queue Length 95th (m)	2.2	29.6	0.3	2.3	14.1	2.2		5.5			17.9	
Internal Link Dist (m)		327.5			486.6			50.5			24.7	
Turn Bay Length (m)	80.0		80.0	80.0								
Base Capacity (vph)	627	2307	1027	389	2307	1033		1278			1108	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	
Reduced v/c Ratio	0.02	0.36	0.01	0.03	0.18	0.03		0.04			0.15	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 32.1

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay (s/veh): 8.0

Intersection LOS: A

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Rutherford Gate/Site Access & Ellerslie Road SW



Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	827	65	104	229	277	79	839	332	310	284	193
Future Volume (vph)	376	827	65	104	229	277	79	839	332	310	284	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	100.0		100.0	100.0		100.0	100.0		250.0
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3309	3544	1585	1772	3476	1555	1772	3544	1585	3372	3476	1555
Flt Permitted	0.950			0.188			0.560			0.950		
Satd. Flow (perm)	3299	3544	1556	350	3476	1533	1044	3544	1556	3364	3476	1535
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			209			209			214
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		510.6			281.5			102.4			365.8	
Travel Time (s)		30.6			16.9			6.1			21.9	
Confl. Peds. (#/hr)	2		4	4		2	1		5	5		1
Confl. Bikes (#/hr)			2						2			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	3%	3%	3%	5%	5%	3%	3%	3%	5%	5%	5%
Adj. Flow (vph)	418	919	72	116	254	308	88	932	369	344	316	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	418	919	72	116	254	308	88	932	369	344	316	214
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8	2		2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0	29.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.0	35.0	35.0	11.0	35.0	35.0	11.0	41.0	41.0	13.0	41.0	41.0
Total Split (s)	23.0	47.0	47.0	11.0	35.0	35.0	11.0	42.0	42.0	20.0	51.0	51.0
Total Split (%)	19.2%	39.2%	39.2%	9.2%	29.2%	29.2%	9.2%	35.0%	35.0%	16.7%	42.5%	42.5%
Maximum Green (s)	17.0	41.0	41.0	7.0	29.0	29.0	7.0	36.0	36.0	14.0	45.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0
Flash Don't Walk (s)		22.0	22.0		22.0	22.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	16.9	40.9	40.9	38.0	29.0	29.0	45.0	36.0	36.0	14.0	47.2	47.2
Actuated g/C Ratio	0.14	0.34	0.34	0.32	0.24	0.24	0.38	0.30	0.30	0.12	0.39	0.39
v/c Ratio	0.90	0.76	0.11	0.60	0.30	0.58	0.20	0.88	0.60	0.88	0.23	0.29
Control Delay (s/veh)	73.9	40.1	0.4	35.5	38.4	17.9	18.9	50.3	19.5	75.5	25.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	73.9	40.1	0.4	35.5	38.4	17.9	18.9	50.3	19.5	75.5	25.5	4.4
LOS	E	D	A	D	D	B	B	D	B	E	C	A
Approach Delay (s/veh)		48.1			28.6			40.1			40.0	
Approach LOS		D			C			D			D	
Queue Length 50th (m)	50.4	100.6	0.0	15.7	25.8	19.0	11.0	109.6	31.2	41.7	26.6	0.0
Queue Length 95th (m)	#77.6	124.8	0.0	27.3	37.6	48.3	20.2	#143.0	63.1	#66.4	37.4	15.1
Internal Link Dist (m)		486.6			257.5			78.4			341.8	
Turn Bay Length (m)	100.0			100.0		100.0	100.0		100.0	100.0		250.0
Base Capacity (vph)	469	1212	634	193	841	529	434	1065	614	394	1368	734
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	0.89	0.76	0.11	0.60	0.30	0.58	0.20	0.88	0.60	0.87	0.23	0.29

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.8

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 40.9

Intersection LOS: D

Intersection Capacity Utilization 92.9%

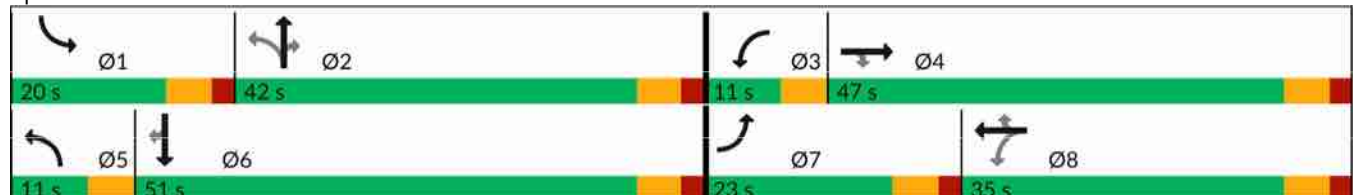
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: 111 Street SW & Ellerslie Road SW



Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	411	5	24	71	30	5	5	127	114	5	9
Future Vol, veh/h	5	411	5	24	71	30	5	5	127	114	5	9
Conflicting Peds, #/hr	5	0	1	1	0	5	0	0	8	8	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	4	3	3	5	3	3	3	3	3	3	3
Mvmt Flow	6	467	6	27	81	34	6	6	144	130	6	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	474	0	0	643	657	479	722	643	103
Stage 1	-	-	-	-	-	-	483	483	-	157	157	-
Stage 2	-	-	-	-	-	-	160	174	-	565	486	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1462	-	-	1083	-	-	385	383	585	341	391	949
Stage 1	-	-	-	-	-	-	563	551	-	843	766	-
Stage 2	-	-	-	-	-	-	840	753	-	508	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1082	-	-	367	368	580	244	376	944
Mov Cap-2 Maneuver	-	-	-	-	-	-	367	368	-	244	376	-
Stage 1	-	-	-	-	-	-	559	547	-	834	741	-
Stage 2	-	-	-	-	-	-	802	729	-	372	545	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.6			14			34.9		
HCM LOS							B			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	557	1455	-	-	1082	-	-	261				
HCM Lane V/C Ratio	0.28	0.004	-	-	0.025	-	-	0.557				
HCM Control Delay (s)	14	7.5	0	-	8.4	0	-	34.9				
HCM Lane LOS	B	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	1.1	0	-	-	0.1	-	-	3.1				

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	6	73	44	7	75	114	1198	64	124	1671	396
Future Volume (vph)	237	6	73	44	7	75	114	1198	64	124	1671	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.99		1.00	0.98				0.96			0.97
Frt		0.861			0.862				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1772	1583	0	1772	1573	0	1772	3544	1585	1772	3544	1585
Flt Permitted	0.702			0.704			0.105			0.104		
Satd. Flow (perm)	1297	1583	0	1309	1573	0	196	3544	1518	194	3544	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			78				87			331
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		11.4			17.9			8.9			6.4	
Confl. Peds. (#/hr)	14		5	5		14	4		11	11		4
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	247	6	76	46	7	78	119	1248	67	129	1741	413
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	82	0	46	85	0	119	1248	67	129	1741	413
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	26.0	26.0	7.0	26.0	26.0
Minimum Split (s)	47.0	47.0		47.0	47.0		11.0	31.0	31.0	11.0	31.0	31.0
Total Split (s)	47.0	47.0		47.0	47.0		11.0	42.0	42.0	11.0	42.0	42.0
Total Split (%)	47.0%	47.0%		47.0%	47.0%		11.0%	42.0%	42.0%	11.0%	42.0%	42.0%
Maximum Green (s)	40.0	40.0		40.0	40.0		7.0	37.0	37.0	7.0	37.0	37.0
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	4.0	4.0		4.0	4.0		0.0	1.0	1.0	0.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0			5.0	5.0		5.0	5.0
Flash Don't Walk (s)	33.0	33.0		33.0	33.0			19.0	19.0		19.0	19.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effct Green (s)	20.1	20.1		20.1	20.1		45.2	37.2	37.2	46.1	39.7	39.7
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.56	0.46	0.46	0.57	0.49	0.49
v/c Ratio	0.76	0.18		0.14	0.19		0.48	0.76	0.09	0.52	1.00	0.45
Control Delay (s/veh)	43.5	7.4		23.4	7.5		16.7	23.1	2.8	18.5	45.1	5.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.6	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.5	7.4		23.4	7.5		16.7	23.6	2.8	18.5	45.1	5.6
LOS	D	A		C	A		B	C	A	B	D	A
Approach Delay (s/veh)		34.5			13.1			22.1			36.4	
Approach LOS		C			B			C			D	
Queue Length 50th (m)	34.8	0.7		5.4	0.8		6.8	79.2	0.0	7.3	~155.7	6.8
Queue Length 95th (m)	59.0	9.9		13.0	10.3		20.7	128.8	5.2	#24.0	#235.1	29.6
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	648	829		654	825		248	1639	749	249	1747	927
Starvation Cap Reductn	0	0		0	0		0	119	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.10		0.07	0.10		0.48	0.82	0.09	0.52	1.00	0.45

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 80.4

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay (s/veh): 30.6

Intersection LOS: C

Intersection Capacity Utilization 87.7%

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: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

3: Rutherford Gate/Site Access & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	608	16	42	1110	114	5	5	32	71	5	17
Future Volume (vph)	36	608	16	42	1110	114	5	5	32	71	5	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		80.0	80.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.97		1.00			1.00	
Frt			0.850			0.850		0.895			0.975	
Flt Protected	0.950			0.950				0.994			0.963	
Satd. Flow (prot)	1772	3544	1585	1772	3544	1585	0	1659	0	0	1746	0
Flt Permitted	0.187			0.398				0.961			0.747	
Satd. Flow (perm)	348	3544	1551	742	3544	1541	0	1604	0	0	1355	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27			125		35			19	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		351.5			510.6			74.5			48.7	
Travel Time (s)		21.1			30.6			6.7			4.4	
Confl. Peds. (#/hr)	5		1	1		5	4					4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	40	668	18	46	1220	125	5	5	35	78	5	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	668	18	46	1220	125	0	45	0	0	102	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	29.5	29.5		29.5	29.5	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												

Lanes, Volumes, Timings

3: Rutherford Gate/Site Access & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effect Green (s)	21.4	21.4	21.4	21.4	21.4	21.4		7.9			7.9	
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.56	0.56		0.21			0.21	
v/c Ratio	0.21	0.34	0.02	0.11	0.62	0.14		0.13			0.35	
Control Delay (s/veh)	7.8	5.3	1.8	5.1	7.5	1.6		8.3			15.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	7.8	5.3	1.8	5.1	7.5	1.6		8.3			15.9	
LOS	A	A	A	A	A	A		A			B	
Approach Delay (s/veh)		5.4			6.9			8.3			15.9	
Approach LOS		A			A			A			B	
Queue Length 50th (m)	1.0	9.8	0.0	1.1	22.1	0.0		0.6			5.0	
Queue Length 95th (m)	5.4	19.9	1.4	4.7	43.0	4.4		6.0			14.6	
Internal Link Dist (m)		327.5			486.6			50.5			24.7	
Turn Bay Length (m)	80.0		80.0	80.0								
Base Capacity (vph)	237	2413	1064	505	2413	1089		1103			928	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	
Reduced v/c Ratio	0.17	0.28	0.02	0.09	0.51	0.11		0.04			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 38.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay (s/veh): 6.9

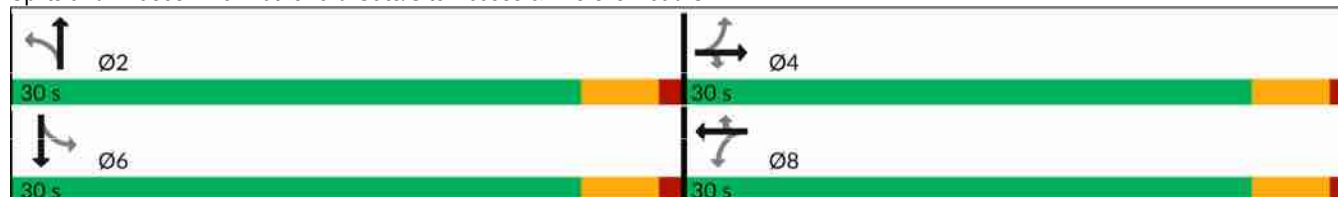
Intersection LOS: A

Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Rutherford Gate/Site Access & Ellerslie Road SW



Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	465	88	291	787	404	189	581	215	319	872	526
Future Volume (vph)	297	465	88	291	787	404	189	581	215	319	872	526
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	100.0		100.0	100.0		100.0	100.0		250.0
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	1.00		0.98	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3309	3544	1585	1772	3544	1585	1772	3544	1585	3340	3544	1555
Flt Permitted	0.950			0.336			0.207			0.950		
Satd. Flow (perm)	3288	3544	1549	624	3544	1547	386	3544	1549	3312	3544	1529
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			234			217			336
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		510.6			281.5			102.4			365.8	
Travel Time (s)		30.6			16.9			6.1			21.9	
Confl. Peds. (#/hr)	9		8	8		9	5		11	11		5
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	3%	3%	3%	3%	3%	3%	3%	3%	6%	3%	5%
Adj. Flow (vph)	300	470	89	294	795	408	191	587	217	322	881	531
Shared Lane Traffic (%)												
Lane Group Flow (vph)	300	470	89	294	795	408	191	587	217	322	881	531
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			7.4			7.4	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8	2		2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0	29.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.0	35.0	35.0	11.0	35.0	35.0	11.0	41.0	41.0	13.0	41.0	41.0
Total Split (s)	20.0	35.0	35.0	22.0	37.0	37.0	13.0	43.0	43.0	20.0	50.0	50.0
Total Split (%)	16.7%	29.2%	29.2%	18.3%	30.8%	30.8%	10.8%	35.8%	35.8%	16.7%	41.7%	41.7%
Maximum Green (s)	14.0	29.0	29.0	18.0	31.0	31.0	9.0	37.0	37.0	14.0	44.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

Lanes, Volumes, Timings

4: 111 Street SW & Ellerslie Road SW

02/17/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0
Flash Don't Walk (s)		22.0	22.0		22.0	22.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	13.6	29.6	29.6	49.2	30.6	30.6	48.3	37.3	37.3	13.7	44.0	44.0
Actuated g/C Ratio	0.11	0.25	0.25	0.41	0.26	0.26	0.41	0.31	0.31	0.11	0.37	0.37
v/c Ratio	0.80	0.53	0.17	0.71	0.87	0.71	0.73	0.53	0.34	0.84	0.67	0.68
Control Delay (s/veh)	67.9	41.7	0.7	32.9	54.3	24.6	37.2	36.1	5.6	71.4	34.8	16.2
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 (s/veh)	67.9	41.7	0.7	32.9	54.3	24.6	37.2	36.1	5.6	71.4	34.8	16.2
LOS	E	D	A	C	D	C	D	D	A	E	C	B
Approach Delay (s/veh)		46.6			42.0			29.6			35.9	
Approach LOS		D			D			C			D	
Queue Length 50th (m)	35.8	51.2	0.0	45.4	94.5	37.4	24.9	60.1	0.0	38.8	91.2	37.6
Queue Length 95th (m)	#54.7	68.1	0.0	67.3	#125.4	74.8	#44.0	78.0	17.0	#60.9	113.4	78.6
Internal Link Dist (m)		486.6			257.5			78.4			341.8	
Turn Bay Length (m)	100.0			100.0		100.0	100.0		100.0	100.0		250.0
Base Capacity (vph)	389	880	514	438	922	575	261	1109	633	392	1308	776
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	0.53	0.17	0.67	0.86	0.71	0.73	0.53	0.34	0.82	0.67	0.68

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 119.2

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay (s/veh): 38.3

Intersection LOS: D

Intersection Capacity Utilization 96.9%

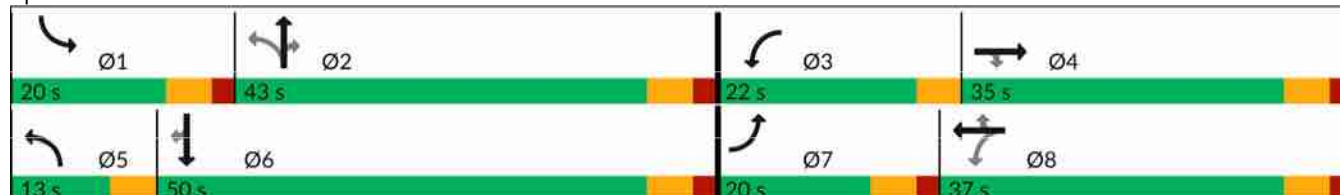
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: 111 Street SW & Ellerslie Road SW



Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	165	5	110	293	117	5	5	78	72	5	5
Future Vol, veh/h	11	165	5	110	293	117	5	5	78	72	5	5
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	11	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	12	185	6	124	329	131	6	6	88	81	6	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	192	0	0	864	925	200	917	863	401
Stage 1	-	-	-	-	-	-	213	213	-	647	647	-
Stage 2	-	-	-	-	-	-	651	712	-	270	216	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1092	-	-	1375	-	-	273	268	838	252	291	647
Stage 1	-	-	-	-	-	-	787	724	-	458	465	-
Stage 2	-	-	-	-	-	-	456	434	-	734	722	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1088	-	-	1374	-	-	238	231	828	196	251	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	231	-	196	251	-
Stage 1	-	-	-	-	-	-	777	715	-	451	405	-
Stage 2	-	-	-	-	-	-	390	378	-	636	713	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.7			11.6			35.4		
HCM LOS							B			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	643	1088	-	-	1374	-	-	208				
HCM Lane V/C Ratio	0.154	0.011	-	-	0.09	-	-	0.443				
HCM Control Delay (s)	11.6	8.3	0	-	7.9	0	-	35.4				
HCM Lane LOS	B	A	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	2.1				

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/05/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Future Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00		0.96			0.98
Frt		0.861			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3404	1578	0	1738	1544	0	1690	3476	1555	1772	3380	1555
Flt Permitted	0.950			0.696			0.329			0.070		
Satd. Flow (perm)	3357	1578	0	1265	1544	0	585	3476	1491	131	3380	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			71				76			101
Link Speed (k/h)		48			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		9.5			17.9			8.9			6.4	
Confl. Peds. (#/hr)	9		6	6		9	1		5	5		1
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	3%	3%	5%	3%	4%	8%	5%	5%	3%	8%	5%
Adj. Flow (vph)	585	7	87	49	5	166	29	1625	38	38	659	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	585	94	0	49	171	0	29	1625	38	38	659	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8			2		2	6		6
Detector Phase	7	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.5		42.5	42.5		9.5	23.5	23.5	9.5	26.5	26.5
Total Split (s)	38.0	80.5		42.5	42.5		9.6	60.0	60.0	9.5	59.9	59.9
Total Split (%)	25.3%	53.7%		28.3%	28.3%		6.4%	40.0%	40.0%	6.3%	39.9%	39.9%
Maximum Green (s)	33.5	76.0		38.0	38.0		5.1	55.5	55.5	5.0	55.4	55.4
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag

2032 TT - AM (Prot) 12:00 pm 06/06/2025 Baseline

Synchro 12 Report

Page 1

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/05/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0		31.0	31.0			12.0	12.0		15.0	15.0
Pedestrian Calls (#/hr)		6		9	9			5	5		1	1
Act Effect Green (s)	24.9	45.2		15.7	15.7		59.8	57.1	57.1	59.7	57.0	57.0
Actuated g/C Ratio	0.21	0.39		0.13	0.13		0.51	0.49	0.49	0.51	0.49	0.49
v/c Ratio	0.81	0.14		0.29	0.64		0.08	0.96	0.05	0.27	0.40	0.13
Control Delay (s/veh)	54.5	5.4		50.6	38.8		18.5	44.9	0.3	22.8	23.6	5.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	43.5	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.5	5.4		50.6	38.8		18.5	88.4	0.3	22.8	23.6	5.5
LOS	D	A		D	D		B	F	A	C	C	A
Approach Delay (s/veh)		47.7			41.4			85.2			21.2	
Approach LOS		D			D			F			C	
Queue Length 50th (m)	65.9	1.0		10.5	22.2		2.9	187.6	0.0	3.8	50.4	0.0
Queue Length 95th (m)	106.3	10.2		23.0	46.1		11.3	#360.8	0.6	13.8	99.6	12.3
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	1004	1085		423	564		349	1699	767	139	1651	793
Starvation Cap Reductn	0	0		0	0		0	316	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.09		0.12	0.30		0.08	1.17	0.05	0.27	0.40	0.13

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 116.7

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 59.8

Intersection LOS: E

Intersection Capacity Utilization 86.1%

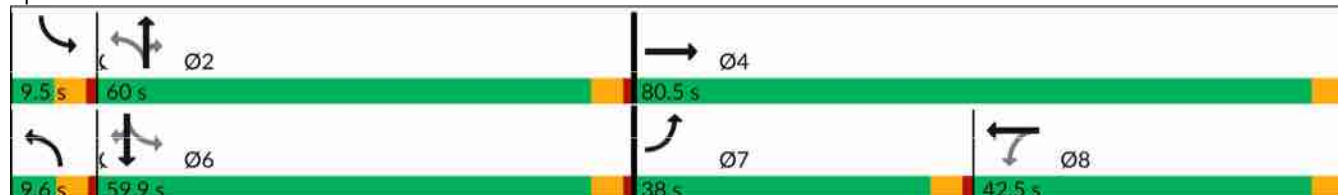
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/05/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Future Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98		1.00	0.97		1.00		0.96			0.98
Frt		0.861			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3404	1580	0	1738	1526	0	1690	3476	1555	1772	3380	1555
Flt Permitted	0.950			0.696			0.339			0.080		
Satd. Flow (perm)	3339	1580	0	1268	1526	0	603	3476	1500	149	3380	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			80				104			104
Link Speed (k/h)		48			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		9.5			17.9			8.9			6.4	
Confl. Peds. (#/hr)	9		6	6		9	1		5	5		1
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	3%	3%	5%	3%	4%	8%	5%	5%	3%	8%	5%
Adj. Flow (vph)	585	7	87	49	5	166	29	1625	38	38	659	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	585	94	0	49	171	0	29	1625	38	38	659	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Prot	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8			2		2	6		6
Detector Phase	7	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.5		9.5	9.5		9.5	23.5	23.5	9.5	26.5	26.5
Total Split (s)	24.7	42.5		17.8	17.8		9.5	58.0	58.0	9.5	58.0	58.0
Total Split (%)	22.5%	38.6%		16.2%	16.2%		8.6%	52.7%	52.7%	8.6%	52.7%	52.7%
Maximum Green (s)	20.2	38.0		13.3	13.3		5.0	53.5	53.5	5.0	53.5	53.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag

2032 TT - AM (N X-walk Removed) 3:59 pm 02/05/2026 Baseline

Synchro 12 Report

Page 1

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/05/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0						7.0	7.0		7.0	7.0
Flash Don't Walk (s)		31.0						12.0	12.0		15.0	15.0
Pedestrian Calls (#/hr)		6						5	5		1	1
Act Effect Green (s)	19.9	34.9		10.4	10.4		52.6	49.9	49.9	52.6	49.9	49.9
Actuated g/C Ratio	0.20	0.35		0.10	0.10		0.53	0.50	0.50	0.53	0.50	0.50
v/c Ratio	0.86	0.15		0.37	0.74		0.08	0.93	0.05	0.23	0.39	0.12
Control Delay (s/veh)	53.9	7.1		52.4	44.8		10.8	35.0	0.1	13.8	16.9	3.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	16.9	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.9	7.1		52.4	44.8		10.8	51.8	0.1	13.8	16.9	3.4
LOS	D	A		D	D		B	D	A	B	B	A
Approach Delay (s/veh)		47.4			46.5			50.0			15.0	
Approach LOS		D			D			D			B	
Queue Length 50th (m)	63.6	1.0		9.8	18.5		2.5	167.6	0.0	3.3	45.0	0.0
Queue Length 95th (m)	#96.8	11.8		21.7	#45.4		6.5	#225.9	0.0	7.8	59.8	8.1
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	709	671		173	278		376	1917	873	162	1864	885
Starvation Cap Reductn	0	0		0	0		0	327	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	0.83	0.14		0.28	0.62		0.08	1.02	0.04	0.23	0.35	0.11

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 99.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay (s/veh): 41.0

Intersection LOS: D

Intersection Capacity Utilization 80.7%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: 111 Street SW & MacEwan Rd/Blackburn Drive SW



Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/05/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Future Volume (vph)	556	7	83	47	5	158	28	1544	36	36	626	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	40.0		0.0	90.0		80.0	100.0		90.0
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00		0.96			0.98
Frt		0.861			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3404	1578	0	1738	1544	0	1690	3476	1555	1772	3380	1555
Flt Permitted	0.950			0.950			0.320			0.084		
Satd. Flow (perm)	3358	1578	0	1728	1544	0	569	3476	1491	157	3380	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			85				79			101
Link Speed (k/h)		48			40			60			60	
Link Distance (m)		127.2			199.4			148.4			105.9	
Travel Time (s)		9.5			17.9			8.9			6.4	
Confl. Peds. (#/hr)	9		6	6		9	1		5	5		1
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	3%	3%	5%	3%	4%	8%	5%	5%	3%	8%	5%
Adj. Flow (vph)	585	7	87	49	5	166	29	1625	38	38	659	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	585	94	0	49	171	0	29	1625	38	38	659	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	42.5	42.5		42.5	42.5		9.5	23.5	23.5	9.5	26.5	26.5
Total Split (s)	42.5	42.5		42.5	42.5		9.6	50.5	50.5	9.5	50.4	50.4
Total Split (%)	29.3%	29.3%		29.3%	29.3%		6.6%	34.8%	34.8%	6.6%	34.8%	34.8%
Maximum Green (s)	38.0	38.0		38.0	38.0		5.1	46.0	46.0	5.0	45.9	45.9
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag

2032 TT - AM (Split) 3:55 pm 02/05/2026 Baseline

Synchro 12 Report

Page 1

Lanes, Volumes, Timings

2: 111 Street SW & MacEwan Rd/Blackburn Drive SW

02/05/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	31.0	31.0		31.0	31.0			12.0	12.0		15.0	15.0
Pedestrian Calls (#/hr)	6	6		9	9			5	5		1	1
Act Effect Green (s)	24.0	24.0		14.2	14.2		50.7	47.9	47.9	50.6	47.9	47.9
Actuated g/C Ratio	0.23	0.23		0.13	0.13		0.48	0.45	0.45	0.48	0.45	0.45
v/c Ratio	0.75	0.22		0.21	0.61		0.09	1.03	0.05	0.25	0.43	0.14
Control Delay (s/veh)	45.9	10.7		43.7	32.0		20.0	60.9	0.1	23.1	25.1	6.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	28.9	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.9	10.7		43.7	32.0		20.0	89.8	0.1	23.1	25.1	6.3
LOS	D	B		D	C		B	F	A	C	C	A
Approach Delay (s/veh)		41.0			34.6			86.5			22.6	
Approach LOS		D			C			F			C	
Queue Length 50th (m)	57.3	1.1		9.1	16.5		2.6	~187.5	0.0	3.4	46.6	0.0
Queue Length 95th (m)	97.6	15.4		21.4	40.7		12.1	#378.8	0.2	14.8	105.2	13.1
Internal Link Dist (m)		103.2			175.4			124.4			81.9	
Turn Bay Length (m)	70.0			40.0			90.0		80.0	100.0		90.0
Base Capacity (vph)	1280	647		653	633		330	1582	721	155	1536	745
Starvation Cap Reductn	0	0		0	0		0	201	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	0.46	0.15		0.08	0.27		0.09	1.18	0.05	0.25	0.43	0.14

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 105.3

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay (s/veh): 59.0

Intersection LOS: E

Intersection Capacity Utilization 86.1%

ICU Level of Service E

Analysis Period (min) 15

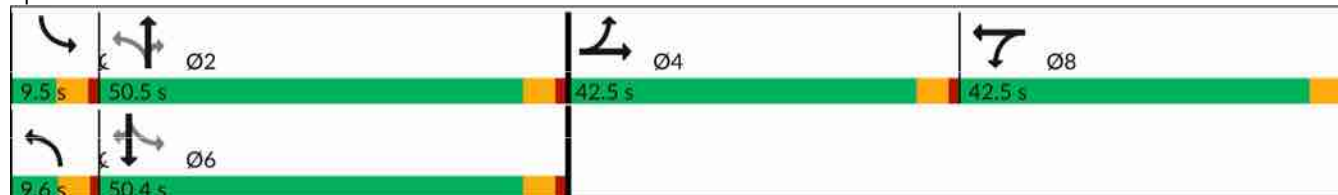
~ Volume exceeds capacity, queue is theoretically infinite.

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: 111 Street SW & MacEwan Rd/Blackburn Drive SW



APPENDIX D

Origin-Destination Tables

		DESTINATION SECTOR																			
		Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Sector 11	Sector 12	Sector 13	Sector 14	Sector 15	Sector 16	Sector 17	Sector 18	Sector 19	
ORIGIN SECTOR		CBD	University	CBD Fringe	NW Inner	NE Inner	SE Inner	SW Inner	West Inner	NW Suburb	NE Suburb	SE Suburb	SW Suburb	West Suburb	Sherwood Park	St. Albert	Strathcona County	Leduc County	Parkland County	Sturgeon County	Sum
Sector 1	CBD	16.8%	3.9%	14.5%	6.2%	5.3%	6.5%	5.5%	3.9%	8.3%	3.5%	10.6%	3.7%	2.8%	3.4%	1.9%	0.6%	1.2%	0.9%	0.5%	100.0%
Sector 2	University	9.2%	13.0%	7.3%	4.2%	2.8%	7.0%	11.2%	3.6%	8.2%	2.0%	14.8%	6.5%	3.2%	2.3%	1.5%	0.4%	1.5%	1.0%	0.3%	100.0%
Sector 3	CBD Fringe	12.6%	3.0%	15.7%	8.6%	5.2%	5.0%	3.8%	4.2%	14.0%	4.2%	10.2%	2.9%	2.4%	2.4%	1.9%	0.6%	1.3%	1.2%	0.6%	100.0%
Sector 4	NW Inner	9.3%	3.9%	9.1%	12.9%	6.5%	4.2%	2.4%	4.0%	17.7%	6.9%	9.8%	2.0%	2.1%	2.3%	3.0%	0.7%	0.8%	1.4%	0.9%	100.0%
Sector 5	NE Inner	7.3%	1.9%	5.8%	7.6%	15.4%	5.3%	2.1%	2.1%	12.6%	14.4%	11.3%	1.6%	1.4%	3.6%	2.0%	1.1%	1.0%	1.1%	2.3%	100.0%
Sector 6	SE Inner	12.0%	4.9%	5.2%	3.2%	4.0%	16.3%	3.8%	1.7%	5.6%	3.7%	26.2%	2.4%	1.3%	3.9%	0.9%	0.6%	3.0%	0.7%	0.4%	100.0%
Sector 7	SW Inner	10.1%	8.9%	5.0%	2.6%	1.9%	3.9%	16.9%	2.1%	6.9%	1.7%	17.9%	11.1%	2.9%	2.6%	1.0%	0.5%	2.6%	1.2%	0.3%	100.0%
Sector 8	West Inner	10.5%	4.4%	6.8%	5.1%	2.3%	2.5%	3.1%	16.2%	16.4%	2.6%	9.0%	4.1%	8.9%	1.5%	2.4%	0.4%	1.4%	1.9%	0.5%	100.0%
Sector 9	NW Suburb	6.4%	3.2%	5.5%	7.9%	5.4%	3.0%	1.8%	3.6%	26.8%	8.0%	8.1%	2.3%	3.8%	2.3%	5.6%	0.9%	1.0%	2.9%	1.7%	100.0%
Sector 10	NE Suburb	5.0%	1.4%	3.7%	5.8%	11.7%	3.9%	1.5%	1.6%	13.0%	25.4%	10.3%	1.5%	1.3%	4.1%	2.5%	1.7%	1.1%	1.1%	3.6%	100.0%
Sector 11	SE Suburb	5.3%	2.8%	2.1%	1.4%	1.6%	6.2%	3.6%	1.3%	3.6%	2.0%	49.4%	5.7%	1.5%	3.9%	0.6%	0.7%	7.2%	0.8%	0.3%	100.0%
Sector 12	SW Suburb	7.4%	5.6%	3.6%	2.0%	1.2%	2.2%	6.9%	2.0%	7.7%	1.7%	15.9%	29.1%	3.2%	2.2%	1.3%	0.6%	5.2%	1.7%	0.4%	100.0%
Sector 13	West Suburb	6.8%	3.4%	3.9%	3.1%	1.7%	2.1%	3.0%	9.5%	15.8%	2.2%	9.9%	6.0%	22.3%	1.4%	2.4%	0.5%	2.1%	3.3%	0.6%	100.0%
Sector 14	Sherwood Park	5.9%	1.3%	3.1%	2.2%	2.6%	3.8%	1.8%	1.0%	5.1%	4.4%	13.4%	2.1%	0.9%	43.0%	1.0%	5.6%	1.6%	0.7%	0.6%	100.0%
Sector 15	St. Albert	8.6%	1.3%	3.7%	3.5%	2.1%	1.5%	1.2%	2.4%	16.0%	3.7%	4.7%	2.0%	2.4%	1.4%	39.5%	0.7%	1.0%	1.9%	2.3%	100.0%
Sector 16	Strathcona County	3.5%	0.9%	1.7%	1.6%	1.9%	2.1%	1.0%	0.5%	3.2%	7.6%	8.2%	1.1%	0.5%	18.0%	0.9%	45.0%	0.9%	0.3%	1.0%	100.0%
Sector 17	Leduc County	2.6%	1.8%	1.5%	0.8%	0.6%	1.6%	2.1%	0.8%	2.4%	0.8%	15.2%	8.1%	2.8%	1.5%	0.4%	0.3%	55.5%	1.0%	0.1%	100.0%
Sector 18	Parkland County	3.5%	1.6%	2.6%	2.4%	1.2%	1.1%	1.5%	1.5%	13.7%	1.5%	5.0%	3.1%	3.8%	0.8%	2.7%	0.2%	1.6%	51.5%	0.5%	100.0%
Sector 19	Sturgeon County	3.9%	1.1%	3.2%	3.5%	3.0%	1.2%	0.8%	1.5%	11.9%	10.0%	3.6%	1.1%	1.5%	2.2%	10.4%	2.9%	0.4%	1.8%	36.1%	100.0%

Table P7: 2030 PM Peak Period (Percentage for Origin Trips)

ORIGIN SECTOR		DESTINATION SECTOR																			
		Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Sector 11	Sector 12	Sector 13	Sector 14	Sector 15	Sector 16	Sector 17	Sector 18	Sector 19	Sum
		CBD	University	CBD Fringe	NW Inner	NE Inner	SE Inner	SW Inner	West Inner	NW Suburb	NE Suburb	SE Suburb	SW Suburb	West Suburb	Sherwood Park	St. Albert	Strathcona County	Leduc County	Parkland County	Sturgeon County	
Sector 1	CBD	10.5%	2.0%	9.7%	5.8%	5.7%	6.8%	5.9%	5.3%	4.9%	4.4%	8.2%	9.4%	6.5%	4.6%	4.7%	1.6%	1.4%	1.5%	1.0%	100.0%
Sector 2	University	4.6%	8.3%	4.4%	4.1%	3.1%	6.8%	13.2%	4.3%	5.4%	2.5%	10.9%	16.1%	6.6%	2.1%	1.7%	0.8%	2.2%	2.1%	0.7%	100.0%
Sector 3	CBD Fringe	7.9%	2.1%	18.6%	8.9%	7.9%	5.0%	4.0%	4.9%	6.5%	5.5%	5.6%	5.5%	5.0%	3.0%	3.1%	1.2%	1.4%	2.3%	1.6%	100.0%
Sector 4	NW Inner	4.3%	1.4%	7.3%	17.1%	10.8%	3.6%	2.1%	4.1%	13.5%	8.8%	4.7%	3.6%	4.4%	3.2%	3.8%	1.3%	0.9%	2.7%	2.4%	100.0%
Sector 5	NE Inner	3.2%	1.2%	4.3%	7.9%	25.2%	4.0%	1.5%	1.7%	8.4%	21.0%	4.5%	2.2%	2.4%	3.7%	2.5%	1.8%	0.8%	1.4%	2.5%	100.0%
Sector 6	SE Inner	4.0%	2.7%	4.3%	3.8%	6.7%	20.7%	4.6%	1.9%	3.8%	5.7%	20.2%	4.9%	2.9%	6.1%	1.4%	1.8%	2.5%	1.2%	0.8%	100.0%
Sector 7	SW Inner	3.0%	3.8%	3.3%	2.0%	2.2%	4.5%	23.5%	2.3%	2.4%	1.9%	16.7%	19.3%	4.3%	2.9%	1.1%	1.0%	3.6%	1.7%	0.4%	100.0%
Sector 8	West Inner	3.6%	1.5%	4.9%	4.9%	2.9%	1.8%	3.0%	20.2%	8.8%	2.7%	4.4%	6.0%	23.2%	1.4%	3.6%	0.6%	1.6%	3.9%	1.2%	100.0%
Sector 9	NW Suburb	1.8%	0.9%	3.3%	7.4%	6.0%	2.2%	1.9%	4.7%	22.2%	7.6%	4.8%	5.7%	9.5%	2.7%	6.9%	1.2%	1.3%	6.5%	3.6%	100.0%
Sector 10	NE Suburb	1.5%	0.7%	2.2%	4.7%	15.8%	2.4%	1.0%	1.1%	7.9%	36.5%	4.1%	2.1%	2.0%	4.2%	2.9%	4.3%	0.8%	1.2%	4.5%	100.0%
Sector 11	SE Suburb	1.2%	1.3%	1.5%	1.7%	2.5%	6.2%	5.3%	1.5%	2.3%	3.1%	44.4%	10.0%	3.2%	4.5%	1.0%	1.7%	6.7%	1.3%	0.6%	100.0%
Sector 12	SW Suburb	1.2%	1.8%	1.4%	1.0%	0.9%	1.4%	9.2%	1.6%	2.1%	1.0%	13.1%	48.8%	4.4%	1.7%	1.0%	0.6%	6.7%	1.7%	0.3%	100.0%
Sector 13	West Suburb	1.7%	0.9%	2.1%	2.2%	1.6%	1.0%	2.9%	10.0%	7.9%	1.7%	4.0%	7.5%	43.8%	0.9%	2.9%	0.4%	2.2%	5.3%	0.9%	100.0%
Sector 14	Sherwood Park	0.8%	0.4%	1.3%	1.4%	2.9%	3.0%	1.5%	0.6%	1.9%	4.4%	8.1%	2.9%	1.2%	54.9%	0.9%	11.1%	1.4%	0.6%	0.7%	100.0%
Sector 15	St. Albert	0.7%	0.4%	1.6%	2.8%	2.3%	0.8%	0.8%	1.9%	9.3%	3.5%	1.5%	2.4%	4.1%	1.0%	55.9%	0.6%	0.6%	2.9%	7.1%	100.0%
Sector 16	Strathcona County	0.6%	0.2%	0.6%	0.8%	1.5%	0.9%	0.6%	0.3%	1.5%	3.5%	3.0%	1.2%	0.7%	12.3%	0.9%	68.4%	0.7%	0.3%	1.8%	100.0%
Sector 17	Leduc County	0.7%	0.4%	0.6%	0.4%	0.5%	0.9%	1.6%	0.5%	0.8%	0.8%	9.2%	7.2%	1.7%	1.1%	0.5%	0.5%	71.3%	1.2%	0.2%	100.0%
Sector 18	Parkland County	0.7%	0.3%	0.8%	0.9%	0.8%	0.4%	0.8%	1.1%	3.3%	1.0%	1.7%	2.5%	4.2%	0.5%	1.6%	0.2%	1.2%	77.3%	0.8%	100.0%
Sector 19	Sturgeon County	0.9%	0.3%	1.2%	1.7%	4.9%	0.6%	0.5%	0.8%	4.7%	10.3%	1.5%	1.3%	1.9%	2.5%	10.3%	3.0%	0.4%	1.5%	51.7%	100.0%

Table P8: 2030 PM Peak Period (Percentage for Destination Trips)

[illegible]