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Creditview Road Environmental Assessment Addendum – Bancroft Drive / Sir Monty’s Drive to Old Creditview Road

City of Mississauga

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City of Mississauga

R.J. Burnside & Associates Limited
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February 13, 2026
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Creditview Road Environmental Assessment Addendum – Bancroft Drive / Sir Monty's Drive to Old Creditview Road
February 13, 2026

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1.0 Introduction

1.1 Background to the Project

The City of Mississauga (the City) retained R.J. Burnside & Associates Limited (Burnside) to prepare an addendum to the Creditview Road Municipal Class Environmental Assessment (MCEA) Study completed by AECOM in 2016, herein referred to as the "2016 MCEA Study". The 2016 MCEA Study evaluated solutions to address capacity and operational deficiencies along Creditview Road, while preserving the existing cultural and natural heritage of the corridor. The Study included an assessment of additional north-south capacity, traffic management improvements and active transportation facilities along a 2.2 km section of Creditview Road between Bancroft Drive / Sir Monty's Drive and Old Creditview Road (excluding the bridge over Credit River).

The Creditview Road bridge over Highway 401 was replaced by December 2023 as part of the Ministry of Transportation Ontario's (MTO's) widening of Highway 401 to 12 lanes. In coordination with the bridge replacement, Creditview Road was widened from 2 to 4 lanes between Argentia Road and Old Creditview Road. The road widening included a new multi-use trail on the west side and new sidewalk on the east side.

The 2016 MCEA Study recommended both an interim solution (by 2031) and long-term solution (beyond 2031) for Creditview Road, which consisted of the recommended improvements listed in Table 1.

Table 1: 2016 Recommended Improvements

Phase	Segment or Intersection	Recommended Improvement
Interim Preferred Alternative (by 2031)	Creditview Road between Bancroft Drive and Argentia Road	Maintain two travel lanes Multi-use trail (west side) Sidewalk (east side)
	Creditview Road / Argentia Road	Two-lane roundabout
	Creditview Road / Falconer Drive	One-lane roundabout
	Creditview Road / Kenninghall Boulevard	One-lane roundabout
Long-Term Solution (beyond 2031)	Creditview Road between Bancroft Drive and Argentia Road	Four-lane widening
	Creditview Road / Falconer Drive	Two-lane roundabout
	Creditview Road / Kenninghall Boulevard	Two-lane roundabout

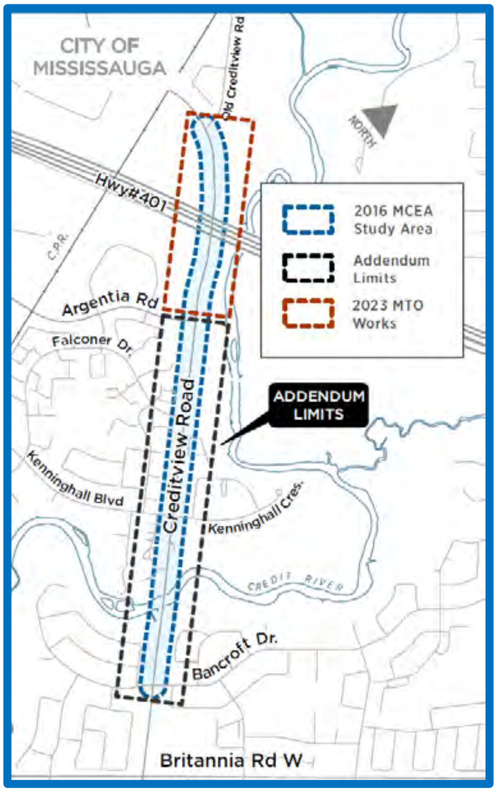
The executive summary of the 2016 MCEA Environmental Study Report is provided in Appendix A (an electronic version of the full document is available on the City’s website at Mississauga.ca/CreditviewEA). The preferred long-term solution from the 2016 MCEA Study is illustrated in Appendix B.

1.2 Purpose of the Addendum

The scope of the approved 2016 MCEA Study consisted of the Creditview Road corridor between Bancroft Drive / Sir Monty’s Drive and Old Creditview Road.

As part of the MTO’s infrastructure widening improvements to Highway 401, there was an opportunity to coordinate the approved MCEA Study recommendations with the Creditview Road bridge replacement over Highway 401. The long-term solution was implemented by MTO along Creditview Road from Argentia Road to Old Creditview Road, which included the bridge replacement, 2 to 4 lane road widening, new multi-use trail on the west side of the road, and new sidewalk on the east side. These works were completed in 2023.

Figure 1 - EA Addendum Study Area



Therefore, the Study limits of this Addendum consist of the remaining Creditview Road Study corridor between Bancroft Drive / Sir Monty’s Drive and Argentia Road, as illustrated in Figure 1.

In recent years, a number of reassessments were conducted as part of supporting studies that resulted in changes to the previously proposed recommendations and triggered the need for an Environmental Assessment (EA) Addendum, including the following:

- **Creditview Road Implementation Strategy** – Due to the COVID-19 pandemic and change in traffic patterns, City staff needed to confirm the construction staging of improvements for the Creditview Road corridor and reviewed the merits of proceeding with a one-stage (long-term solution only) or two-stage (interim and long-term solution) as identified in the 2016 MCEA Study.
- **Creditview Road Future Conditions Assessment** – Based on updated traffic volumes, this analysis compared the operational results of intersections between

Bancroft Drive / Sir Monty’s Drive and Argentia Road, including an assessment of signalized versus roundabout intersection control.

- **Creditview Road Southbound Left-Turn Lane at Rivergate Place** – City staff were asked to investigate the potential for an improved access to Rivergate Place, with an exclusive southbound left-turn lane along Creditview Road, as part of the implementation of the long-term solution. This design assignment included confirmation that additional property requirements along Creditview Road were not required and that delivery trucks could geometrically make a safe U-turn at Kenninghall Boulevard / Crescent if the intersection were to remain signalized with the widening of Creditview Road.

As a result, the following items were updated/changed from the approved 2016 MCEA Environmental Study Report:

- Confirmation of proceeding with one-stage of construction (long-term solution only) by 2031;
- Change in recommended traffic control from a roundabout to traffic signal at Creditview Road and Kenninghall Boulevard / Crescent;
- Inclusion of a new southbound left-turn lane at Creditview Road and Rivergate Place;
- Consideration for reduced posted speeds along Creditview Road between Bancroft Drive / Sir Monty’s Drive and Argentia Road;
- Opportunities for separated pedestrian and cyclist facilities along Creditview Road; and
- Updated locations for new noise walls.

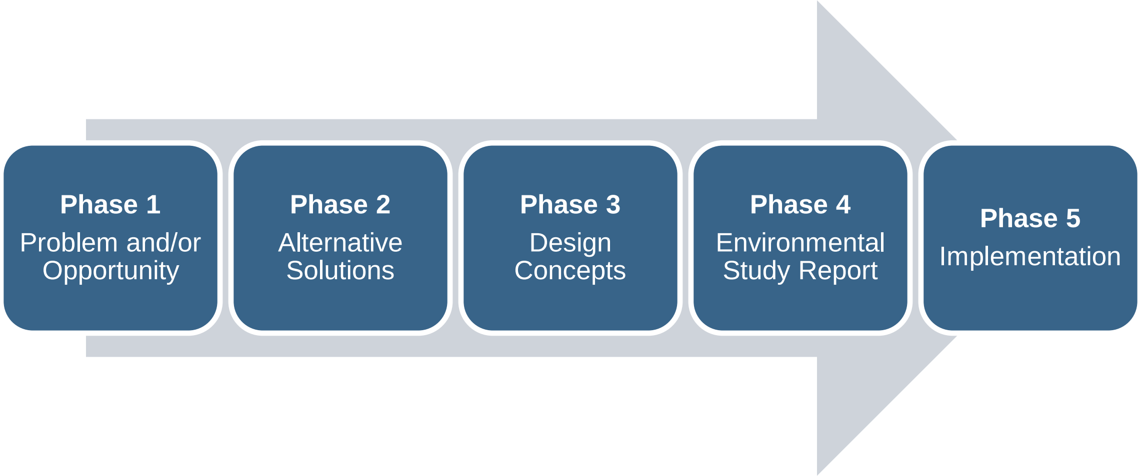
The purpose of this report is to confirm and document the above changes in an addendum to the 2016 MCEA Environmental Study Report.

2.0 Municipal Class Environmental Assessment Process

The Municipal Class Environmental Assessment is a planning and design process approved under the *Ontario Environmental Assessment Act* (*EA Act*). Initially prepared by the Municipal Engineers Association (MEA), the parent Municipal Class Environmental Assessment document was approved under the *EA Act* in 2000 and was amended in 2007, 2011, 2015, 2023 and 2024.

The 2016 MCEA Study was completed to comply with the planning and design process that was in effect at the time of Study Commencement in 2013 (i.e., following the MCEA Municipal Class Environmental Assessment document dated October 2000, as amended in 2007 and 2011). The 2016 MCEA Study was classified as a Schedule C project, which involved completion of Phases 1 through 4 of the planning and design process (see Figure 2).

Figure 2 - Schedule C Municipal Class Environmental Assessment Process



This addendum is being completed in accordance with the 2024 Municipal Class Environmental Assessment document. The 2024 document incorporates several updates since the 2011 amendment, including the transition to a project list-based EA framework, removal of Schedule A and A+ pre-approved projects, integration with the *Planning Act* and other legislation, emphasis on meaningful engagement with Indigenous Communities, refined requirements for Schedule C Environmental Study Reports, and new provisions for monitoring and updating EA documentation.

2.1 Addendum Process

The MCEA document provides for a process when a significant change to the project is proposed after it has been cleared to proceed to Phase 5 (Implementation). In such cases, an addendum to the Environment Study Report must be prepared to describe the circumstances necessitating the change, the environmental implications of the change and what, if anything, can and will be done to mitigate any negative environmental impacts. The addendum must be placed on the public record for a minimum 30-day review period. If implementation of the project has already commenced, the parts of the project that are subject of the addendum or potentially directly affected by the proposed change shall stop and not proceed until the end of the public review period and statutory waiting period.

In accordance with the requirements of the MCEA (2024), the Addendum Report will be made available for public review and comment for a period of 30 calendar days following the publication of a Notice of Addendum. The Notice of Addendum will be issued to potentially affected members of the public, review agencies, and Indigenous

Communities that may have an interest in the project, as well as those who were notified in the preparation of the original 2016 MCEA Study, where possible. Interested persons may provide written comments to the Project Lead listed in the Notice within the 30-day comment period.

The Notice of Addendum will include the public's right to request a Section 16 Order on the grounds that the order may prevent, mitigate, or remedy adverse impacts on Aboriginal and treaty rights.

A copy of the Notice is provided in Appendix C.

2.2 Section 16 Order (Formerly Part II Order)

The Minister of Environment, Conservation and Parks (or delegate) has the authority and discretion to make an Order under Section 16 (formerly Part II) of the *EA Act*. A Section 16 Order may require that the proponent of a project following the MCEA process:

1. Submit an application for approval of the project before they proceed. This may require a proponent to complete a comprehensive EA (Section 16(1) Order).
2. Meet conditions on the project (Section 16(3) Order). This could include, but is not limited to conditions for:
    a) Further study;
    b) Monitoring; and
    c) Consultation.

Interested parties may request an Order under Section 16(6) if:

- They have outstanding concerns that a project following the MCEA process may have a potential adverse impact on constitutionally protected Aboriginal and treaty rights, and
- They believe that an Order may prevent, mitigate, or remedy this impact.

A request may be made to the Minister for an Order requiring a higher level of assessment (i.e., requiring a comprehensive EA before being able to proceed), or that conditions be imposed (e.g., requiring further studies), only on the grounds that the requested Order may prevent, mitigate, or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered.

Requests should include the following:

- The Requester’s full name and contact information;
- Project name;
- Proponent name;
- The type of Order that is being requested (comprehensive EA or that conditions be imposed);
- Explanation of how an Order may prevent, mitigate, or remedy potential adverse impacts on Aboriginal and treaty rights;
- Information about efforts to date to discuss and resolve concerns with the proponent; and
- Any other information in support of statements in the request.

The request should be sent in writing or by email to:

Minister of the Environment, Conservation and Parks
Ministry of the Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto ON M4V 1P5
EABDirector@ontario.ca

Requests must also be sent to the City of Mississauga in writing or by email to the attention of:

Sonya Bubas, MCIP, RPP
Project Leader, Transportation
City of Mississauga
300 City Centre Drive, 8th Floor
Mississauga ON L5B 3C1
Sonya.Bubas@mississauga.ca

If the Minister does not receive a request for a Section 16 Order within the 30 calendar day comment period, the project will proceed to implementation subject to a waiting period of an additional 30 days following the end of the comment period. Construction timing will be subject to detailed design and annual Council approval of the Capital Program.

3.0 Consultation

A summary of the consultation undertaken for this EA Addendum is provided below.

3.1 Public Consultation

The project webpage for this EA Addendum is housed on the City of Mississauga website (www.mississauga.ca). The Notice of Addendum and the EA Addendum Report are posted on the project webpage at Mississauga.ca/CreditviewEA. The Notice of Addendum will also be advertised online in the Mississauga News (Mississauga.com) during the minimum 30-day review period.

The Notice of Addendum was mailed or emailed to members of the public who were previously notified of the 2016 MCEA Study Completion. The public mailing list for the 2016 MCEA Study included all previously interested members of the public and property owners within approximately 300 m (150 m on both sides) of the Study corridor. Property owner contact information was updated for the Notice of Addendum. The public mailing list is not appended to this Report in respect of the *Freedom of Information and Protection of Privacy Ac*t.

3.2 Agency Consultation

The following agencies were notified of the EA Addendum by mail or email:

- Ministry of Environment, Conservation and Parks;
- Ministry of Citizenship and Multiculturalism;
- Ministry of Natural Resources;
- Ministry of Transportation; and
- Credit Valley Conservation.

In addition, the Notice of Addendum was mailed or emailed to agency representatives who were notified of the 2016 MCEA Study Completion. The agency mailing list was updated with current contact information and is provided in Appendix C.

3.3 Indigenous Consultation

The following Indigenous Communities were notified of the EA Addendum by registered mail:

- Mississaugas of the Credit First Nation;
- Six Nations of the Grand River;
- Haudenosaunee Confederacy Chiefs Council (HCCC) / Haudenosaunee Development Institute (HDI);
- Nationne Wendat; and

- Metis Nation of Ontario.

The Notice of Addendum was mailed to the Indigenous Communities who were notified of the 2016 MCEA Study Completion. The Indigenous Communities mailing list was updated with current contact information and is provided in Appendix C.

The City will contact each Indigenous Community to confirm they have received the Notice of Addendum and whether they have any questions or comments on the Addendum. All communications with Indigenous Communities will be recorded in a log that will be filed with the Final EA Addendum Report.

4.0 Updated Planning Framework

The following planning and policy documents informed the previous 2016 MCEA Study:

- Provincial Planning Context;
  - Provincial Policy Statement 2014.
  - Places to Grow and Growth Plan for the Greater Golden Horseshoe (2006).
  - Highway 401 Improvements Planning.
- Regional Planning Context;
  - Regional Official Plan (2014).
  - Regional Active Transportation Plan (2012).
- Municipal Transportation Planning Context;
  - City of Mississauga Official Plan (2012).
  - City of Mississauga Strategic Plan (2009).
  - 2009 Future Directions – Master Plan for Parks and Natural Areas.
  - City of Mississauga Cycling Master Plan (2010).
  - City of Mississauga Living Green Master Plan (2012).
  - Natural Heritage and Urban Forest Strategy (2014).
  - Mississauga Transportation Strategy (Interim).
  - Credit River Parks Study (2013).
- Future Population and Employment Growth (2013).

Many of the above listed documents have been updated or replaced since the 2016 MCEA Study was completed. In addition, new studies have been completed that guide this EA Addendum. These documents are summarized below.

4.1 Provincial Planning Context

4.1.1 Provincial Planning Statement (2024)

The Provincial Planning Statement (PPS) came into effect on October 20, 2024, replacing both the Provincial Policy Statement (2020) and the Growth Plan for the Greater Golden Horseshoe (2019).

The PPS was issued under Section 3 of the *Planning Act*. The *Planning Act* directs municipal decisions affecting planning matters, stating they "shall be consistent with" the PPS. Policies in the PPS direct growth for settlement areas and rural lands, development of infrastructure and facilities (including transportation systems and trails), and protection for environmental features and resources.

Under Section 3.2 (Transportation Systems) and Section 3.3 (Transportation and Infrastructure Corridors), the PPS provides the following guidance as it relates to transportation planning:

- Transportation systems should be provided which are safe, are energy efficient, facilitate the movement of people and goods, are appropriate to address projected needs, and support the use of zero- and low-emission vehicles;
- Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible;
- As part of a multimodal transportation system, connectivity within and among transportation systems and modes should be planned for, maintained, and where possible, improved, including connections which cross jurisdictional boundaries;
- Planning authorities shall plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit, and electricity generation facilities and transmission systems to meet current and projected needs;
- Major goods movement facilities and corridors shall be protected for the long term;
- Planning authorities shall not permit development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified;
- The preservation and reuse of abandoned corridors for purposes that maintain the corridor's integrity and continuous linear characteristics should be encouraged, wherever feasible; and
- The co-location of linear infrastructure should be promoted, where appropriate.

4.1.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)

As mentioned above, the 2024 PPS replaces A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019).

4.1.3 Highway 401 Improvements Planning

Prior to and following the completion of the 2016 MCEA Study, Highway 401 expansion work was planned through the Study area, between Credit River and Regional Road 25. Improvements include additional lanes, High Occupancy Vehicle (HOV) lanes and bridge rehabilitations. The Design and Construction Report for the Highway 401 Expansion Project from Credit River to Regional Road 25 was prepared in January 2020 by West

Corridor Constructors under the MTO Class Environmental Assessment for Provincial Transportation Facilities (2000) to support this work.

As part of the MTO's widening improvements, the Creditview Road bridge over Highway 401 was replaced. In addition, Creditview Road was widened from 2 to 4 lanes from Argentia Road to Old Creditview Road with a new multi-use trail on the west side and new sidewalk on the east side. These works were completed in 2023.

4.2 Regional Planning Context

4.2.1 Regional Official Plan (2022)

The Region of Peel Official Plan was adopted on April 28, 2022. However, as of July 1, 2024, under the *Planning Act*, Peel's local municipalities (City of Brampton, Town of Caledon and City of Mississauga) became the land use planning authorities responsible for local and regional official plans and development applications. The Mississauga Official Plan was last consolidated in 2025 and is described further in Section 4.3.1.

4.2.2 Regional Long Range Transportation Plan (2019)

Peel Region's Long Range Transportation Plan (LRTP) is a five-year plan that guides transportation planning needs to 2041. The overarching goal of the plan is to establish a transportation network system where 50% of travel is completed through sustainable modes, such as walking, cycling, transit and carpooling. To support this target mode split, the plan identifies key guiding transportation focus areas for component studies to manage growth, including:

- Prioritizing sustainable transportation measures as a key solution to address long-term transportation challenges;
- Ensuring the safety of all road users through a 10% reduction in injuries and fatalities; and
- Optimizing the existing transportation capacity.

The LRTP addresses increased demands on the Region's transportation network as a result of population and employment growth forecasts in the Growth Plan for the Greater Golden Horseshoe, 2017, which has since been replaced by the 2024 PPS.

4.3 Municipal Planning Context

4.3.1 City of Mississauga Official Plan (2025)

The Mississauga Official Plan was last consolidated in May 2025. It provides direction to guide the City's development to 2031 through planning policies that form the basis for detailed land use designations and urban design policies and sets the context for the review and approval of development applications.

Chapter 8 of the City's Official Plan prescribes policies to support a multi-modal city by supporting a shift from a suburban, vehicle-oriented city to a more urban, sustainable municipality. This includes the development of a transportation network that supports the movement of people and goods through various modes: transit, vehicular travel, active transportation (walking and cycling), rail, and air. A summary of key transportation-related themes identified in the City's Official Plan that apply to this EA Addendum is provided below:

- Reduce reliance on single-occupant vehicles and promote sustainable travel choices;
- Design transportation systems that prioritize safety;
- Enhance the local system with roads and multi-use trails for daily travel; and
- Protect corridors for future transit and cycling infrastructure.

Schedule 5 (Long Term Road Network) and Schedule 7 (Long Term Cycling Routes) of the City's Official Plan designate Creditview Road as a Major Collector and Primary On-Road / Boulevard Route, respectively.

4.3.2 City of Mississauga Strategic Plan (2009)

The City of Mississauga Strategic Plan (2009) has not been updated since the original 2016 Creditview Road MCEA Study was completed. The Strategic Plan remains the foundation for the City's policies and key strategic actions.

The key "Pillars for Change" identified in the plan include:

- **Move** – Developing a transit-oriented city;
- **Belong** – Ensuring youth, older adults and new immigrants thrive;
- **Connect** – Completing our neighbourhoods;
- **Prosper** – Cultivating creative and innovative businesses; and
- **Green** – Living green.

As mentioned in the 2016 MCEA Environmental Study Report, the following strategic goal remains relevant to this EA Addendum:

- **Provide Mobility Choices** – to provide all with the choice to walk, cycle and use transit or active modes of transportation in all seasons, because it is convenient, connected, desirable and healthy.

The City is committed to tracking and reporting on the progress of the Strategic Plan through annual progress reports, which can be accessed on the City's website (Mississauga.ca).

4.3.3 Master Plan for Parks and Natural Areas (2024)

The 2024 Future Directions Parks, Forestry & Environment Plan provides a strategic framework for parkland growth, natural area protection, and facility provisioning. It identifies the following five strategic priorities and includes recommendations for enhancing park experiences and addressing equity and climate resilience:

- Growing and Connecting Parkland;
- Sustainable and Inclusive Design and Management;
- Expand, Protect and Restore Natural Areas;
- Efficient Provisioning for Facilities; and
- Enhancing Park Experiences.

The plan highlights the importance of supporting multi-modal networks to connect people with parks through design features such as protected bike lanes, crosswalks, filling missing sidewalks and improvements to public transportation.

Credit Meadows Park

Credit Meadows Park opened to the public in 2025. Two accesses to the park are provided along Creditview Road within the Study corridor: one between Argentia Road and Falconer Drive and another approximately 100 m south of Kenninghall Crescent / Kenninghall Boulevard.

4.3.4 Natural Heritage and Urban Forest Strategy (2014)

The Natural Heritage and Urban Forest Strategy (2014) has not been updated since the previous 2016 Creditview Road MCEA Study was completed.

It remains the latest guiding document for planning direction and strategies related to natural heritage and urban forest. A significant portion of the Study area is classified under the Natural Heritage System. One of the strategy objectives of the plan is to “enhance and restore the Natural Heritage System and urban forest on public lands through proactive management, enforcement of applicable regulations, and education.”

4.3.5 City of Mississauga Vision Zero Action Plan (2021)

The City committed to Vision Zero in 2018, working towards a goal of zero fatalities and serious injuries from collisions on City streets. The Vision Zero approach emphasizes that no loss of life is acceptable and highlights the importance of prioritizing safety for all road users by slowing speeds, educating people, and enforcing laws that support safer behaviour.

The Vision Zero Action Plan (2021) includes 91 actions. As it pertains to this EA Addendum, the following actions are considered:

- **Action 11 (Lane Widths)** – Implement narrower lane widths where possible as a tool to improve speed compliance, reduce crossing distances and accommodate the needs of all road users;
- **Action 12 (Design Speed)** – Through the capital or as part of the planning and design for any street project, reduce the design speed for new and retrofit road projects;
- **Action 15 (Roundabouts)** – Roundabouts should be considered where appropriate to reduce the severity of collisions and improve traffic flow while maintaining the safety of vulnerable road users;
- **Action 17 (Protected and Dedicated Cycling Infrastructure)** – Continue to implement the cycling network approved in the Mississauga Cycling Master Plan. Where possible, strive for protected and dedicated infrastructure; and
- **Action 18 (Pedestrian Master Plan Implementation)** – Continue to implement the recommendations of the Pedestrian Master Plan with particular focus on the actions related to a safe and connected network of pedestrian facilities.

4.3.6 City of Mississauga Cycling Master Plan (Update Underway)

The 2025 Cycling Master Plan Update is currently underway. The plan aims to transform Mississauga into a bicycle-friendly city. Draft maps of the priority and long-term cycling network are posted on the City's website. In the draft maps, Creditview Road between Velebit Court and Argentia Road is identified as a priority network route within the 5-year plan.

The ongoing 2025 Cycling Master Plan Update serves as an update to the previous 2018 Cycling Master Plan to align with the latest guidelines and public feedback. The previous (2018) Cycling Master Plan notes the potential for conflict between different kinds of users on multi-use trails, which can impact safety. It further highlights the need to separate bicycles and pedestrians where space allows. The plan recommends separating cyclists and pedestrians on busy multi-use trails and using surface materials to clearly indicate where the facilities change.

It should be noted that the projects recommended as part of the 2018 Cycling Master Plan remain ongoing.

4.3.7 City of Mississauga Pedestrian Master Plan (2021)

The City of Mississauga Pedestrian Master Plan (2021) is a long-term plan to 2051 that aims to improve the pedestrian network, infrastructure, policies, programs and environment to allow people of all ages and abilities to move easily and comfortably.

The following actions were recommended from the plan and are relevant to this Study:

- Update sidewalk design requirements – The plan proposes varying sidewalk widths depending on the road classification and context. For collector roads located in neighbourhood areas, the recommended sidewalk width is 1.8 to 2.4 m. The Study notes that these requirements are to be confirmed through the development of the Changing Lanes Complete Streets Guidelines; and
- Develop a pedestrian network that is safe and comfortable for all – This includes updating design standards to ensure primary boulevard trails and primary off-road trails are designed and constructed with consideration for separating cyclists and pedestrians or protecting for future separation.

4.3.8 City of Mississauga Living Green Master Plan (2023)

The Living Green Master Plan (LGMP), initially adopted in 2012 and updated in 2023, provides a framework to meet environmental goals in the Strategic Plan. The LGMP identifies 49 actions that are focussed around nine priority areas, including transportation, urban form, natural heritage, air, water, waste, energy, organization, and policy and education programs; and recommended for implementation over 10 years. Almost all (98%) of these actions are completed or underway.

As it relates to transportation and this Study, the LGMP highlights that the City is committed to providing safe and effective transportation networks by encouraging sustainable modes of travel, which encourages healthy lifestyles and can lead to improved air quality and a reduction in greenhouse gas (GHG) emissions.

4.3.9 Mississauga Transportation Master Plan (2019)

The Mississauga Transportation Master Plan (2019) is the guiding document for transportation planning to 2041. The plan’s vision statement is as follows: “In Mississauga, everyone and everything will have the freedom to move safely, easily, and efficiently to anywhere at any time.” It includes nearly 100 actions across six goals, emphasizing safety, accessibility, integration, and sustainability, to direct the City’s investment in the transportation system.

As it pertains to this Study, the Transportation Master Plan recommends creating and applying Complete Streets design guidelines, which were completed as draft in 2022, as further detailed in Section 5.2. It also recommends reviewing the long-term transit and road network plan, which was assessed through the Mississauga Transit and Road Infrastructure Plan, as further detailed in Section 4.3.10.

4.3.10 Mississauga Transit and Road Infrastructure Plan (2025)

The City's Transit and Road Infrastructure Plan (TRIP) was approved by Council in 2025 and serves as a strategic master plan that builds on the City's 2019 Transportation Master Plan. It provides an update to the City's long-term transit and road networks to align land use and growth, promote sustainable modes, and mitigate climate change impacts. Creditview Road south of Argentia Road is designated as a Transit Priority 3 corridor, meaning intersection improvements are recommended to support transit. The road widening along Creditview Road is identified in the recommended road network from the TRIP.

4.3.11 MiWay Plans

The MiWay Infrastructure Growth Plan (2020) details an investment strategy for the City's transit infrastructure, including both at on-street MiWay Express stops and at MiWay terminals. It is guided by the following four key principles: Accessibility and pedestrian-friendliness, consistency, transit competitiveness and placemaking.

The MiWay Five Plus Master Plan (2026-2035) is currently underway. It will guide the expansion of the City's transit network over the next five years as well as propose a medium-term 10-year plan.

4.3.12 Credit River Parks Strategy (2013)

The Credit River Parks Strategy (2013) has not been updated since the previous 2016 Creditview Road MCEA Study was completed. The strategy remains a guiding document to inform park and trail planning along the Credit River.

5.0 Updated Technical Guidelines

5.1 Ontario Traffic Manual Book 18 – Cycling Facilities (2021)

The Ontario Traffic Manual (OTM) Book 18 – Cycling Facilities was updated in 2021. It serves as a comprehensive guide for the planning, design, and implementation of cycling infrastructure in Ontario. It provides detailed design standards, guidelines, and best practices for the development of safe and accessible cycling facilities, including bike lanes, cycle tracks, shared roadways, and multi-use trails.

Table 4.4 of OTM Book 18 prescribes the following design requirements for a two-way cycle track:

- 3.0 m minimum width; however, the width may be reduced to 2.4 m over short distances in constrained or in complex circumstances; and
- 3.5 – 4.0 m desired width.

Table 4.5 of OTM Book 18 prescribes the following design requirements for a multi-use trail:

- 3.0 m minimum width; however, the width may be reduced to 2.4 m over short distances in constrained or in complex circumstances;
- 3.5 m desired width; and
- 4.0 m or greater is desired for facilities with over 100 users per hour.

Section 4.3.3.2 of OTM Book 18 also prescribes design guidance for cycling facilities proposed adjacent to pedestrian walkways, whereby accessibility will need to be considered by providing effective separation. The following design options can be considered to provide separate pedestrian and cycling spaces:

- 50 mm high and 150 mm wide beveled curb;
- 0.6 m buffer strip that is cane-detectable (between sidewalk and two-way cycle track); and
- Landscaping or street furniture with a preferred lateral clearance of 0.5 m to the cycling facility.

The updated OTM design requirements above were used to inform the revised preferred solution for the Study corridor.

5.2 City of Mississauga Complete Streets Guide (2022 Draft)

The City of Mississauga “Changing Lanes” Complete Streets Guide was released as a draft in 2022. It provides direction to help incorporate Complete Street concepts into planning, design, rehabilitation, and maintenance of new and existing City streets.

The draft guide recommends that Major Collector Neighbourhood streets, such as Creditview Road, accommodate a desired pedestrian clearway width of 1.8 to 2.4 m, a posted and design speed of 40 to 50 km/h, and a target through and curb lane of 3.0 m and 3.35 m, respectively. A wider target width of 3.5 m is proposed for roads along a transit network. However, while transit operates along Creditview Road, it is not designated as a major transit or high frequency transit corridor.

The draft Complete Streets Guide recommends that narrower lane widths be prioritized for streets with speeding or safety concerns as it can support safety without impacting operations.

Further, it notes that in scenarios where there is constrained right-of-way to meet the needs of all users, a separate sidewalk and cycle track can be combined to provide a multi-use trail to accommodate both pedestrians and cyclists.

6.0 Proposed Addendum

Section 6.0 describes the review and analyses completed by the City subsequent to the approved 2016 MCEA Study. This includes a description of the circumstances that led to the proposed changes in the Study recommendations.

6.1 Implementation of Long-term Solution

Since the completion of the 2016 MCEA Study, the MTO completed the widening of Highway 401 to 12 lanes and replaced the Creditview Road bridge across Highway 401. This included the widening of Creditview Road to 4 lanes from Argentia Road northerly to Old Creditview Road, as well as a new multi-use trail (west side) and new sidewalk (east side). Traffic conditions and patterns have changed due to the widening of the northerly section of the Study corridor, COVID-19 pandemic, and impacts to traffic patterns.

The previous 2016 MCEA Study recommended a phased implementation, which included an interim and long-term solution. Given the changes in traffic conditions since the 2016 MCEA Study, the previously proposed implementation strategy was reassessed as part of the Creditview Road Implementation Strategy (dated October 28, 2024), herein referred to as “Creditview Road Implementation Strategy”, to determine the merits of proceeding with the long-term solution (one-phase implementation) rather than an interim and long-term solution (two-stage implementation) for the remaining Study corridor (Bancroft Drive / Sir Monty’s Drive to Argentia Road).

The Creditview Road Implementation Strategy confirmed and updated both the existing and 2031 horizons, as well as included the 2041 travel demand, using recent (spring 2024) traffic count data and provided traffic operational analysis for the major intersections within the Study corridor. The traffic operational analysis included the intersecting streets of Sir Monty’s Drive / Bancroft Drive, Kenninghall Boulevard / Kenninghall Crescent, Falconer Drive, and Argentia Road.

Based on the updated traffic volumes and analysis, implementation of the long-term solution by 2031, including the 4-lane widening, was recommended. Implementing the long-term solution by 2031 also demonstrates cost benefits, with reduced construction costs compared to a 2-phase implementation. Additionally, completing the project in one phase, instead of two, will reduce impacts on the community (i.e., noise, dust, traffic impacts, etc.).

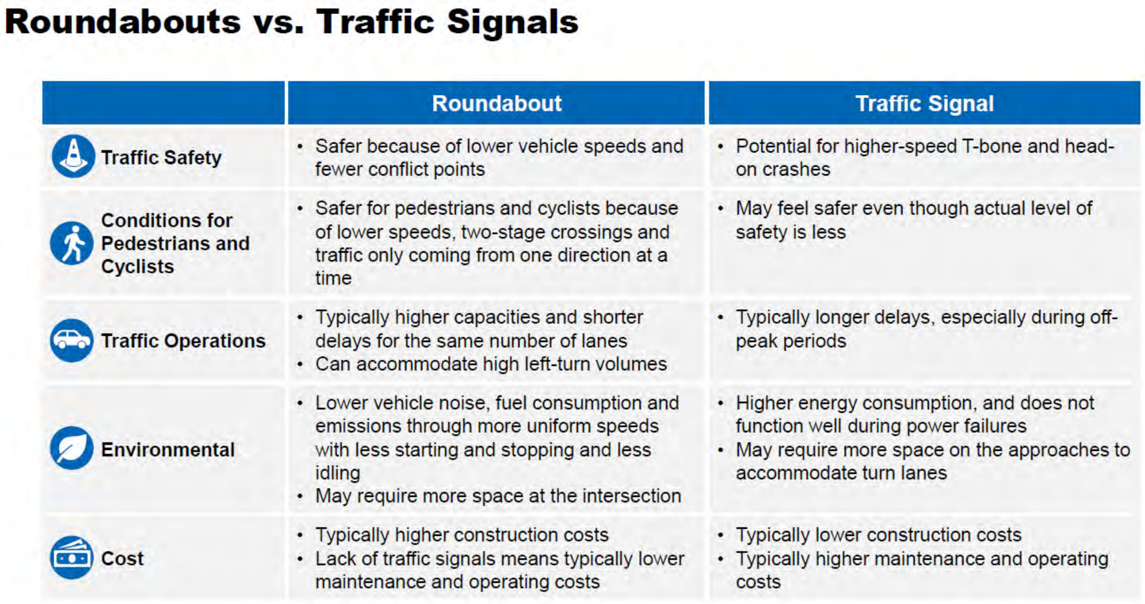
Following the Creditview Road Implementation Strategy, the Creditview Road Future Conditions Assessment (dated May 2025), herein referred to as the “Creditview Road Future Conditions”, was completed to assess updated traffic volumes and operational results of intersections between Bancroft Drive / Sir Monty’s Drive and Argentia Road, including a comparison between signalized versus roundabout intersection control. The analysis indicated that all intersections are expected to operate well and with excess capacity, except for the Creditview Road and Argentia Road intersection, whereby some movements are projected to experience approaching or at capacity conditions by 2041, during the evening peak hour.

The Creditview Road Implementation Strategy is provided in Appendix D, and the Creditview Road Future Conditions Assessment is provided in Appendix E.

6.2 Change in Intersection Control and Configuration

As part of the Creditview Road Implementation Strategy, a Community Meeting was held on June 12, 2024, to provide residents with information about the previous 2016 MCEA Study and present the findings of the Implementation Strategy. Public feedback indicated concerns related to the proposed roundabout at Kenninghall Boulevard / Crescent and access into Rivergate Place from Creditview Road, as the preferred solution in the 2016 MCEA Study restricts left turns due to the presence of a raised centre median.

A subsequent virtual Community Meeting was held on November 12, 2024, to discuss the intersection of Creditview Road and Kenninghall Boulevard / Crescent. The purpose of the meeting was to address the advantages of roundabouts, how to navigate a roundabout, pedestrian accommodation at roundabouts, and traffic operation at roundabouts. Below is a summary slide that was presented, which compares roundabouts versus traffic signals.



Roundabouts vs. Traffic Signals

	Roundabout	Traffic Signal
Traffic Safety	• Safer because of lower vehicle speeds and fewer conflict points	• Potential for higher-speed T-bone and head-on crashes
Conditions for Pedestrians and Cyclists	• Safer for pedestrians and cyclists because of lower speeds, two-stage crossings and traffic only coming from one direction at a time	• May feel safer even though actual level of safety is less
Traffic Operations	• Typically higher capacities and shorter delays for the same number of lanes • Can accommodate high left-turn volumes	• Typically longer delays, especially during off-peak periods
Environmental	• Lower vehicle noise, fuel consumption and emissions through more uniform speeds with less starting and stopping and less idling • May require more space at the intersection	• Higher energy consumption, and does not function well during power failures • May require more space on the approaches to accommodate turn lanes
Cost	• Typically higher construction costs • Lack of traffic signals means typically lower maintenance and operating costs	• Typically lower construction costs • Typically higher maintenance and operating costs

City staff supported the original 2016 MCEA Study recommendation for a roundabout at the Kenninghall Boulevard / Crescent intersection and Implementation Strategy of the long-term solution. The supporting Creditview Road Future Conditions Assessment is provided in Appendix E for reference.

Subsequently, Council provided the following direction to staff via Council Resolution 0147-2025 on June 25, 2025 (see Appendix G for the Council Resolution):

> *"That City Staff be directed to take all necessary steps to prepare and submit an Addendum to the Class EA for the purpose of establishing a signalized intersection as the long-term solution for the intersection of Creditview Road and Kenninghall Boulevard / Crescent, and adding an exclusive southbound left-turn lane at the intersection of Creditview Road and Rivergate Place."*

The resolution stemmed from continued concerns expressed by residents regarding the proposed roundabout at Kenninghall Boulevard / Crescent and the presence of the proposed raised centre median that would restrict left turns at Rivergate Place.

These changes are described in further detail below.

6.2.1 Signalized Intersection at Kenninghall Boulevard / Crescent

The Creditview Road Future Conditions Assessment, provided in Appendix E, conducted an operations analysis for the future (2041) peak hour traffic conditions to assess the transportation requirements to accommodate the corridor based on implementation of the long-term solution by 2031. The analysis was undertaken using a Synchro / SimTraffic microscopic traffic model and included an operations assessment of the Kenninghall Boulevard / Crescent and Creditview Road intersection under both a roundabout and signalized traffic control.

The results indicate that from a traffic operations perspective, the intersection of Kenninghall Boulevard / Crescent can operate acceptably under either a roundabout or signalized traffic control, as all movements are projected to operate with excess capacity, a Level-of-Service C or better, and queues within respective storage or link distances.

From a safety perspective, roundabouts provide significant safety benefits compared to signalized intersections by reducing both the frequency and severity of collisions. Their circular design and splitter islands naturally lower free-flow and maximum vehicle speeds and minimize the number of conflict points, eliminating severe collision types such as right-angle and head-on collisions. Future traffic modeling along the Creditview Road corridor shows average speeds of 31 km/h for roundabouts and 21 km/h for signalized intersections. While signalized intersections produce lower average speeds due to stop-and-go conditions, this creates greater speed differentials, which can increase collision severity. Roundabouts promote consistent speeds and act as traffic calming measures, typically reducing free-flow speeds to 40 km/h or less.

Pedestrian safety is also improved at roundabouts through shorter crossing distances, two-stage crossings, and lower vehicle speeds, giving pedestrians and drivers more time to react and allowing pedestrians to focus on one direction of traffic at a time. Drivers are more likely to focus on pedestrians rather than traffic signals. However, community feedback from meetings in June and November 2024 revealed mixed opinions, with some residents expressing discomfort about finding gaps in traffic, particularly at the intersection at Kenninghall Boulevard / Crescent, which is near residential areas, parks, and senior facilities. While roundabouts are proven safer overall, maintaining a signalized intersection can address pedestrian comfort concerns.

Design enhancements such as pedestrian crossovers and raised crosswalks could further improve safety at roundabouts, but retaining the signalized intersection reduces property requirements compared to the 2016 MCEA recommendation for a roundabout. Ultimately, while roundabouts offer superior safety, environmental benefits, and operational consistency, maintaining the Kenninghall intersection signalized is an acceptable solution that balances traffic demands, pedestrian safety, pedestrian comfort, environmental impacts, and community interests.

With the directive for the long-term solution to retain traffic signals at the intersection at Creditview Road and Kenninghall Boulevard / Crescent, protected intersection elements should be considered to address concerns regarding the lack of comfort felt by pedestrians and further enhance pedestrian safety. Protected intersections use a combination of design elements to enhance safety and comfort for pedestrians and cyclists while reducing vehicle speeds and collision severity. Key features include corner safety islands, setback crosswalks and bikeways, reduced curb radii, and physical separation through the intersection, all of which slow turning vehicles and improve visibility. Dedicated queuing areas and signal protection further minimize conflicts, while hardened centerlines and clear sightlines increase predictability. To lower speeds between intersections, design elements may include narrowing travel lanes widths, landscaping / trees to provide side friction, as well as pavement markings / high-visibility crosswalks. These measures collectively lower collision risk, improve yielding behaviour, and create a more intuitive, safer environment for all road users.

6.2.2 Southbound Left Turn Lane at Rivergate Place

The long-term solution approved in the 2016 MCEA Study identified a raised centre median between Falconer Drive and Kenninghall Boulevard/Crescent, thereby removing the existing southbound left turn lane and restricting left turns in / out at Rivergate Place.

With the implementation of upstream and downstream roundabouts at both the Falconer Drive and Kenninghall Boulevard / Crescent intersections, it would allow safe access to Rivergate Place. This would be facilitated by utilizing Kenninghall Boulevard / Crescent for southbound traffic to access Rivergate Place and to utilize Falconer Drive for southbound traffic exiting Rivergate Place along Creditview Road.

A design assignment was completed in June 2025 to assess if the long-term solution can accommodate an exclusive southbound left-turn lane at Rivergate Place. The analysis indicated that it is feasible to accommodate an exclusive southbound left-turn lane at Rivergate Place without an additional property requirement. The proposed Falconer Drive roundabout also would not require additional geometry changes as long as the widening is made to the west exclusively.

While the operations analysis from the Creditview Road Future Conditions Assessment indicates that the Rivergate Place intersection can function acceptably without the dedicated southbound left turn lane, maintaining it would help reduce queues and delays.

Further, a swept path analysis, conducted using AutoTURN, indicated that southbound delivery trucks are able to make a U-turn at Kenninghall Boulevard / Crescent if the intersection remains signalized and Creditview Road is widened to 4 lanes.

The detailed analysis of the design assignment is provided in Appendix F.

6.3 Change in Posted Speed Limit

Input received from the Community Meeting held on June 12, 2024, for the Creditview Road Implementation Strategy indicated concerns related to speeding and preference for reduced speed limits along the Study corridor. As mentioned, the City’s draft Complete Streets Guide recommends that narrower lane widths be prioritized for streets with speeding or safety concerns, as it can support safety without impacting operations. The revised preferred solution produced as part of this EA Addendum provides for a through lane and curb lane of 3.0 m and 3.35 m, respectively, per the guidance from the draft Complete Streets Guide. Lane widths are to be confirmed during detailed design.

The posted speed will also be lowered from 60 km/h to 50 km/h between Bancroft Drive / Sir Monty’s Drive and Argentia Road. The change in posted speed limit will be completed during the implementation of the long-term solution, at the time of construction. All required by-laws will be coordinated at that time.

6.4 Potential for Separated Cycling Facility

The preferred solution from the approved 2016 MCEA Study recommended a multi-use trail on the west side and a sidewalk on the east side of the Study corridor.

This EA Addendum reviewed the opportunity to provide separated pedestrian and cycling facilities. This assessment arises from recent policy and planning practices (such as from the draft 2025 Cycling Master Plan) and City direction to consider separating cyclists and pedestrians to improve safety and comfort for vulnerable road users.

The merits and feasibility of providing separated facilities on the west side of Creditview Road was assessed. The assessment confirms that there is sufficient space to accommodate a sidewalk and in-boulevard cycle track on the west side that meet the following minimum design requirements prescribed from City design guidelines and Book 18 of the Ontario Traffic Manual:

- Sidewalk – preferred width of 2.0 m (minimum 1.8 m);
- Two-way Cycle Track – preferred width of 3.5 m (minimum 3.0 m);
- Multi-use Trail – preferred width of 3.5 m (minimum 3.0 m). A MUT to be utilized where it is not possible to separate pedestrians from cyclists;
- Recommended 0.6 m cane-detectable buffer strip between two-way cycle track and sidewalk; however, a narrower buffer may be used in constrained areas. Detailed design to consider and confirm using a 50 mm (height) by 150 mm (width) beveled curb; and
- Combined (multi-use trail) facility to be considered for locations adjacent/near intersections where right-of-way is constrained.

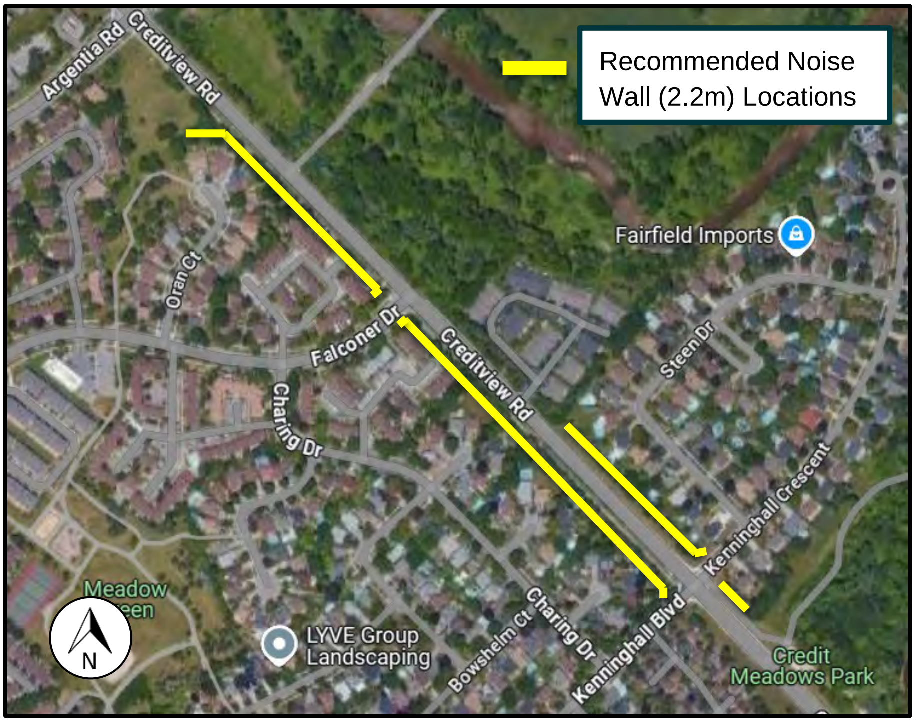
The above is reflected in the revised preferred solution. It is noted; however, that minimum widths were used to confirm the feasibility of accommodating separated pedestrian and cyclist facilities on the west side. Target widths as prescribed from the Ontario Traffic Manual and the City's draft Complete Streets Guide should be met, where possible. These considerations are outlined in Section 8.0 and will be confirmed as part of detailed design.

6.5 Updated Locations for New Noise Walls

The noise wall recommendations in the 2016 MCEA Study have been updated based on a review of the adjacent grading, truck restrictions, and future posted speed limit (50 km/h) on Creditview Road within the Addendum limits for the 2041 horizon (see Figure 3). The review determined that 2.2 m is a sufficient height for the new noise wall locations proposed in Figure 3. The proposed noise wall at 59 Kenninghall Boulevard was removed from the revised preferred solution as the noise wall is not directly adjacent to the noise sensitive area, and not consistent with the City's noise wall policy. In addition, the noise wall would be less effective due to the grade elevation and line of sight, to support effective noise attenuation. The proposed noise wall at 6650 Falconer Drive was removed from the revised preferred solution as it is not adjacent to the

Creditview Road right-of-way and is also not consistent with the City’s existing noise wall policy. The updated Noise Memo is provided in Appendix H.

Figure 3 - Noise Wall Recommendations



Source: Google Maps (accessed in 2025)

7.0 Anticipated Impacts and Mitigation

7.1 Proposed Updates

In consideration of the proposed updates identified in this EA Addendum, the change in intersection control from a roundabout to traffic signal at Kenninghall Crescent / Boulevard may create greater speed differentials, which can increase collision severity, whereas a roundabout’s circular design and splitter islands naturally lower vehicle speeds and minimize conflict points. Further, roundabouts address pedestrian safety through shorter crossing distances and two-stage crossings. However, while roundabouts are proven safer overall, maintaining a signalized intersection can be an acceptable solution that balances traffic demands, pedestrian safety, environmental impacts, and community interests. To address pedestrian comfort concerns, it is proposed that at the detailed design stage, the signalized intersection incorporate protected intersection elements such as corner safety islands, setback crosswalks and bikeways, reduced curb radii, and physical separation through the intersection, all of which slow turning vehicles and improve visibility.

All updates / modifications can be accommodated within the approved 2016 MCEA Study property requirements. Overall, less property will likely be required as retaining the signalized intersection at Kenninghall Crescent / Boulevard reduces property requirements compared to the 2016 MCEA recommendation for a roundabout.

7.2 Archaeological Assessment

A Stage 1 Archaeological Assessment was completed for the MCEA Study in 2013. The Stage 1 Assessment identified a small area of archaeological potential on the east side of Creditview Road from Kenninghall Boulevard to halfway between Kenninghall Boulevard and Falconer Crescent. A Stage 2 Archaeological Assessment was recommended in this area prior to any development of Creditview Road, including widening within the existing right-of-way.

Since 2013, several archaeological assessments have been completed in the area, which have resulted in multiple registered archaeological sites adjacent to Creditview Road within the Study limits. During detailed design, the Stage 1 Assessment will be updated to include the proposed right-of-way from Bancroft Road / Sir Monty's Drive to north of Argentia Road as shown in the 2016 MCEA Study and in this Addendum.

The City will invite the following Nations / Communities to review the Stages 1 and 2 Archaeological Assessment reports and participate and comment on all subsequent archaeological fieldwork: Mississaugas of the Credit First Nation, Six Nations of the Grand River First Nation, Nationne Wendat, and the Haudenosaunee Development Institute for the Haudenosaunee Confederacy Chiefs Council.

Should previously undocumented archaeological resources be discovered during construction, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Public and Business Service Delivery and Procurement.

8.0 Revised Preferred Solution and Design Concept

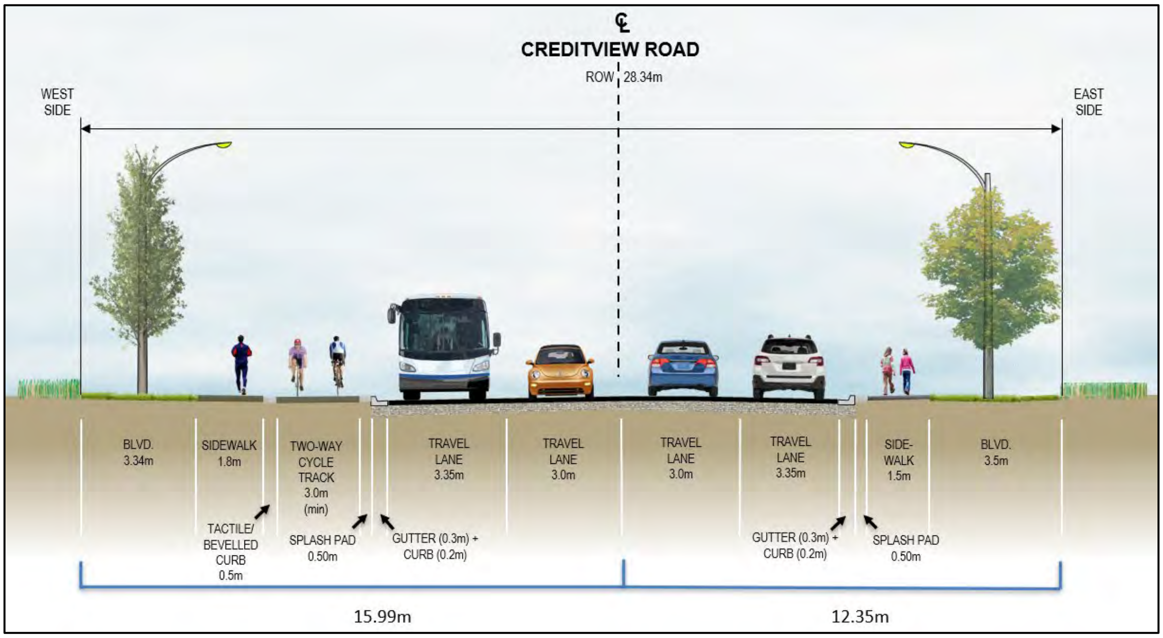
An update to the previously recommended long-term solution design from the 2016 MCEA Study was completed and provided in Appendix I to reflect the following proposed changes as identified in this EA Addendum:

- Confirmation of proceeding with one-stage of construction (long-term solution only) by 2031;
- Change in recommended traffic control from a roundabout to traffic signal at Creditview Road and Kenninghall Boulevard / Crescent;
- Inclusion of a southbound left-turn lane to the design at Creditview Road and Rivergate Place;
- Consideration for reduced posted speeds along Creditview Road between Bancroft Drive / Sir Monty’s Drive and Argentia Road;
- Opportunities for separated pedestrian and cyclist facilities along Creditview Road; and
- Updated locations for new noise walls.

The preferred solution has been developed at a functional plan level. While minimum widths were applied to confirm the functional feasibility of implementing the design changes identified in this EA Addendum, the design should prioritize applying the preferred or target cross-sectional and design elements. Minimum widths are to be used only in property-constrained locations where sufficient space is not available. Wherever possible, target widths prescribed by the Ontario Traffic Manual and the City’s draft Complete Streets Guide should be achieved.

Therefore, for the purposes of this Addendum, a cross-section was produced at the most constrained point along the Study corridor to illustrate a conceptual design whereby target widths for active transportation facilities and lane widths meet the City’s draft Complete Streets Guide and Book 18 of the Ontario Traffic Manual. The Creditview Road Study corridor is most constrained between Falconer Drive and Argentia Road, where the available right-of-way is approximately 28 m, as shown in Figure 4.

Figure 4 - Conceptual Cross-section between Falconer Drive and Argentia Road



The conceptual cross-section shown is subject to further analysis to confirm that there are no site-specific constraints and / or adverse environmental effects that would impact its feasibility. The following additional considerations are proposed to be assessed as part of detailed design:

- Reduced curb radii at intersections to restrict maximum vehicular speeds;
- Pedestrian and cycling facility on the east side between Falconer Drive and Argentia Road to connect to the northern access of the Credit Meadows Park; and
- Consideration of a potential mid-block pedestrian signal at the northern access of Credit Meadows Park, if an additional cycling facility cannot be accommodated on the east side.

9.0 Conclusions

The Creditview Road EA Addendum builds upon the previously approved 2016 MCEA Study and reflects updated planning policies, technical guidelines, analyses, and community input.

The key updates are summarized below:

- Implementation of the long-term solution by 2031, including the widening of Creditview Road to four lanes, to address existing and future traffic demands, allow for cost efficiencies, and minimize disruption to the community;

- Change from a roundabout to a signalized intersection at Kenninghall Boulevard / Crescent to address pedestrian safety and community concerns;
- Inclusion of an exclusive southbound left-turn lane at Rivergate Place in the design to improve access, reduce delays, and address community concerns;
- Narrowed lane widths and reduction of the posted speed limit from 60 km/h to 50 km/h between Bancroft Drive / Sir Monty's Drive and Argentia Road to address speeding concerns;
- Separated pedestrian and cycling facilities on the west side between Bancroft Drive / Sir Monty's Drive and Argentia Road, where feasible, to align with the latest design practices; and
- Updated locations and heights for new noise walls.

These changes have been evaluated in accordance with the 2024 MCEA requirements for Schedule C projects and are consistent with the latest provincial, regional, and municipal planning frameworks. No additional environmental impacts are anticipated, as all proposed modifications can be accommodated within the designated right-of-way proposed from the approved 2016 MCEA Study. It is anticipated that the total property requirement will be less, compared to the 2016 MCEA Study, given that the Kenninghall Crescent / Boulevard will remain a signalized intersection.

Subject to public review, the revised preferred solution will be carried forward to detailed design, where further refinements may be made to ensure alignment with technical standards and community needs.

BURNSIDE

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Appendix A

Approved (2016) Creditview Road Municipal Class Environmental Assessment – Bancroft Drive / Sir Monty's Drive to Old Creditview Road Environmental Study Report

Executive Summary

Introduction

AECOM Canada Limited (AECOM) was retained by the City of Mississauga to complete a Municipal Class Environmental Assessment (EA) study to investigate the need for additional north-south capacity and traffic management improvements along a 2.2 km section of Creditview Road, between Bancroft Drive to Old Creditview Road (excluding the bridge over the Credit River), in consideration of the road's identification as a part of the City's cultural heritage landscape and its function as a future active transportation corridor. As part of this study, a context sensitive design approach was used in recognition of the multimodal transportation needs of the area while protecting established parks, recreational areas, communities and businesses, as well as the study area's cultural value.

A number of City-wide initiatives provided policy direction for this EA study. Through the 'Pillars for Change' outlined in the 2009 Strategic Plan, the City envisions providing a range of mobility choices; *"…to provide all with a choice to walk, cycle and use transit or active modes of transportation in all seasons".* In addition, planning for alternative modes of transportation is supported by the City's Cycling Master Plan, the "Living Green" Master Plan and the Credit River Parks Strategy, whereby Creditview Road is identified as a future Primary Boulevard Route, and is envisaged to be transit efficient and to provide a key link to some of the City's parks and natural areas, respectively.

Consultation

Public consultation is an integral part of the Creditview Road Municipal Class EA to ensure that the interests and concerns of the public and affected groups are identified, documented, assessed and considered. The following consultation activities were carried out in order to achieve these objectives:

- Posting project milestones on the City's website (www.mississauga.ca) including Notices of Study Commencement, Project Status Update, public consultation events and Study Completion;
- Holding meetings with the Credit Valley Conservation (CVC), and the Ministry of Transportation (MTO) at key points during the study;
- Publication of newspaper notices in the Mississauga News for all study milestones;
- Direct mailing of notices to stakeholders, affected land owners, general public and review agencies regarding project milestones;
- Holding two (2) public consultation events to engage and obtain input from community members, the public and review agencies; and
- Placement of this ESR on the public record and distribution of the Notice of Study Completion to those included on the study mailing list.

Existing Conditions

Creditview Road is a major north-south route in the City and is designated a Major Collector in the City of Mississauga Official Plan. These types of roadways are designed to accommodate moderate volumes of traffic and are to be the focus of active transportation facilities.

Within the study area, Creditview Road carries through traffic between neighbourhoods, and provides vehicular and pedestrian access to abutting businesses and indirect access to residential properties via connecting roadways. In addition, the study area serves as a transit route (MiWay) for northbound and southbound travel provides north-south connectivity for existing and further modes of transportation and east-west connectivity with intersecting roadways. At present, transit infrastructure within the study area is limited to bus stops, with no shelters or other amenities for waiting passengers.

At present, Creditview Road consists of a 2-lane cross-section. Approximately half of the signalized (during the PM Peak hour only) intersections and all of the unsignalized intersections (during both the AM and PM peak hours) are operating at or above capacity with significant delays. Without roadway improvements, the study area intersections are expected to operate above capacity with significant delays during the future horizon years of 2021 and 2031.

Problem and Opportunity Statement

The Problem and Opportunity Statement developed for the Creditview Road Municipal Class EA is as follows:

> *The City of Mississauga Official Plan identifies Creditview Road as a Major Collector Road. Existing traffic volumes have reached or exceeded the available road capacity. There is projected traffic growth which will exacerbate existing conditions.*
>
> *An opportunity exists to address the capacity and operational deficiencies on Creditview Road while preserving the existing cultural and natural heritage of the corridor.*

This opportunity allows for the implementation of City-wide strategic objectives which promote sustainable multi-modal transportation options that provide residents with opportunities to walk, cycle, or use public transit to reach their destinations. Improvements to Creditview Road will facilitate safer operations along the corridor and co-ordinate bridge capacity across Highway 401 as well as enhancing cultural and natural heritage of the corridor.

Alternative Solutions

A number of alternative solutions were identified and assessed to address the identified problems and opportunities. These included:

Alternative 1: Do Nothing

Alternative 2: Upgrade Parallel Roads Instead of Creditview Road

Alternative 3: Intersection and Signal Improvements

Alternative 4: Implement Travel Demand Management (TDM)

Alternative 5: Enhance Corridor Capacity

Preferred Solution

Based on the findings of the evaluation of alternative solutions, **a combined solution (i.e., Alternatives 3, 4, and 5) was selected** as it provides the best opportunity to address the identified capacity and operational deficiencies. The implementation of this solution in combination would comply with planning policies, have a potentially low impact on the natural and cultural environments, and allow for an opportunity to co-ordinate with MTO regarding the improvements to the Creditview Road bridge over Highway 401. In addition, this solution allows for the sustainable movement of multi-modal services, including buses, cyclists and pedestrians, and therefore, facilitates access to local community facilities, businesses, schools, and parks along Creditview Road.

Alternative Design Concepts

Five (5) design alternatives were considered as part of the evaluation. Roundabout intersections were included in three (3) of the alternative designs, based on their benefits over traditional intersections (i.e., speed management, increased capacity, reduced delays, decreased idling/air pollution, etc.). For all alternatives, a 4-lane section was proposed from Argentia Road to Old Creditview Road.

Alternative 1: Two Lanes with Signalized Intersections

- Two lanes between Bancroft Road and Argentia Road;
- Four lanes between Argentia Road and Old Creditview Road;
- Signalized intersection improvements at Creditview Road intersections with Old Creditview Road, Argentia Road and Kenninghall Boulevard; and
- Intersection improvements at Falconer Drive.

Alternative 2: Two Lanes with One Roundabout Intersection

- Two lanes between Bancroft Road and Argentia Road;
- Four lanes between Argentia Road and Old Creditview Road;
- Signalized intersection improvements at Creditview Road intersections with Old Creditview Road and Kenninghall Boulevard;
- Two-Lane Roundabout at Argentia Road; and
- Intersection improvements at Falconer Drive.

Alternative 3: Two Lanes with Three Roundabout Intersections

- Two lanes between Bancroft Road and Argentia Road;
- Four lanes between Argentia Road and Old Creditview Road;
- Signalized intersection improvements at Creditview Road intersection with Old Creditview Road;
- One-lane roundabouts at Creditview Road intersections with Falconer Drive and Kenninghall Boulevard; and
- Two-Lane Roundabout at Argentia Road.

Alternative 4: Four Lanes with Signalized Intersections

- Four lanes between Bancroft Road and Old Creditview Road;
- Signalized intersection improvements at Creditview Road intersection with Old Creditview Road;
- Signalized intersection improvements at Creditview Road intersections with Argentia Road and Kenninghall Boulevard; and
- Intersection improvements at Falconer Drive.

Alternative 5: Four Lanes with Three Roundabout Intersections

- Four lanes between Bancroft Road and Old Creditview Road;
- Signalized intersection improvement at Creditview Road intersection with Old Creditview Road; and
- Two-Lane Roundabouts at Creditview Road intersections with Kenninghall Boulevard, Falconer Drive and Argentia Road.

Preliminary Preferred Design

Based on the Evaluation of Alternative Design Concepts, **Alternative 3, Two Lanes with Three Roundabout Intersections, is preferred** as it addresses the future needs of the corridor. While slightly greater impacts to the natural environment would be expected, when compared to Alternatives 1 and 2, the roundabout locations (3) associated with Alternative 3 provide additional opportunities to implement enhanced landscape elements as well as stormwater bio-retention features. In addition, Alternative 3 is expected to provide significant improvements to traffic operations to Year 2031 and potentially beyond. This alternative provides more opportunities to implement designated pedestrian crosswalks as part of the design. While a higher capital cost is expected in association with Alternative 3, when compared to Alternatives 1 and 2, this alternative is expected to incur lower maintenance costs since the roundabout design avoids the maintenance associated with signal infrastructure and powering. Alternative 3 also encroaches onto the smallest area of private property.

Long-Term Solution

The findings of the evaluation further indicated that widening Creditview Road to 4-lanes from Bancroft Drive to Argentia Road (i.e., **Alternative 5**) may be beneficial as a Long-term Solution (i.e., after 2031). If and when additional capacity is required, community consultation at that stage will take place prior to the implementation of the Long-term Solution.

Project Description

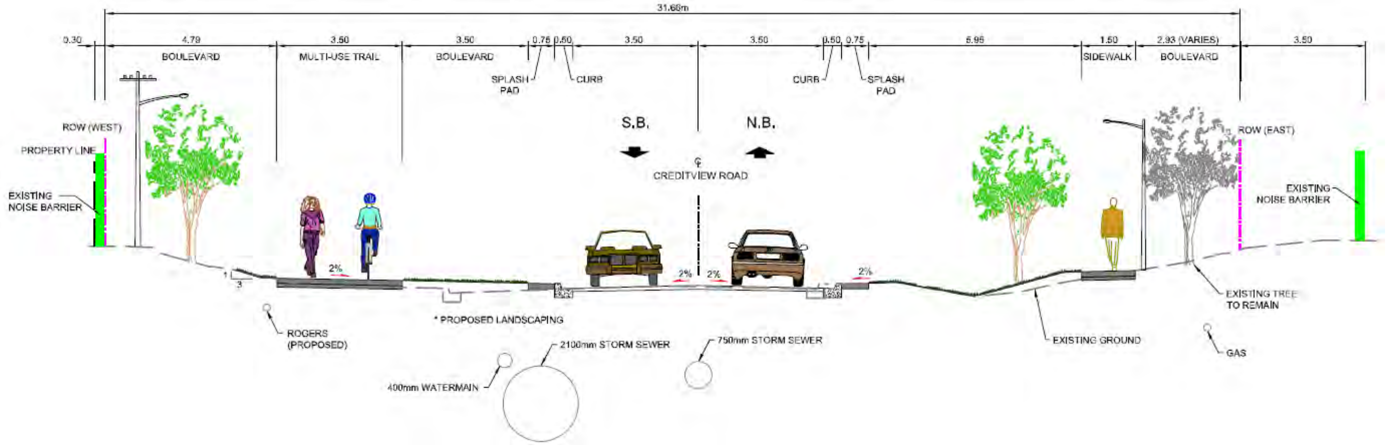
The Preliminary Preferred Design includes widening Creditview Road from Argentia Road to Old Creditview Road to four (4) lanes. Creditview Road from Sir Monty's Drive/ Bancroft Drive to Argentia Road will remain as a two (2) lane cross-section with intersection improvements consisting of a two (2) lane roundabout at Argentia Road and single lane roundabouts at Falconer Driver and Kenninghall Boulevard. No intersection improvements will be undertaken at the Sir Monty's Drive/Bancroft Drive and Creditview Road intersection. Intersection improvements of an exclusive eastbound right turn at the Old Creditview Road and Creditview Road intersection are proposed. A 3.5 m multi-use trail will be provided on the west side of Creditview Road and a 1.5 m sidewalk will be provided on the east side, as illustrated in **Figure E.1** below.

A 3.5 m refuge/centre lane is provided at the Creditview Road / Velebit Court and the Creditview Road / River Gate Place intersections in order to provide motorists with the opportunity to complete their left turns onto Creditview Road in two (2) stages, if required, which reduces the delay for the left turn movement. The Highway 401/Creditview Road bridge will also include a 4 lane cross-section, including a sidewalk and multi-use trail along the east and west sides, respectively.

The majority of the modifications can be accommodated within the existing right-of-way. Minor property acquisition will be required on the east side of Creditview Road to accommodate the proposed roundabouts at Falconer Drive and Argentia Road as well as on both sides of the roadway in order to accommodate widening in the vicinity of the Creditview Road/Old Creditview Road intersection.

Other key features of the Preliminary Preferred Design include an enhanced tree planting plan to restore the natural environment, compensate for vegetation removals, and enhance the overall aesthetic and scenic value of the corridor, as well as new noise barriers within selected locations along the corridor.

Figure E.1: Typical Cross-Section – Preliminary Preferred Design



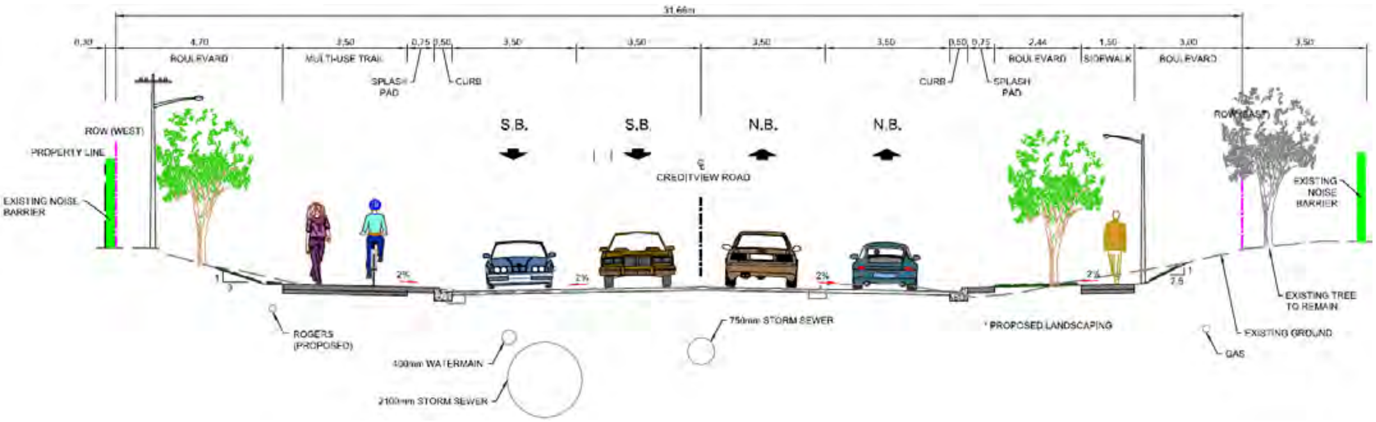
The recommended alignment and roadway configuration for the Preliminary Preferred Design is shown on **Sheets 1 to 10** provided following the text of this ESR.

Long-term Solution

The Preferred Design is expected to support traffic operations to Year 2031 and potentially beyond. If and when additional capacity is required, community consultation at that stage will take place prior to the implementation of the Long-term Solution (please refer to **Figure E.2**). The Long-term Solution includes the following key elements:

- Widening to four (4) lanes from Bancroft Drive to Argentia Road; and,
- Two (2) lane roundabouts at Kenninghall Boulevard and Falconer Drive.

Figure E.2: Typical Cross-Section – Long-Term Solution



The recommended alignment and roadway configuration for the Long-Term Solution is shown on **Sheets 11 to 20** provided following the text of this ESR.

Mitigation Measures and Implementation Commitments

Many of the environmental concerns related to this project have been mitigated through the process by which the preferred design was selected, as described in this Environmental Study Report. The anticipated impacts and proposed mitigation measures are described in **Section 8**. A detailed list of specific commitments to be carried forward to Phase 5 of the Municipal Class EA process (i.e., detailed design and implementation) is provided in **Section 9**. These commitments have been developed through discussions with CVC, MTO and other authorities. Monitoring of construction activities shall ensure that all environmental standards and commitments for construction are met. The City of Mississauga will work with CVC, MTO and other authorities during detail design and prior to commencement of construction activities to ensure that the proposed works are acceptable and to obtain the required permits.

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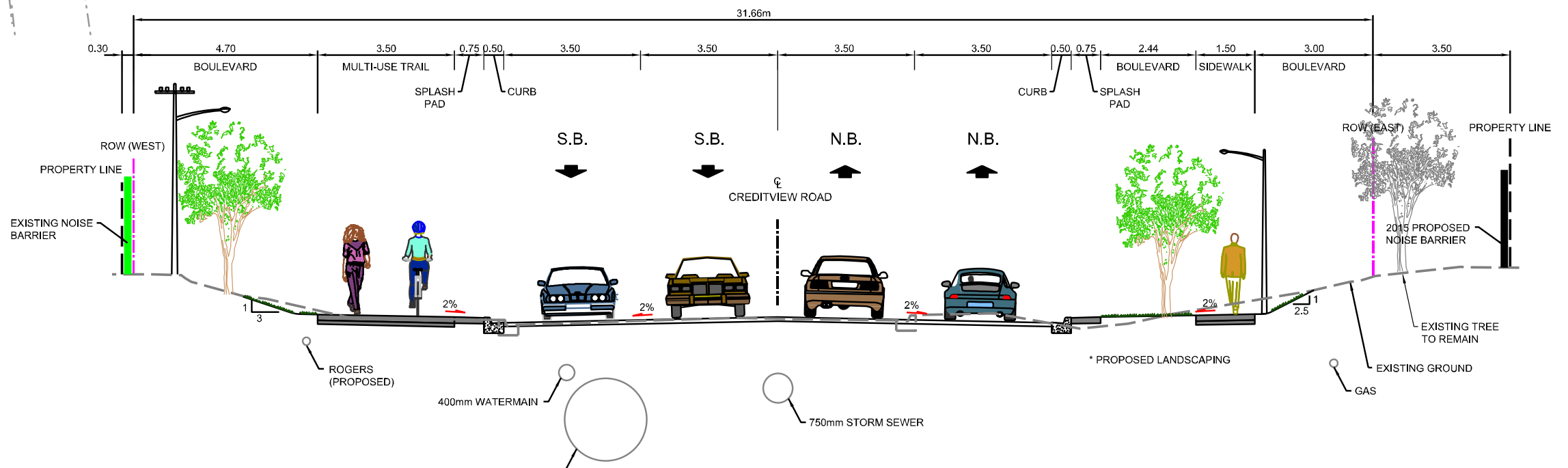
Appendix B

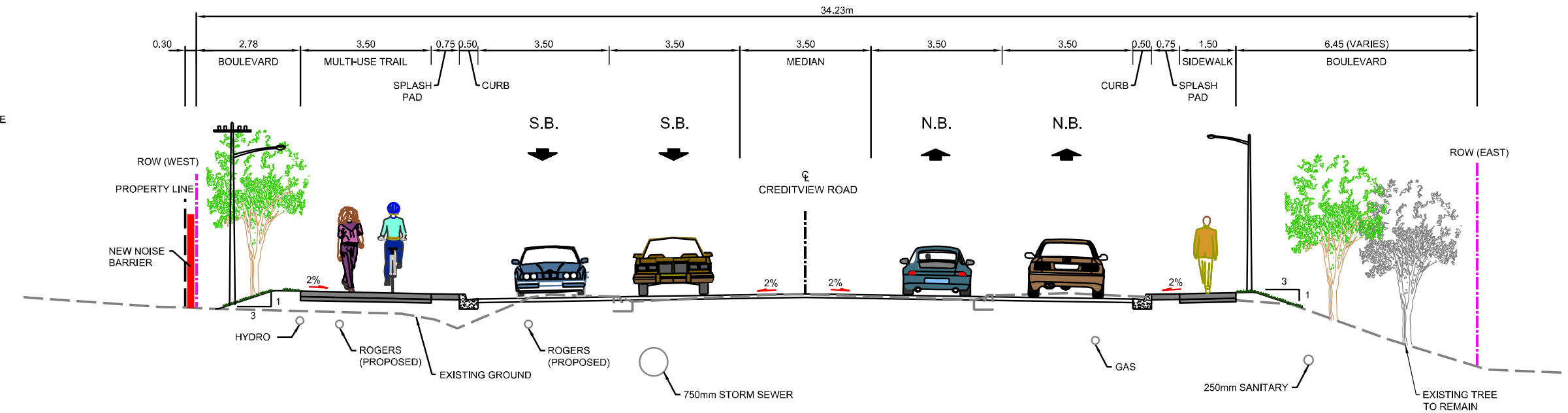
MCEA Approved Long-term Solution

Appendix B

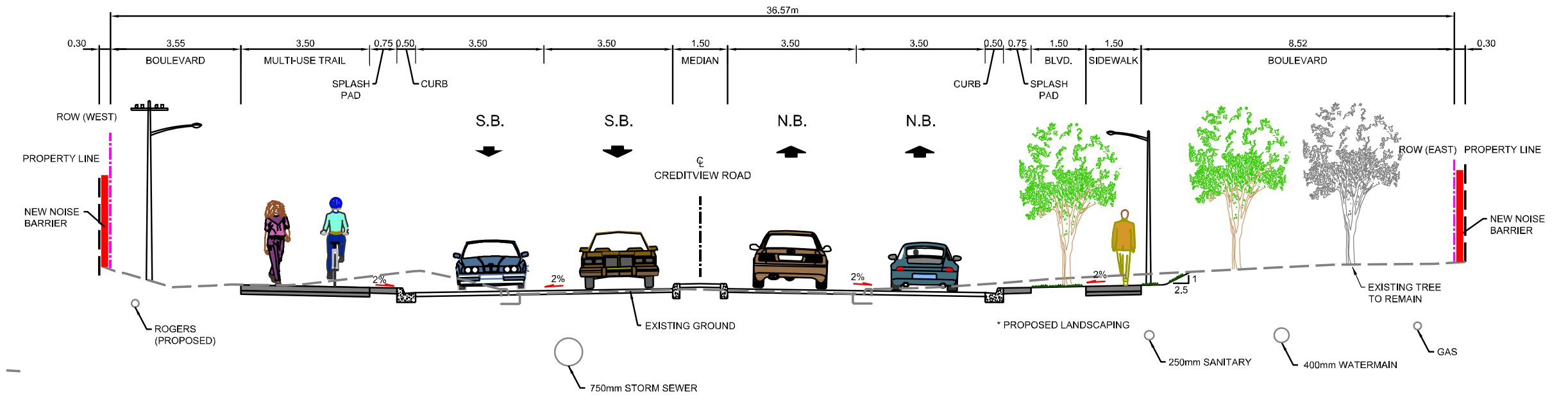
LONG-TERM SOLUTION



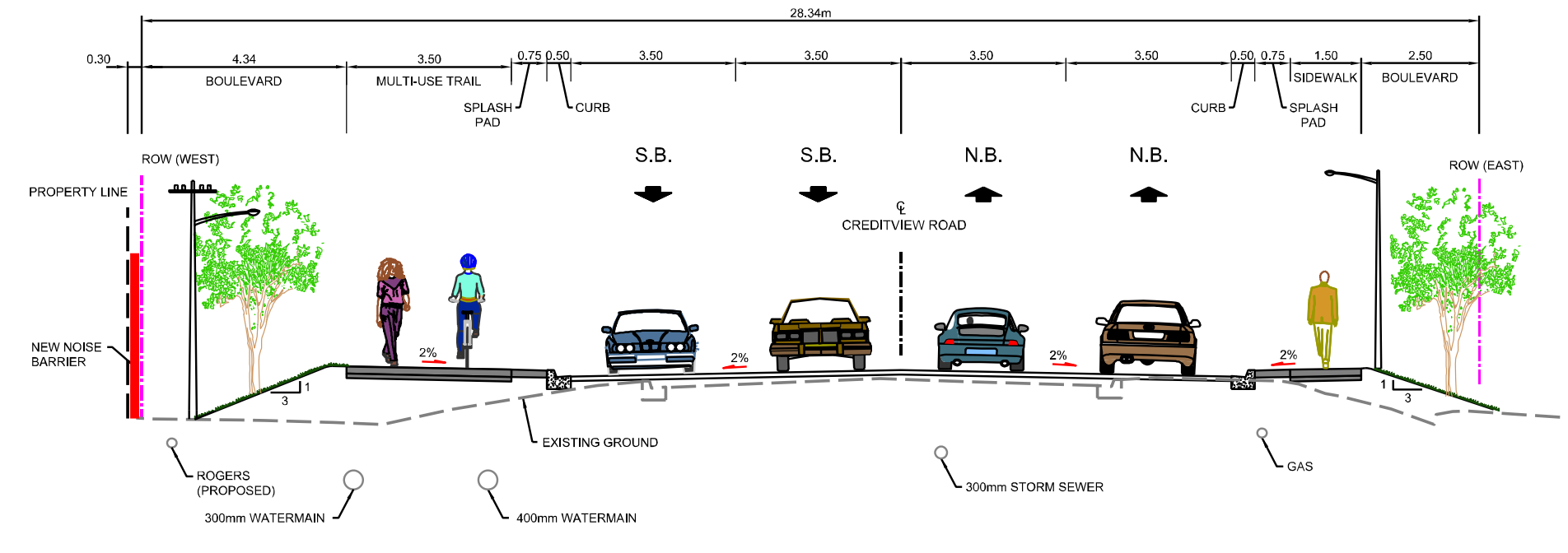
Typical Cross-Section A - A
Station 8+360
N.T.S.



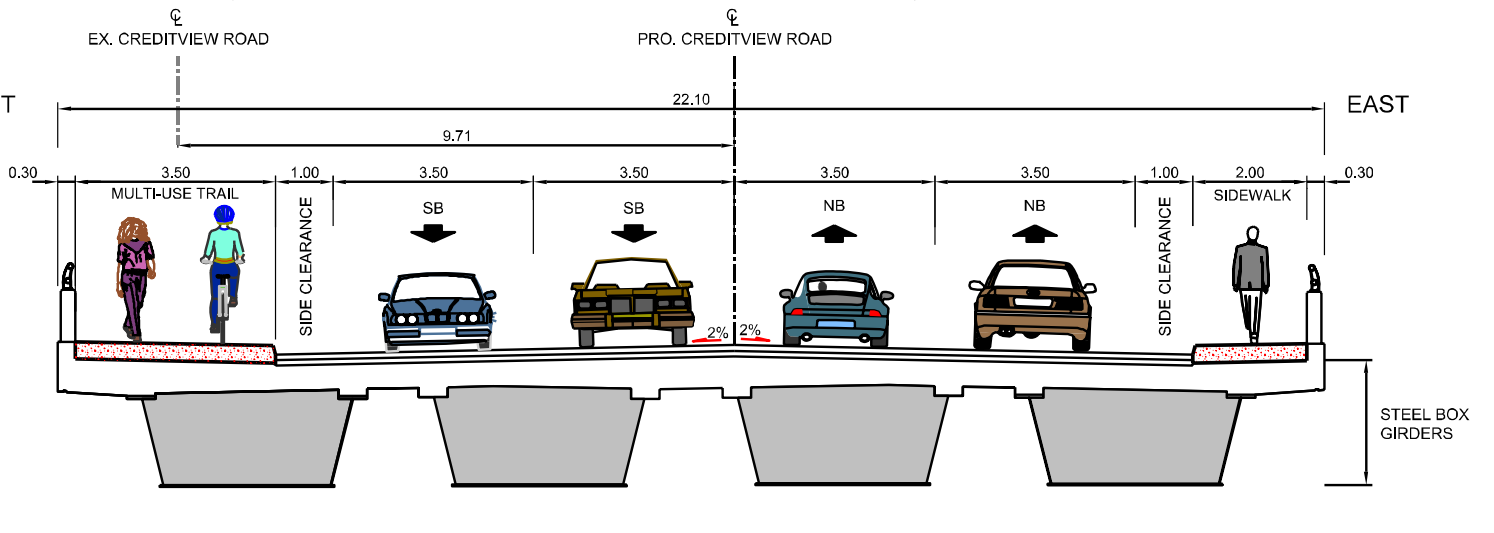
Typical Cross-Section B - B
Station 8+660
N.T.S.



Typical Cross-Section C - C
Station 9+000
N.T.S.



Typical Cross-Section D - D
Station 9+380
N.T.S.



Typical Cross-Section E - E
Station 10+000
N.T.S.

LEGENDS

-·-·-·-	EXISTING RIGHT OF WAY
— — —	EXISTING PROPERTY LINE
🟥 -·-·-	PROPOSED RIGHT OF WAY
- - - -	GRADING
🟩	EXISTING NOISE BARRIER
■	2015 PROPOSED NOISE BARRIER
🟥	NEW NOISE BARRIER
🟦	PROPOSED SIDEWALK
🟧	PROPOSED MULTI-USE TRAIL
▨	PROPOSED MEDIAN

NOTES:

1. ROUNDABOUTS GEOMETRY SHOWN IN THESE ENVIRONMENT ASSESSMENT DRAWINGS ARE PRELIMINARY AND NOT FOR CONSTRUCTION. DESIGNER SHOULD RE-EVALUATE ALL COMPONENTS OF THE ROUNDABOUTS (HORIZONTALLY AND VERTICALLY) PRIOR TO DETAILED DESIGN.
2. GRADING LIMIT HAVE BEEN ESTIMATED BASED ON AVAILABLE MAPPING/DATA.
3. THE UTILITIES SHOWN IN THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSE ONLY. THE EXISTENCE, LOCATION AND ELEVATION OF UTILITIES AND/OR CONCEALED STRUCTURES IN THESE DRAWING ARE NOT GUARANTEED

AECOM
CONSULTANTS

HORIZONTAL \ VERTICAL CONTROL MONUMENTS	DIGITAL INFORMATION	No.	DATE	REVISIONS	INITIAL	SIGNED

MISSISSAUGA

CREDITVIEW ROAD CLASS EA
PLAN / CROSS SECTIONS
LONG-TERM SOLUTION
PLAN - STA. 8+037 TO STA. 10+487

DESIGN
DRAWN
CHECKED
CONTRACT No.
SCALE : 15 0 30
DRAWING NUMBER
SHEET
DATE :

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Appendix C

Public Consultation Materials

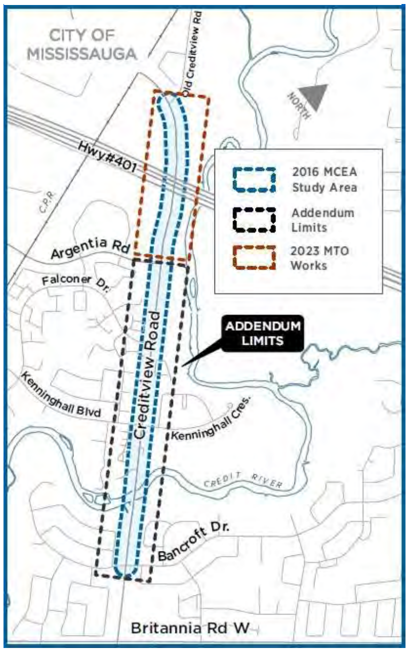
Attachment 1: Notice of Addendum
Attachment 2: Agency and Indigenous Contact List

NOTICE OF ADDENDUM

City of Mississauga
Municipal Class Environmental Assessment
Creditview Road from Bancroft Drive/Sir Monty's Drive to Old Creditview Road

The City of Mississauga (City) has prepared an Addendum to the 2016 Municipal Class Environmental Assessment (MCEA) Study for improvements to Creditview Road from Bancroft Drive/Sir Monty's Drive to Old Creditview Road, excluding the bridge over the Credit River (see map of Study Area).

Map of Study Area



The City completed the approved 2016 MCEA Study to investigate the need for additional north-south capacity and traffic management improvements along Creditview Road within the Study Area. The approved Study recommendations included a road widening from two to four lanes; new roundabouts at Kenninghall Boulevard/Crescent, Falconer Drive, and Argentia Road; a new multi-use trail on the west side of the roadway; and a sidewalk on the east side of the roadway.

Construction of the four-lane widening from Argentia Road to Old Creditview Road was completed in 2023, in coordination with the widening of Highway 401 undertaken by the Ministry of Transportation of Ontario (MTO). Subsequently, additional studies were completed in 2024 and 2025 to confirm the implementation strategy and future conditions for the remaining Study Area, respectively.

Through resolution of a Council Motion on June 25, 2025, City Staff were directed to prepare an addendum to the Environmental Study Report (issued for the MCEA Study in May 2016) for changes to the proposed traffic control at Kenninghall Boulevard/Crescent and access/lane configuration at Rivergate Place. This Addendum is being carried out in accordance with the *Municipal Class Environmental Assessment* (2024) for 'Schedule C' projects, which is a planning and design process approved under the *Environmental Assessment Act*.

The public is invited to review the proposed changes outlined in this Addendum. In summary, the Addendum includes the following changes:

- Implementation of the long-term solution by 2031 along Creditview Road, between Bancroft Drive/Sir Monty's Drive and Argentia Road, allowing for one phase of construction;
- Signalized intersection to remain at Creditview Road and Kenninghall Boulevard/Crescent;
- Inclusion of a new southbound left-turn lane at Creditview Road and Rivergate Place intersection;
- Lower posted speed from 60 km/h to 50 km/h on Creditview Road from north of Bancroft Drive/Sir Monty's Drive to Argentia Road;
- Updated locations for new noise walls; and
- Where space permits, replace multi-use trail with in-boulevard cycle track and sidewalk on west side of Creditview Road.

Subject to comments received following this Notice, the City intends to proceed with the full construction of this project. Timing of construction will be confirmed during detailed design and is subject to annual Council review and prioritization.

The Addendum will be available on the City's project webpage at Mississauga.ca/CreditviewEA for a 30-day review period from **February 25 to March 26, 2026**. Interested persons may provide written comments to the Project Team by **March 26, 2026.** All comments should be sent directly to:

Sonya Bubas, MCIP, RPP
Project Leader, Transportation
Transportation and Works

City of Mississauga
300 City Centre Drive, 8th Floor
Mississauga, ON L5B 3C1

E-mail:
sonya.bubas@mississauga.ca
Phone: (905) 615-3200, ext. 3180

Personal information is collected under the authority of the *Environmental Assessment Act* and will be used for the purposes of conducting and documenting the Environmental Assessment process. With the exception of personal information, all comments will form part of the public record. Questions about this collection may be directed to the City's Project Leader listed above.

Section 16 Order Request

In addition, a request to the Minister of the Environment, Conservation and Parks for an order imposing additional conditions or requiring a comprehensive environmental assessment may be made on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests should include your full name and contact information. Requests should specify what kind of order is being requested (additional conditions or a comprehensive environmental assessment), explain how an order may prevent, mitigate, or remedy potential adverse impacts, and can include any supporting information. The request should be sent by **March 26, 2026,** in writing or by email to:

Minister of the Environment, Conservation and Parks
Ministry of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, ON M7A 2J3
minister.mecp@ontario.ca

AND

Director, Environmental Assessment Branch
Ministry of the Environment,
Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto, ON M4V 1P5
EABDirector@ontario.ca

Requests must also be sent to the **City of Mississauga** by mail or by e-mail. Please visit the ministry's website for more information on requests for orders under section 16 of the *Environmental Assessment Act* at: https://www.ontario.ca/page/class-environmental-assessments-section-16-order

All personal information included in your request to the Ministry of Environment, Conservation and Parks – such as name, address, telephone number and property location – is collected under the authority of section 30 of the *Environmental Assessment Act* and is collected and maintained for the purpose of creating a record that is available to the general public. As this information is collected for the purpose of a public record, the protection of personal information provided in the *Freedom of Information and Protection of Privacy Act* (FIPPA) does not apply (s.37). Personal information you submit to the Ministry will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

In accordance with the *Accessibility for Ontarians with Disabilities Act*, this Notice and the associated Addendum can be made available in an alternate format upon request. If you require this information in an accessible format, please contact the City's Project Leader listed above.

This Notice was first issued on **February 25, 2026**.

First Name	Last Name	Position	Organization	Address	City	Province	Postal Code	Email
		Fish and Fish Habitat Protection Program	Fisheries and Oceans Canada					FisheriesProtection@dfo-mpo.gc.ca
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Rob	Clavering	Manager, Environmental Assessment, Environmental Protection - Ontario Region	Environment and Climate Change Canada					rober.claverin@ec.gc.ca
Kitty	Ma	Regional EA Coordinator, Safe Environments Program, Ontario Region	Health Canada					kitty_ma@hc-sc-gc.ca
Melanie	Lalani	Regional EA Coordinator, Safe Environments Program, Ontario Region	Health Canada					melanie_lalani@hc-sc.gc.ca
			Transport Canada					EnviroOnt@tc.gc.ca
Iftekhar	Ahmad	Planner	Credit Valley Conservation					Iftekhar.Ahmad@cvc.ca
Tyler	Slaght	Supervisor, Regulations and Development	Credit Valley Conservation					Tyler.Slaght@cvc.ca
Jakub	Kilis	Manager, Infrastructure and Regulations	Credit Valley Conservation					jakub.kilis@cvc.ca
Karla	Barboza	Team Lead, Heritage	Ministry of Citizenship and Multiculturalism .					karla.barboza@ontario.ca;
		Environmental Planner and EA Coordinator	Ministry of the Environment, Conservation and Parks					eanotification.cregion@ontario.ca
Aurora	McAllister	Management Biologist, Species at Risk	Ministry of the Environment, Conservation and Parks					aurora.mcallister@ontario.ca
Jake	Noordhof	Manager, Environmental Assessment Services	Ministry of the Environment, Conservation and Parks					jake.noordhof@ontario.ca
			Ministry of the Environment, Conservation and Parks - Environmental Assessment and Permissions Branch					MEA.NOTICES.EAAB@ontario.ca
Trevor	Bell	Environmental Resource Planner & EA Coordinator	Ministry of the Environment, Conservation and Parks - Regional Office					trevor.bell@ontario.ca
Craig	Stewart	Manager, Recreation Unit	Ministry of Health Promotion					craig.stewart@ontario.ca
Erica	Anderson	Director, Environmental Management, Infrastructure Ontario	Ministry of Infrastructure					erica.anderson@infrastructureontario.ca
Katherine	Hotrum	Director, Environmental Projects, Infrastructure Ontario	Ministry of Infrastructure					katherine.hotrum@infrastructureontario.ca
Notice	Review	Infrastructure Ontario	Ministry of Infrastructure					noticereview@infrastructureontario.ca
Environmental	Management	Infrastructure Ontario	Ministry of Infrastructure					enviornmentalmanagement@infrastructureontario.ca
Rahim	Baird	Planning Analyst, Infrastructure Ontario	Ministry of Infrastructure					rahim.baird@infrastructureontario.ca
David	Macey	Vice President, Portfolio Planning and Development, Infrastructure Ontario	Ministry of Infrastructure					david.macey@infrastructureontario.ca
Anil	Wijesooriya	General Manager, Planning Survey and Appraisal Professional Services	Ministry of Infrastructure, Infrastructure Ontario (formerly Ontario Realty Corporation)					anil.wijesooriya@ontariorealty.ca
			Ministry of Indigenous Affairs and First Nations Economic Reconciliation	160 Bloor St E, 9th Floor	Toronto	ON	M7A 2E6	
Heather	Watt	Manager, Community Planning and Development (West)	Ministry of Municipal Affairs and Housing, Central Municipal Services Office					heather.watt@ontario.ca
Michelle	Moretti	Planning Advisor	Ministry of Municipal Affairs and Housing, Central Municipal Services Office					michelle.moretti@ontario.ca
Tanzeel	Merchant	Regional Director (Acting)	Ministry of Municipal Affairs, Municipal Services - Central Region - Planning Branch					Tanzeel.Merchant@ontario.ca
Steven	Strong	District Planner, Aurora	Ministry of Natural Resources					steven.strong@ontario.ca
Samual	Short	Regional Planner (South Region)	Ministry of Natural Resources					sam.short@ontario.ca
Gillian	Hartman	Supervisor, Land Use Planning and Strategic Issues	Ministry of Natural Resources					gillian.hartman@ontario.ca

First Name	Last Name	Position	Organization	Address	City	Province	Postal Code	Email
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Renee	Bowler	Team Leader, Environmental Planning, Planning and Analysis Section	Ministry of Natural Resources, Strategic Coordination and Integration					renee.bowler@ontario.ca
Laurie	Brownlee	Coordinator, Resource-Based Tourism, Tourism Policy and Research	Ministry of Tourism, Culture and Gaming					laurie.brownlee@ontario.ca
Josh	Wilson	Senior Policy Analyst	Ministry of Tourism, Culture and Gaming					josh.wilson@ontario.ca
Richard	Yeung	Corridor Management Engineer	Ministry of Transportation					richard.yeung@ontario.ca
Tom	Hewitt	Head, Corridor Management Section	Ministry of Transportation	1201 Wilson Ave, Building D, 7th Floor	Downsview	ON	M3M 1J8	
Rina	Kulathinal	Manager, Engineering Program Delivery (Central), Design and Engineering	Ministry of Transportation					rina.kulathinal@ontario.ca
Bernard	O'Brien	Permit Officer, Corridor Management Section	Ministry of Transportation					bernard.o'brien@ontario.ca
Rebecca	Li	Senior Project Engineer, Highway Engineering, Peel and Halton	Ministry of Transportation					Rebecca.Li@ontario.ca
Paul	Ahn	Project Engineer, Highway Engineering, Peel and Halton	Ministry of Transportation, Central Region					miao.zhou@ontario.ca
Heather	Doyle	Land Use Planning, Corridor Management and Property Section	Ministry of Transportation, Contract Management & Operations Branch					heather.a.doyle@ontario.ca
Michael	Sit	Head - Project Delivery	Ministry of Transportation, Regional Office					michael.sit@ontario.ca
Brent	Mikstas		Ontario Provincial Police	2682 Keele St	Toronto	ON	M3M 3G5	
Wendy	Robertson	A/Admin OPP Facilities	Ontario Provincial Police, Operations Policy and Strategic Planning Bureau					Wendy.Robertson@opp.ca
Nicole	Rodaro	Facilities Coordinator	Ontario Provincial Police, Operations Policy and Strategic Planning Bureau					Nicole.Rodaro@opp.ca
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Dan	Francey	Manager, Transportation Planning & Development	GO Transit					daniel.francey@gotransit.com
Jason	Ryan	Manager, Environmental Programs	Metrolinx					Jason.Ryan@gotransit.com
Tony	Italiano		Metrolinx					tony.italiano@metrolinx.com
Pam	Foster	Director, Environmental Programs and Assessment	Metrolinx					pam.foster@metrolinx.com
		Senior Manager, Capital Infrastructure Coordination	Metrolinx					thirdpartyprojects@metrolinx.com
		Senior Manager, Third Party, Adjacent Works	Metrolinx					development.coordination@metrolinx.com
		Clerk	Peel Region					Regionalclerk@peelregion.ca
Asha	Saddi	Specialist, Infrastructure Programming	Peel Region					asha.saddi@peelregion.ca
John	Hardcastle	Manager, Development Services	Peel Region					john.hardcastle@peelregion.ca
Patrick	McColm	Supervisor, Risk and Audit	Peel Regional Paramedic Services					patrick.mccolm@peelregion.ca
Chief Brian	Gibson	Chief and Director of Paramedic Services	Peel Regional Paramedic Services					ParamedicServices@peelregion.ca
		Planning Email	Peel Regional Paramedic Services					planninginfo@peelregion.ca
		General Email	Peel Regional Police					info@peelpoliceboard.ca
Nishan	Duraiappah	Chief of Police	Peel Regional Police, Road Safety Services	7750 Hurontario St	Brampton	ON	L6V 3W6	
Rob	Orr	Inspector	Peel Regional Police, Road Safety Services					rob.orr@peelpolice.ca
		General Contact	Peel Region, Health Services					peelhealth@peelregion.ca
Louise	Aubin	Director, Health Protection	Peel Region, Public Health					louise.aubin@peelregin.ca
Kayle	McMillen	Research and Policy Analyst, Built Environment Team	Peel Region, Public Health					kayle.mcmillen@peelregion.ca
			Peel Region, Public Health					zzg-peelhealthbuiltenvironment@peelregion.ca
Miriam	Polga	Director, Transportation	Peel Region					miriam.polga@peelregion.ca
Geoff	Bowden	Supervisor, Support Services and Connections	Peel Region, Public Works					geoff.bowden@peelregion.ca

First Name	Last Name	Position	Organization	Address	City	Province	Postal Code	Email
		General Public Works Contact Email	Peel Region, Sanitary and Watermain					publicworkscustserv@peelregion.ca
Nimarta	Gill	Program Manager, Strategic Infrastructure Planning	Peel Region, Water and Wastewater					nimarta.gill@peelregion.ca
Joanne	Rogers	Senior Planner	Dufferin-Peel Catholic District School Board					joanne.rogers@dpcdsb.org
Mohammed	Idrissi	Assistant Director, Capital Assets and Planning	Conseil scolaire catholique MonAvenir					idrissi@cscmonavenir.ca
J.P.	Melito	Superintendent of Planning and Operation	Dufferin-Peel Catholic District School Board	40 Matheson Blvd W	Mississauga	ON	L5R 1C6	
Megha	Dhawan	Planner	Dufferin-Peel Catholic District School Board					megha.dhawan@dpcdsb.org
Paul	Mountford	Intermediate Planner Officer, Planning and Accounting Department	Peel District School Board					paul.mountford@peelsb.com
Suzanne	Blakeman	Planner	Peel District School Board					suzanne.blakeman@peelsb.com
Steve	Hare	Senior Planner / Manager	Peel District School Board	5650 Hurontario St	Mississauga	ON	L5R 1C6	
Phillip	Sousa	Senior Planner, Development Planning and Accommodation Support Services	Peel District School Board					phillip.sousa@peelsb.com
Tom	Howe	Manager	Student Transportation of Peel Region	5685 Keaton Cres	Mississauga	ON	L5R 3H5	
Miguel	Ladoucer	Director, Fixed Maintenance and Planning	Conseil scolaire Viamonde					planification@csviamonde.ca
Michael	McFarlane		Alectra Utilities					RecordsMississauga.PUCC@alectrautilities.com
			Alectra					RecordsMississauga.Info@alectrautilities.com
Adrian	Phillips		Alectra Utilities Corporation					adrian.phillips@alectrautilities.com
Wendy	Lefebvre	Design Manager - Access Network	Bell Canada	5115 Creekbank Rd W, FL3	Mississauga	ON	L4W 5R1	
Ken	Elliott	Municipal Operations Centre (MOC)	Bell Canada					Bell.MOC@telecon.ca
		General Contact	Bell Canada, Municipal Operations Centre					circulations@bell.ca.
			Enbridge Gas Distribution					Est.reg.crossing@enbridge.com
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Mike	McGlvery	Special Project Supervisor	Enbridge Gas Distribution Inc.	500 Consumers Rd	North York	ON	M2J 1P8	
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			Enbridge Pipelines Inc.					notifications@enbridge.com
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Paul	Sidhu	Senior Manager, System Planning	Enersource Hydro Mississauga	3240 Mavis Rd	Mississauga	ON	L5C 3K1	
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Susan	SUN Hongxia		Hydro One Networks Inc.					CentralFBCPlanning@HydroOne.com Susan.SUN@HydroOne.com
Walter	Kloostra	Manager, Distribution, Development & Lines Sustainment	Hydro One Networks Inc.					walter.kloostra@hydroone.com
Lok Man (Jenny)	Mui	Transmission Lines Sustainment, System Investment, Asset Management	Hydro One Networks Inc.					Jenny.Mui@hydroone.com
			Hydro One Networks Inc.					SecondaryLandUse@HydroOne.com
Michael	Aruta	Nadeen Wajdi-Houjeily	Hydro One Telecom Inc.					hotosp@hydroone.com
			MHBC Planning, Urban Design & Landscape Architecture					TCEnergy@mhbcplan.com
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Jenny	Saito		Peel Region					PUCC.applications@peelregion.ca
Geoff	Bowden	Supervisor, Support Services and Connections	Peel Region - Sanitary and Watermain	10 Peel Centre Dr	Brampton	ON	L6T 4B9	

First Name	Last Name	Position	Organization	Address	City	Province	Postal Code	Email
			Peel Region - Water, Wastewater, Stormwater					ZZG-pwi@peelregion.ca
			Rogers					MOB.permits@rci.rogers.com
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Joe	Pimentel		Zayo Canada					Utility.Circulations@zayo.com
		Algonquin Consultation Office	c/o JP2G Consultants Inc.	31 Riverside Dr, Suite 101	Pembroke	ON	K8A 8R6	
Todd	Williams	Archaeological Coordinator	Haudenosaunee Development Institute	2634 6th Line, RR #2	Ohsweken	ON	N0A 1H0	[redacted]
Raechelle	Williams	Environmental Supervisor	Haudenosaunee Development Institute	44 Sixth Line	Caledonia	ON	N3W 1Y9	Raechellewilliams@hdi.land
		Manager of Lands, Resources and Consultations	Métis Nation of Ontario	255 Cranston Crescent, P.O. Box 4	Midland	ON	L4R 4K6	consultations@metisnation.org
Mary	MacDougall	Regional Manager (4, 6, 7, 8, 9)	Métis Nation of Ontario					marym@metisnation.org
Margaret	Sault	Director of Lands, Membership and Research	Mississaugas of Credit First Nation	R.R.6, 468 New Credit Rd	Hagersville	ON	N0A 1H0	
Adam	LaForme	Archeology/FLR Participation Contact	Mississaugas of Credit First Nation	4067 Hwy 6	Hagersville	ON	N0A 1H2	adam.laforme@mncfn.ca
Abby	LaForme	Consultation Manager	Mississaugas of Credit First Nation	4065 Hwy 6	Hagersville	ON	N0A 1H0	abby.laforme@mncfn.ca
Mark	LaForme	Director	Mississaugas of Credit First Nation	4065 Hwy 6	Hagersville	ON	N0A 1H0	mark.laforme@mncfn.ca;
Megan	Devries	Manager of Consultation / Archaeological Coordinator, Department of Consultation and Accommodation	Mississaugas of Credit First Nation	4065 Hwy 6	Hagersville	ON	N0A 1H0	Megan.DeVries@mncfn.ca
Lindsay	Wong	Manager of Environment	Mississaugas of Credit First Nation	4065 Hwy 6	Hagersville	ON	N0A 1H0	Lindsay.Wong@mncfn.ca
Mathieu	Lariviere	Conseiller en Consultations	Nationne Wendat	255, place Chef Michel Laveau	Wendake	QC	G0A 4V0	consultations@wendake.ca
Peter	Graham	Consultation Supervisor	Six Nations of Grand River		Ohsweken	ON	N0A 1M0	LRCS@sixnations.ca cc - lonnybomberry@sixnations.ca cc - dlaforme@sixnations.ca

Appendix C-2: Councillors & Advisory Committees Contact List for the Creditview Road EA Addendum

First Name	Last Name	Role	Email
Brad	Butt	Councillor, Ward 11	brad.butt@mississauga.ca
Anita	Solomon	Executive Assistant, Ward 11	anita.solomon@mississauga.ca
Kimberly	Duarte	Administrative Assistant, Ward 11	kimberly.duarte@mississauga.ca
Martha	Cameron	Legislative Coordinator, Heritage Advisory Committee	martha.cameron@mississauga.ca
Eglantina	Bacaj-Gondia	Legislative Coordinator, Cycling Advisory Committee	eglantina.bacaj-gondia@mississauga.ca
Alvin	Tedjo	Chair, Mississauga Cycling Advisory Committee	alvin.tedjo@mississauga.ca

Appendix C-2: City of Mississauga Emergency & Transit Contact List for the Creditview Road EA Addendum

First Name	Last Name	Role	Email
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Don	Casey	Plans Examination Officer, Fire	Don.Casey@mississauga.ca
Jacqueline	Elias	Supervisor, Transit Infrastructure Planning	Jacqueline.Elias@mississauga.ca
Ji-Yeon	Lee	Senior Manager, Transit Operations	Ji-Yeon.Lee@mississauga.ca
Alana	Tyers	Manager, Service Development (Transit)	alana.tyers@mississauga.ca

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Appendix D

Creditview Road Implementation Strategy

Appendix D

R.J. Burnside & Associates Limited 6990 Creditview Road, Unit 2 Mississauga ON L5N 8R9 CANADA
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Creditview Road Implementation Strategy Memorandum

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Project Name:	Creditview Road Implementation Strategy		
Client Name:	City of Mississauga		
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1.0 Background and Context

1.1 Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by the City of Mississauga (City) to recommend an implementation strategy for improvements to Creditview Road between Bancroft Drive and Argentia Road, herein referred to as the ‘study corridor’. The City of Mississauga had previously completed the Creditview Road (Bancroft Drive to Old Creditview Road, excluding the bridge over the Credit River) Schedule C Municipal Class Environmental Assessment (MCEA) Study in 2016. This Class EA included an assessment of the needs for pavement rehabilitation, intersection improvements, new roundabouts, new cycling facilities, pedestrian crossings, drainage infrastructure, noise walls and transit infrastructure.

1.2 Approved 2016 MCEA Study and Previous Recommendations

The 2016 MCEA study recommended both an interim (2031) solution and long-term (2041) solution. The City is planning to initiate the detailed design of the Creditview Road study corridor in late 2024, with construction anticipated to take place between 2027 and 2029, subject to the timing of detailed design and budget approval by Council.

The 2016 MCEA established an interim alternative and long-term solution for Creditview Road, which consisted of the recommendations listed in Table 1. These recommendations were derived based on traffic volumes projected to the 2021 and 2031 horizon years using baseline turning movement count data collected between 2012 to 2013.

Table 1: Previously Recommended Improvements

Solution	Location / Road	Recommended Improvement
Interim Preferred Alternative (by 2031)	Creditview Road between Bancroft Drive and Argentia Road	Maintain two travel lanes Multi-use trail (west side) Sidewalk (east side)
	Creditview Road / Argentia Road	Two-lane roundabout
	Creditview Road / Falconer Drive	One-lane roundabout
	Creditview Road / Kenninghall Boulevard	One-lane roundabout
Long-Term Solution (beyond 2031)	Creditview Road between Bancroft Drive and Argentia Road	4-lane widening
	Creditview Road / Falconer Drive	Two-lane roundabout
	Creditview Road / Kenninghall Boulevard	Two-lane roundabout

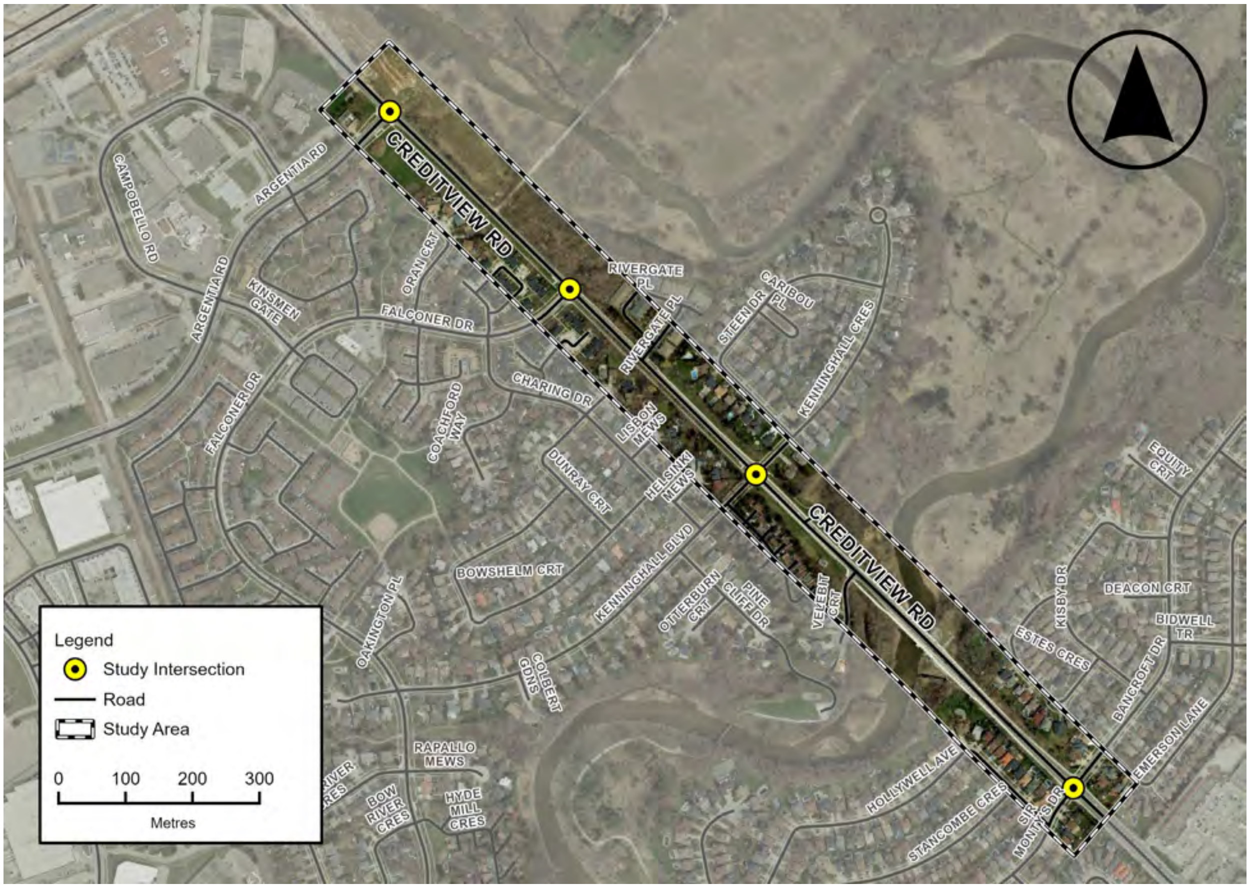
Note: Only improvements located within the study corridor (Creditview Road between Argentia Road and Bancroft Drive) are listed.

1.3 Creditview Road Implementation Strategy Scope and Purpose

Since the completion of the MCEA, the Ministry of Transportation proceeded with implementing improvements associated with the bridge across Highway 401 including the widening of Creditview Road from Argentia Road northerly to Old Creditview Road to 4 lanes. In addition, traffic conditions have changed as a result of changes in traffic patterns due to the widening of the northerly section of the corridor; changes in traffic patterns related to the Covid-19 pandemic and other factors affecting traffic over the past ten years.

Given the changes in traffic conditions since the MCEA study, this Implementation Strategy study is intended to reassess the most appropriate construction implementation strategy including the merits of proceeding with the long-term solution rather than an interim solution for the remaining corridor addressed in the MCEA. The study area for this Creditview Road Implementation Strategy is illustrated in Figure 1.

Figure 1: Study Area



The confirmed scope of this assignment is to:

- Confirm existing, 2031 and 2041 travel demand at both the intersection and link levels along the study corridor for the PM peak hour.
- Provide traffic operational analysis for the major intersections within the study corridor, including the intersection streets of: Sir Monty's Drive / Bancroft Drive, Kenninghall Boulevard / Kenninghall Crescent, Falconer Drive and Argentia Road.
- Confirm the timing of required road improvements, with consideration for the option of a:
  - Two-staged solution (proceed with interim preferred alternative and implement the long-term solution in the future) or
  - One-staged solution (proceed with a long-term solution now).
- Update costing for both the interim and long-term solution proposed based on the proposed designs from the 2016 MCEA.

2.0 Approach and Methodology

2.1 Count Data

The City provided Turning Movement Count (TMC) and Automatic Traffic Recorder (ATR) count data collected during February and March of 2024 to cover all major study intersections. The TMC data collected was higher than that of the ATR counts collected. Hence, the TMC counts were used to establish existing baseline conditions for a more conservative analysis. Table 2 provides a summary of the traffic data. The TMC data and signal timing data used for the analysis are provided in Appendix A.

Table 2: Traffic Data Summary

Location	Date of Count
TMC Data	
Argentia Road at Creditview Road	Tuesday, 13 February, 2024
Falconer Drive at Creditview Road	Tuesday, 26 March, 2024
Kenninghall Boulevard / Kenninghall Crescent at Creditview Road	Wednesday, 27 March, 2024
Sir Monty’s Drive / Bancroft Road at Creditview Road	Thursday, 28 March, 2024
ATR Data	
Creditview Road between HWY 401 and Argentia Road (Northbound and Southbound)	Tuesday, March 26, 2024
Creditview Road between Kenninghall Crescent and Rivergate Place (Northbound and Southbound)	Tuesday, March 26, 2024
Creditview Road between Bancroft Drive / Sir Monty’s Drive and Credit River (Northbound and Southbound)	Tuesday, March 26, 2024

2.2 Operational Analysis

2.2.1 Link Capacity Analysis

A link capacity review was conducted by determining the volume of vehicles per hour per lane and comparing it to the lane capacity. For this calculation, mid-block traffic volumes were utilized, and the capacity for one lane was assumed to be 900 vehicles per hour.

2.2.2 Signalized and Unsignalized Intersection Analysis

Intersection operations were assessed for intersections in the study area using the software program Synchro 11, which employs methodology from the “*Highway Capacity Manual” (HCM)*, published by the Transportation Research Board National Research Council. Synchro 11 can analyze both signalized and unsignalized intersections in a road corridor or network which accounts for the spacing, interaction, queues and operations between intersections. The analysis has utilized the HCM2000 methodology.

The signalized intersection analysis considers two separate measures of performance:

- The capacity of all intersection movements, which is based on a volume to capacity ratio that measures the degree of capacity utilized.
- The Level of Service (LOS) for all intersection movements, which is based on the average control delay per vehicle for the various movements through the intersection and overall. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between A and F, with F being the longest delay. The link between LOS and delay (in seconds) for signalized intersections is summarized below.

Level of Service	Control Delay per Vehicle(s)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

The unsignalized intersection analysis considers two separate measures of performance:

- The capacity of the intersection's critical movements, which is based on a volume to capacity ratio.
- The level of service for the critical movements, which is based on the average control delay per vehicle for the various critical movements within the intersection. The link between LOS and delay (in seconds) for unsignalized intersections is summarized below.

Level of Service	Control Delay per Vehicle(s)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

For signalized intersections under future conditions, timings were assumed to be optimized.

2.2.3 Roundabout Analysis

Under future conditions, roundabout intersection operations at the three intersections along Creditview Road (Argentia Road, Falconer Drive, and Kenninghall Boulevard / Kenninghall Crescent) were evaluated using the ARCADY software program. Since the capacity analysis of the software is based on British research and driving habits, certain parameters were adjusted, based on the Ministry of Transportation's (MTO) Roundabout Guidelines. The adjustments recognize that North American drivers are not accustomed to roundabouts and therefore full capacity potential is not yet reached.

The following adjustments were made to the y-intercept of the capacity equation:

- For existing operations and up to the 10-year horizon, a 10% reduction was applied.
- Beyond the 10-year horizon, a 5% reduction was applied.

It is expected that drivers will become accustomed to roundabouts over time, thus a lower reduction is applied to the y-intercept of the capacity equation beyond the 10-year horizon.

ARCADY was used to determine the following measures of performance:

- The capacity of all approaches, which is based on a volume to capacity ratio.
- The level of service for all approaches, which is based on the average control delay per vehicle.
- The maximum 95th percentile queue.

The proposed roundabout geometrics were determined based on the preliminary designs from the previous 2016 MCEA, as provided in Appendix B, and used as input to the ARCADY software.

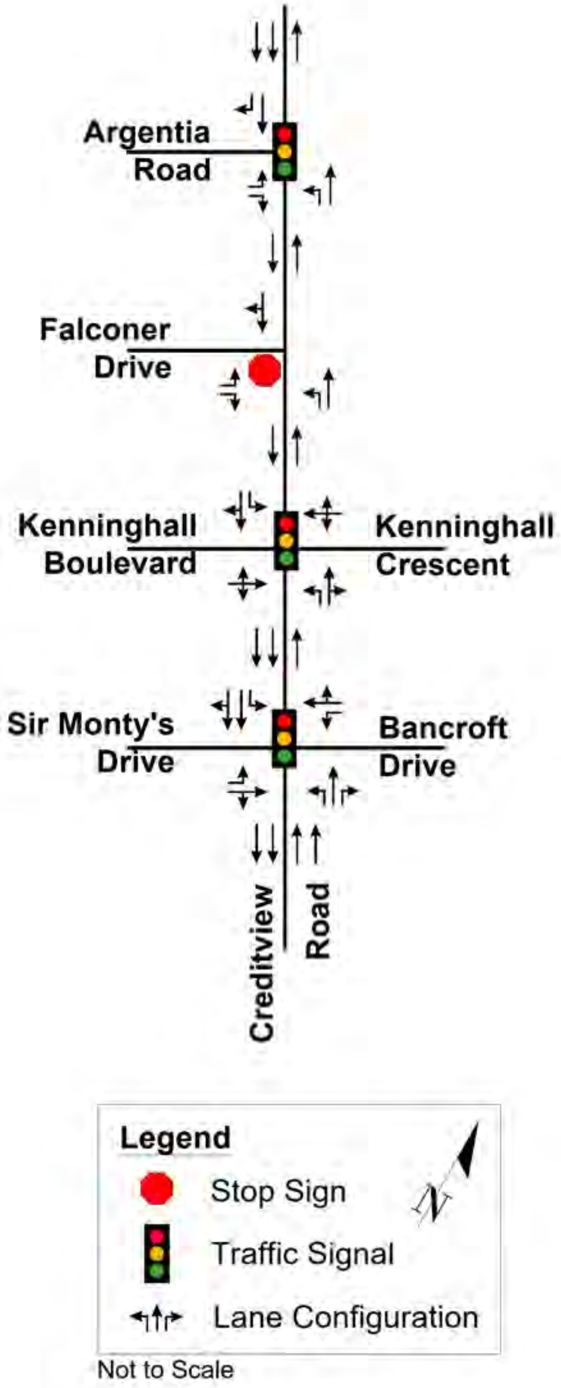
3.0 Existing Conditions

3.1 Existing Road Network

The existing road network is described below and illustrated in Figure 2 with existing traffic control. All roads within the study area are under the jurisdiction of the City.

Creditview Road	Creditview Road is a major collector with a two-lane cross-section within the study corridor. It has a posted speed limit of 60 km/hr. Sidewalks are provided on both sides of the roads throughout the study corridor except on the east side between Argentia Road and Falconer Road.
Argentia Road	Argentia Road is a major collector. The roadway consists of a four-lane cross-section and has a posted speed limit of 60 km/hr. Sidewalks are provided on both sides of the roads.
Falconer Drive	Falconer Drive is a minor collector. The roadway consists of a two-lane cross-section and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the roads
Kenninghall Boulevard / Kenninghall Crescent	Kenninghall Boulevard is a minor collector that extends west of Creditview Road. The roadway consists of a two-lane configuration and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the road until the intersection of Charing Drive, thereafter the sidewalk is provided only on the south side. Kenninghall Crescent is a local road with a two-lane cross-section that extends east of Creditview Road. It has an assumed unposted speed limit of 50 km/hr. and a sidewalk is provided only on the north side.
Bancroft Drive / Sir Monty’s Drive	Bancroft Drive is a minor collector that extends east of Creditview Road. The roadway consists of a two-lane cross-section and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the roads. Sir Monty’s Drive is a local road that extends west of Creditview Road. The roadway consists of a two-lane cross-section and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the roads.

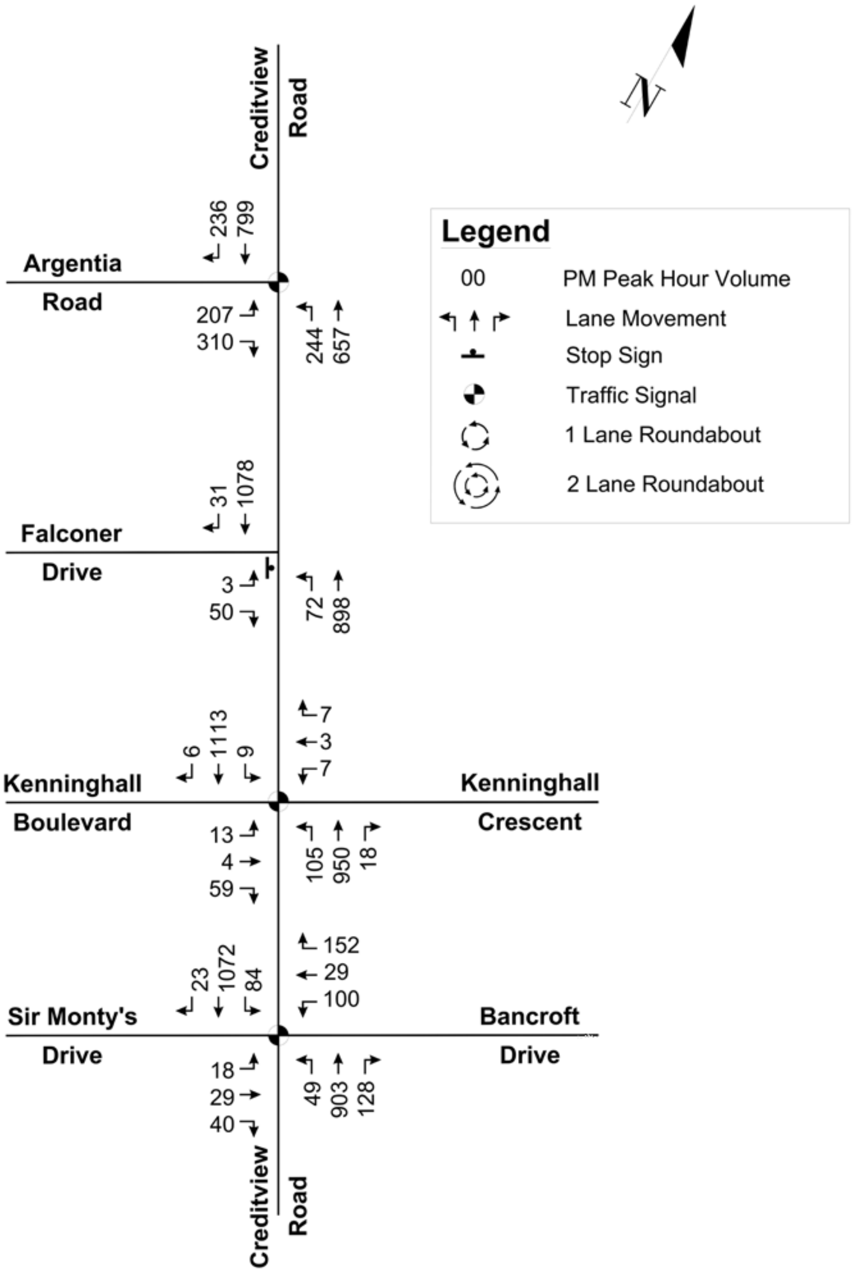
Figure 2: Existing Road Network



3.2 Existing Traffic Volume

The existing traffic volumes for the PM peak hour are shown in Figure 3.

Figure 3: Existing Traffic Volume



3.3 Existing Link Capacity

The results of the existing link capacity analysis are provided in Table 4. As shown, most of the study corridor is operating close to or at capacity, signifying that the corridor is already experiencing some magnitude of delay and congestion. Creditview Road north of Argentia Road and south of Bancroft Drive are noted to be widened to four lanes already and are therefore operating with excess capacity.

Table 3: Existing Traffic Demand

Creditview Road		PM Peak Hour			
		Northbound		Southbound	
From	**To**	**Volume (vphpl)**	**Used Capacity (vphpl)**	**Volume (vphpl)**	**Used Capacity (vphpl)**
North of Argentia Road		864	96%	1035	58%
Argentia Road	Falconer Drive	901	100%	1109	123%
Falconer Drive	Kenninghall Boulevard / Kenninghall Crescent	970	108%	1128	125%
Kenninghall Boulevard / Kenninghall Crescent	Sir Monty's Drive / Bancroft Drive	1073	119%	1179	66%
South of Sir Monty's Drive/Bancroft Drive		1080	60%	1212	67%

3.4 Existing Traffic Operations

Existing traffic operations at study intersections are summarized in Table 5. Detailed Synchro results are provided in Appendix C.

Table 4: Existing Intersection Operations

Intersection & Movement	Existing Storage / Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
Argentia Road and Creditview Road				
Overall	-	0.86	C (28)	-
EBL	165	0.63	C (29)	48
EBR	165	0.20	C (24)	19
NBL	40	0.71	C (21)	35
NBT	350	0.58	A (10)	74
SBT	300+	1.00	D (50)	192
SBR	95	0.20	B (12)	18
Falconer Drive and Creditview Road				
EBL	130	0.31	D (35)	9
EBR	30	0.00	A (0)	0
NBL	45	0.19	C (16)	5
NBT	150	0.57	A (0)	0
SBTR	350	0.71	A (0)	0

Intersection & Movement	Existing Storage / Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road				
Overall	-	0.94	F (203)	-
EBLTR	100	0.06	B (17)	10
WBLTR	65	0.02	B (17)	5
NBL	75	0.52	B (20)	16
NBTR	200	1.13	F (94)	264
SBL	35	0.10	B (19)	5
SBTR	235	1.66	F (330)	356
Sir Monty's Drive / Bancroft Drive and Creditview Road				
Overall	-	0.78	F (103)	-
EBL	15	0.03	A (10)	4
EBTR	50	0.06	A (10)	8
WBL	28	0.16	B (11)	15
WBTR	160	0.14	B (11)	11
NBL	40	0.45	C (29)	18
NBT	130	1.47	F (244)	232
NBR	130	0.08	B (15)	7
SBL	50	0.78	E (59)	33
SBTR	450	0.93	C (35)	111

Under existing traffic conditions, the Argentia Road and Falconer Drive intersections are operating with an overall average LOS of D or better, but the southbound through movement at Argentia Road and Creditview Road is operating at capacity.

The overall intersection of Kenninghall Boulevard / Kenninghall Crescent and Sir Monty’s Drive / Bancroft Drive at Creditview Road are operating at LOS F and demand in excess of capacity for specific movements. The northbound through-right and southbound through-right movement at the intersection of Kenninghall Crescent / Kenninghall Boulevard and Creditview Road have demands that are exceeding their respective capacities and available storage lengths and operating at a LOS F. Similarly, the northbound through movement at Sir Monty’s Drive / Bancroft Road and Creditview Road intersection also have demands exceeding capacity and the available storage length and operating at a LOS F.

From field observations vehicle queues during some days extend between intersections through the study corridor during peak hours. During the morning peak hour northbound queues are observed at Sir Monty’s Drive / Bancroft Drive and vehicles are commonly observed using the northbound right-turn lane to queue-jump past vehicles stopped in queue merging immediately north of the intersection.

3.5 Summary of Existing Operations

The link capacity analysis results indicate that two of the study intersections are operating with an overall LOS F, with many individual turning movements at the study corridor intersections also operating with demand at capacity or above capacity. There are merits from a traffic perspective to widen the lanes to four lanes early to mitigate existing operational needs.

4.0 Future Traffic Conditions

As mentioned, the approved Creditview Road MCEA Study (2016) recommended an ‘Interim Preferred Alternative’ and ‘Long-Term Solution’. The Interim Preferred Alternative involves maintaining two travel lanes between Bancroft Drive and Argentia Road and the construction of roundabouts at the intersections of Kenninghall Boulevard, Falconer Drive and Argentia Road. The Long-Term Solution involves widening the corridor to four lanes. Figure 4 and Figure 5 shows the lane configuration for the Interim Preferred Alternative and Long-Term Solution, respectively.

Figure 4: Interim Preferred Lane Configuration

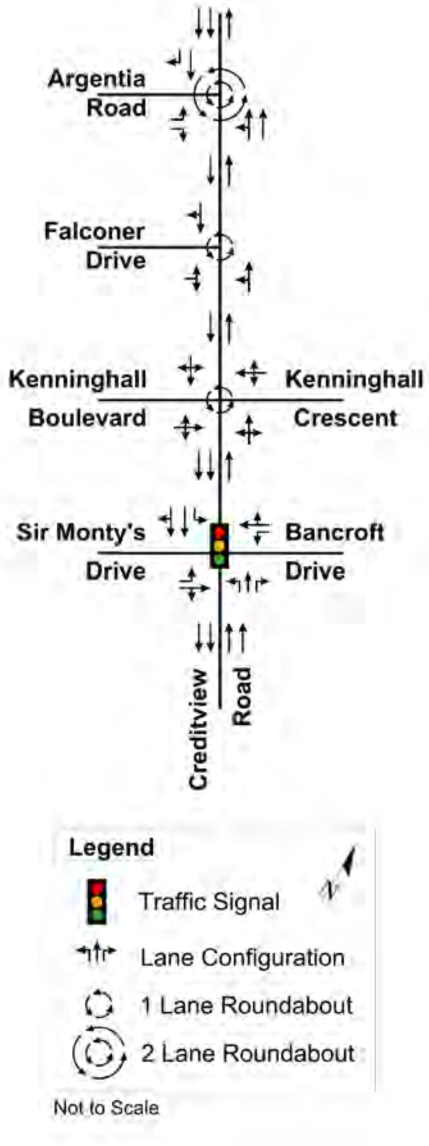
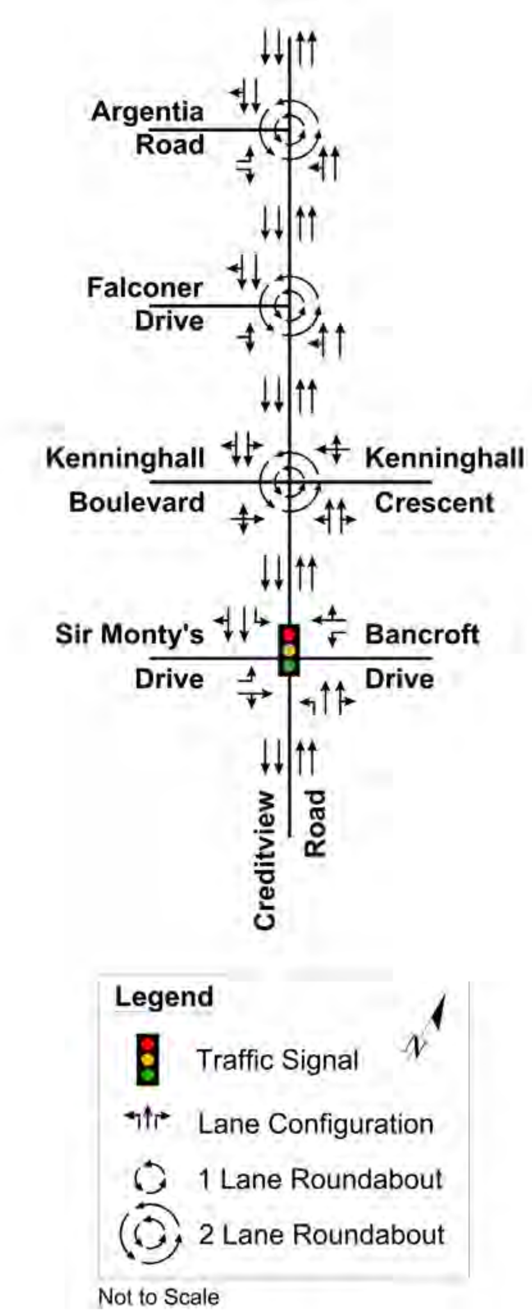


Figure 5: Long-Term Solution Lane Configuration



4.1 Growth Rates

The growth rates that were used for this study are summarized in Table 6 and were calculated based on the link volume plots from the EMME model provided by the City. The EMME model assessed scenarios for the 2016 base along with 2031 two-lane, 2031 four-lane and 2041 four-lane conditions. The growth rates applied recognize that implementing the four-lane (Long-Term Solution) by 2031 may attract additional traffic as a result of latent demand. For the local roads of Kenninghall Crescent and Sir Monty's Drive, growth is projected to be negative or nominal. Therefore, no growth rate was applied to these roads; this is consistent with the established residential neighbourhoods. The EMME plots are provided in Appendix D.

Table 5: Growth Rates

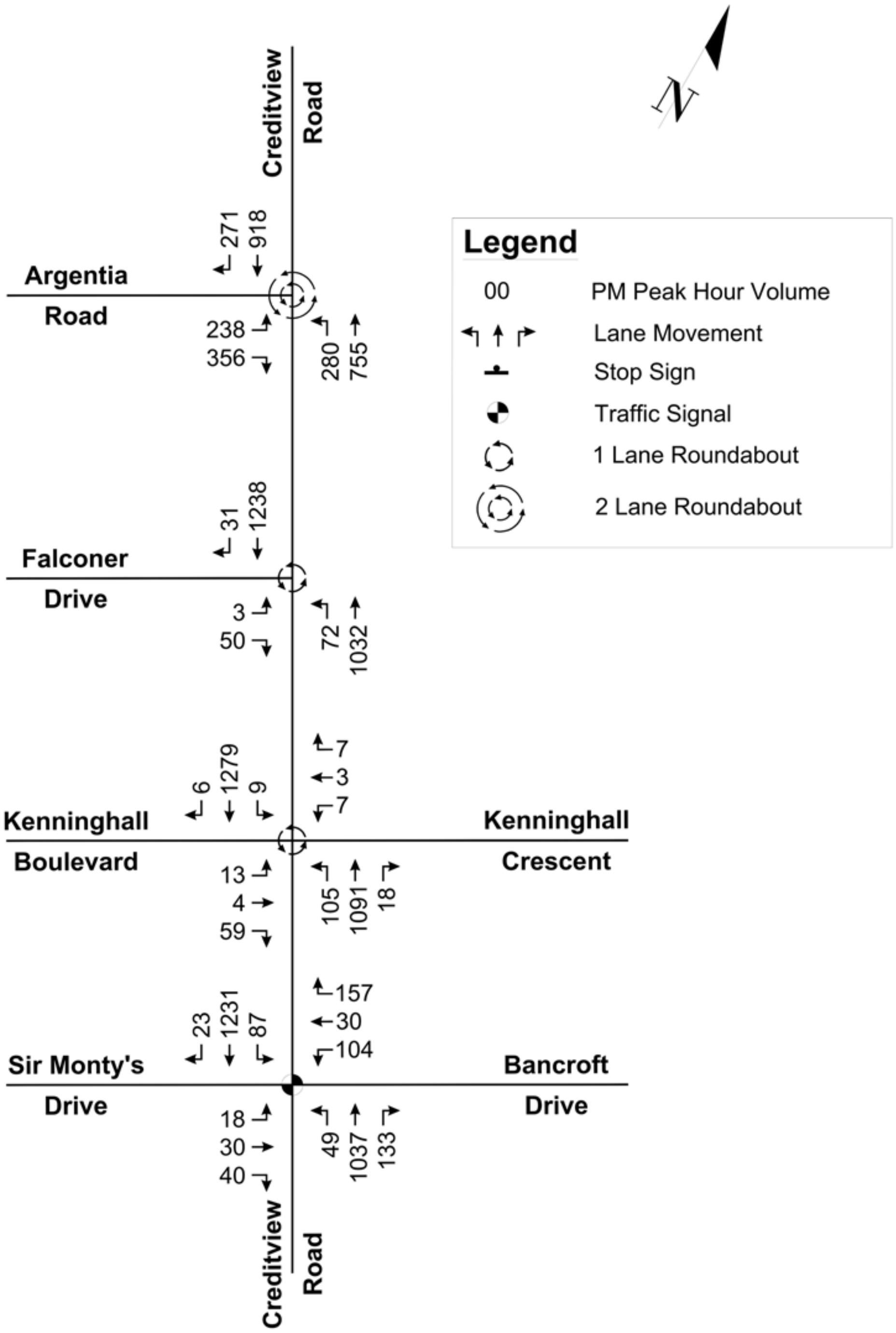
Year	2031		2041
Scenario	Interim Preferred Alternative (Two Lanes)	Early Implementation of Long-Term Solution (Four Lanes)	Long-Term Solution (Four Lanes)
Creditview Road	2.0%	4.5%	2.4%
Argentia Road	2.0%	3.5%	2.6%
Falconer Drive	0%	2.0%	1.0%
Kenninghall Boulevard	0%	2.0%	1.1%
Bancroft Drive	0.5%	0%	0.9%

4.2 Future (2031) Conditions

4.2.1 Interim Preferred Alternative

Future traffic volumes projected for the 2031 horizon under the two-lane (Interim Preferred Alternative) scenario are shown in Figure 6.

Figure 6: 2031 Traffic Volumes (Two-Lane Scenario)



The results of the link capacity analysis for the 2031 Interim Preferred Alternative (two-lane scenario) are summarized in Table 7. As shown, segments of the study corridor identified to approach or operate at capacity under existing conditions are projected to worsen in 2031 with the added traffic. The majority of the study corridor is projected to exceed capacity, except for the southbound lane between Bancroft Drive and Kenninghall Boulevard / Kenninghall Crescent, which is under capacity.

Table 6: 2031 Link Capacity Analysis (Two-Lane Scenario)

Creditview Road		PM Peak Hour			
		Northbound		Southbound	
From	To	Volume (vphpl)	Used Capacity (vphpl)	Volume (vphpl)	Used Capacity (vphpl)
North of Argentia Drive		993	110%	1189	66%
Argentia Road	Falconer Drive	1035	115%	1274	142%
Falconer Drive	Kenninghall Boulevard / Kenninghall Crescent	1104	123%	1288	143%
Kenninghall Boulevard / Kenninghall Crescent	Sir Monty's Drive / Bancroft Drive	1214	135%	1345	75%
South of Sir Monty's Drive / Bancroft Drive		1219	68%	1375	76%

Intersection operations for the 2031 horizon under the two-lane (Interim Preferred Alternative) scenario are summarized in Table 8.

Table 7: 2031 Intersection Operations Analysis (Two-Lane Scenario)

Intersection & Movement	Existing Storage / Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
Sir Monty's Drive / Bancroft Drive and Creditview Road				
Overall	-	0.84	E (72)	-
EBL	15	0.04	B (15)	6
EBTR	50	0.07	B (16)	11
WBL	30	0.21	B (17)	22
WBTR	160	0.15	B (16)	15
NBL	40	0.54	D (37)	23
NBT	130	1.28	F (158)	287
NBR	130	0.12	B (13)	13
SBL	50	0.98	F (112)	42
SBTR	450	0.81	C (23)	115
Argentia Road and Creditview Road				
South Leg	300+	-	A (7)	35
North Leg	300+	-	F (282)	949
West Leg	160	-	B (12)	34

Intersection & Movement	Existing Storage / Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
Falconer Drive and Creditview Road				
South Leg	120	1.14	F (273)	844
North Leg	300+	1.28	F (609)	1150
West Leg	115	0.10	A (7)	3
Kenninghall Boulevard/Kenninghall Crescent and Creditview Road				
North Leg	220	1.16	F (298))	1002
South Leg	180	0.99	F (64)	511
East Leg	60	0.03	A (6)	3
West Leg	95	0.14	A (7)	3

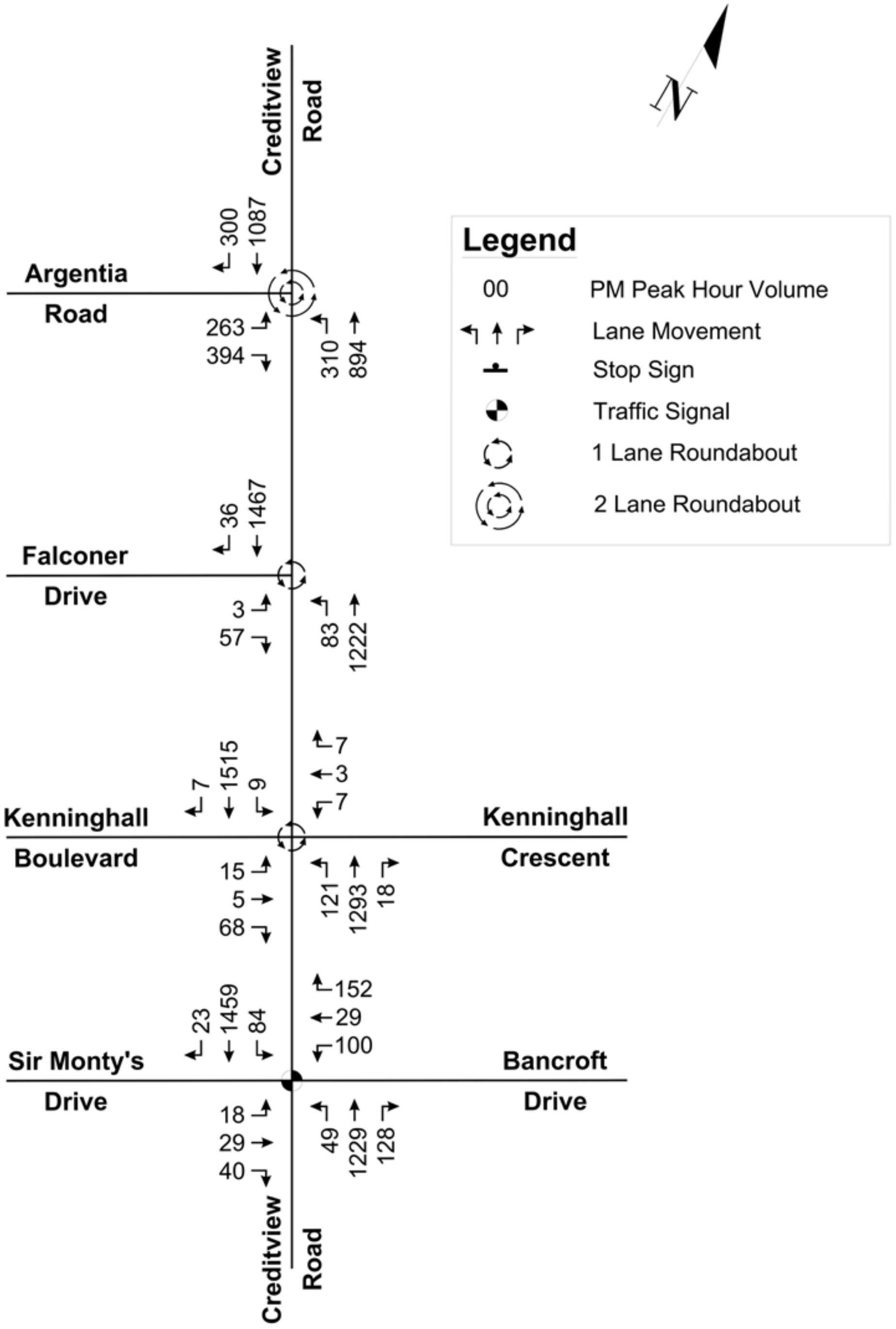
As shown, select movements at all study intersections are projected to experience operational constraints, resulting in significant delays and volumes that exceed demand. Even with the implementation of the roundabouts, the north and / or south approaches are projected to operate with a LOS F and / or overcapacity.

This further justifies the need to widen the corridor and implement the Long-Term Solution in the near term. Detailed Synchro results are provided in Appendix E

4.2.2 Long Term Solution

Future traffic volumes projected for the 2031 horizon under the four-lane (Long-term Solution) scenario are shown in Figure 7.

Figure 7: 2031 Traffic Volume (Four-Lane Scenario)



The results of the link capacity analysis for the. 2031 Long-term Solution (four-lane scenario) are summarized in Table 9. As shown, segments of the study corridor are expected to be below capacity upon lane widening from two to four lanes.

Table 8: 2031 Link Capacity Analysis (Four-Lane Scenario)

Creditview Road		PM Peak Hour			
		Northbound		Southbound	
From	To	Volume (vphpl)	Used Capacity (vphpl)	Volume (vphpl)	Used Capacity (vphpl)
North of Argentia Drive		1157	64%	1387	77%
Argentia Road	Falconer Drive	1204	67%	1481	82%
Falconer Drive	Kenninghall Boulevard / Kenninghall Crescent	1305	73%	1524	85%
Kenninghall Boulevard / Kenninghall Crescent	Sir Monty's Drive / Bancroft Drive	1432	80%	1590	88%
South of Sir Monty's Drive / Bancroft Drive		1406	78%	1599	89%

Intersection operations for the 2031 horizon under the two-lane (Interim Preferred Alternative) scenario are summarized in Table 10.

Table 9: 2031 Intersection Operations Analysis (Four-Lane Scenario)

Intersection & Movement	Existing Storage/ Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
Sir Monty's Drive / Bancroft Drive and Creditview Road				
Overall	-	0.66	C (22)	-
EBL	15	0.05	C (25)	8
EBTR	50	0.08	C (25)	14
WBL	30	0.25	C (27)	29
WBTR	160	0.19	C (26)	24
NBL	40	0.67	D (54)	29
NBTR	130	0.72	B (18)	126
SBL	50	0.83	E (68)	45
SBTR	450	0.77	B (20)	145
Argentia Road and Creditview Road				
South Leg	300+	0.70	A (6)	25
North Leg	300+	0.89	C (19)	222
West Leg	160	0.66	A (10)	20
Falconer Drive and Creditview Road				
South Leg	120	0.66	A (5)	22
North Leg	300+	0.78	A (8)	63
West Leg	115	0.22	C (16)	7
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road (A)				
North Leg	220	0.80	A (9)	87
South Leg	180	0.72	A (6)	31
East Leg	60	0.05	B (11)	3

Intersection & Movement	Existing Storage/ Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
West Leg	95	0.36	C (21)	12

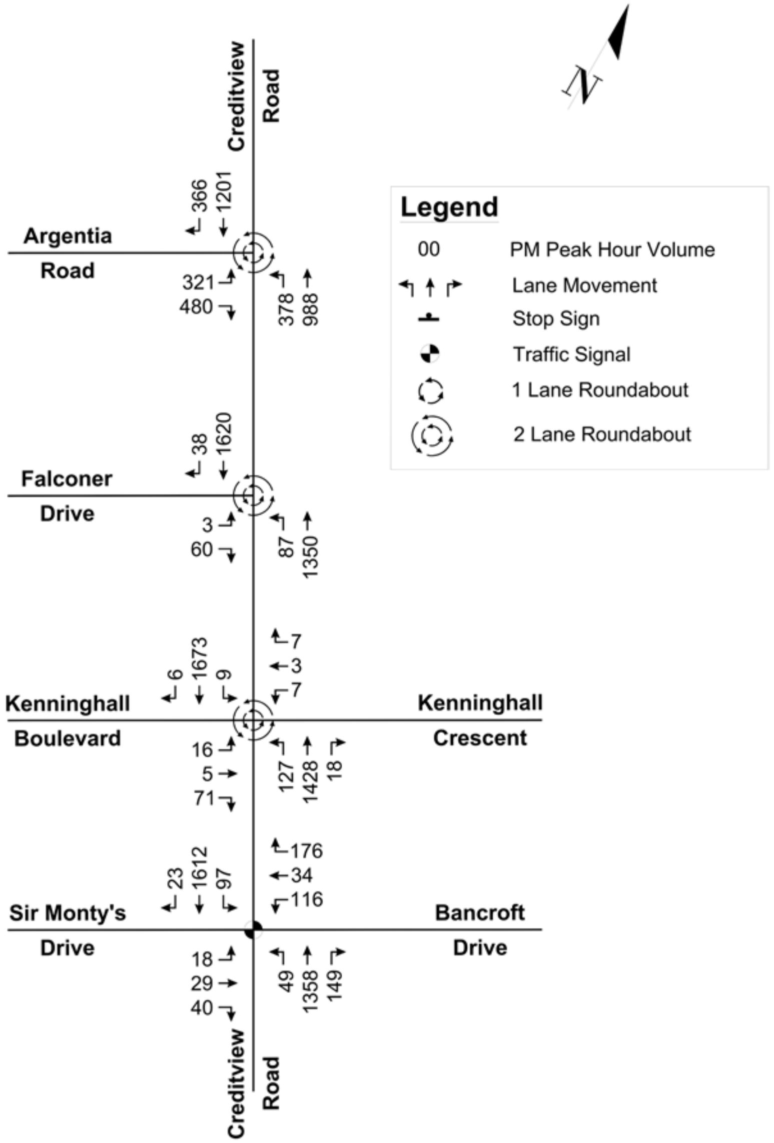
As shown, all movements at all the study intersections are operating with excess capacity, a LOS C or better, and queue lengths within their respective storage length or link distances. Detailed Synchro results are provided in Appendix F.

The operational improvements associated with the widening of the corridor to four lanes support the implementation of the Long-Term Solution by 2031.

4.3 Future (2041) Conditions

Future traffic volumes projected for the 2041 horizon under the four-lane (Long-term Solution) scenario are shown in Figure 8.

Figure 8: 2041 Traffic Volume (Four-Lane Scenario)



The results of the link capacity analysis for the 2041 Interim Preferred Alternative (four-lane scenario) are summarized in Table 11. As shown, segments of the study corridor are below capacity upon lane widening from two to four lanes.

Table 10: 2041 Link Capacity Analysis (Four-Lane Scenario)

Creditview Road		PM Peak Hour			
		Northbound		Southbound	
From	To	Volume (vphpl)	Used Capacity (vphpl)	Volume (vphpl)	Used Capacity (vphpl)
North of Argentia Drive		1309	73%	1567	87%
Argentia Road	Falconer Drive	1366	76%	1681	93%
Falconer Drive	Kenninghall Boulevard / Kenninghall Crescent	1437	80%	1680	93%
Kenninghall Boulevard / Kenninghall Crescent	Sir Monty's Drive / Bancroft Drive	1573	87%	1751	97%
South of Sir Monty's Drive / Bancroft Drive		1556	86%	1768	98%

Intersection operations for the 2041 horizon under the four -lane (Long-term Solution) scenario are summarized in Table 12.

Table 11: 2041 Intersection Operations Analysis (Four -Lane Scenario)

Intersection & Movement	Existing Storage/ Link Distance (m)	v/c	LOS (Delay in sec)	95th Queue (m)
Sir Monty's Drive / Bancroft Drive and Creditview Road				
Overall	-	0.74	C (20)	-
EBL	15	0.09	D (39)	11
EBTR	50	0.10	D (39)	19
WBL	30	0.38	D (45)	45
WBTR	160	0.35	D (44)	48
NBL	40	0.54	C (32)	29
NBTR	130	0.68	B (15)	145
SBL	50	0.83	E (63)	59
SBTR	450	0.72	B (16)	165
Argentia Road and Creditview Road				
South Leg	300+	0.77	A (8)	53
North Leg	300+	0.97	E (44)	531
West Leg	160	0.78	B (15)	88
Falconer Drive and Creditview Road				
South Leg	120	0.69	A (9)	28
North Leg	300+	0.82	A (18)	102
West Leg	115	0.25	C (6)	9
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road				
North Leg	220	0.84	B (11)	134
South Leg	180	0.74	A (7)	38
East Leg	60	0.06	B (12)	3
West Leg	95	0.42	D (27)	18

As shown, all movements at all study intersections are anticipated to operate with excess capacity, a LOS C or better, and queue lengths within their respective storage length or link distance. Synchro results are provided in Appendix G.

5.0 Capital Cost Assessments

The 2016 Creditview Road MCEA Study included preliminary costing. Since the study was completed and filed in 2016, the design cost estimates for the 'interim preferred alternative' and 'long-term solution' needed to be updated to account for inflation and reflect the 2024 market prices. For both alternatives, it is acknowledged that the construction cost for a roundabout is typically higher than that for a traditional intersection, however, the maintenance cost is lower.

The cost estimate for the Interim Preferred Alternative, which involves maintaining two lanes and adding roundabouts at three proposed intersections between Argentia Road and Bancroft Drive by 2031, is estimated to be $27,120,000. The cost for the transition from the Preferred Alternative to the Long-Term Solution by 2041 is estimated to be $4,430,000, making the total cost of building in two stages $31,550,000. For the early implementation of the Long-Term Solution, which involves implementing 4 lanes and roundabouts at the three intersections by 2031 is estimated to cost $28,940,000.

The additional cost for building in stages (i.e., interim stage in 2031 and ultimate stage in 2041) is $2,610,000 (in present 2024 dollars).

It is important to note that the estimate does not cover structures.

Detailed cost calculations are provided in Appendix H.

6.0 Evaluation of Alternative Implementation Strategies

6.1 Evaluation Criteria

The evaluation of the two implementation strategies incorporated criteria consistent with the 2016 MCEA. Some criteria had similar impacts for the two alternatives. Four criteria had sufficient differences and were considered in evaluating the implementation strategies: traffic operations, safety, construction costs, and community impacts.

6.1.1 Traffic Operations

A review of the traffic operations under the 2031 two-lane, 2031 four-lane and 2041 four-lane cross section was undertaken. The results show that 2031 four-lane and 2041 four-lane alternatives are expected to result in better traffic operations, accommodating future traffic at the link and intersection level, with additional improvements i.e., roundabout implementations at Argentia Road, Falconer Drive and Kenninghall Boulevard / Kenninghall Crescent intersections. This alternative also better accommodates access from side streets.

The 2031 two -lane scenario considered a similar roadway configuration as the present day with roundabouts at the above mentioned three intersections. The results of the traffic analysis indicates that all four study intersections either approach or exceed capacity.

The traffic operations analysis supports implementation of the one-staged ultimate solution in 2031.

6.1.2 Safety

Roundabouts are generally considered to be safer than traditional intersections because they have fewer points of conflict for both vehicles and pedestrians. The lower speeds make it easier for drivers to yield to oncoming traffic and pedestrians, as they need less stopping distance. Additionally, the roundabout shape reduces the likelihood of angle or T-bone collisions that are common at regular intersections, which can lead to more severe injuries. Based on the collision data, most of the accidents within the study area involve left turns, slowing / stopping, or going ahead collisions. Roundabouts are suitable for various intersections, including those with heavy traffic delays (as in most of the study intersections under existing conditions) and frequent left-turn movements, as well as relatively even traffic flow.

Roundabouts are proposed for both the one-staged ultimate solution in 2031 and two-staged interim solution by 2041. The two-lane roundabouts proposed in the Long-Term Solution better accommodate capacity and opportunities for access / egress to side-streets to facilitate safer movements.

The safety analysis supports implementation of the one-staged ultimate solution in 2031.

6.1.3 Construction Cost

As mentioned in Section 5.0, the construction cost of two-staged implementation is higher than that of the one-staged ultimate solution, as it involves a two-phase construction plan. Therefore, choosing the long-term solution early will result in anticipated cost savings.

The construction cost analysis supports the implementation of the one-staged ultimate solution in 2031.

6.1.4 Community Impacts

The impact on the community will be reduced by implementing the Long-Term Solution by 2031, as the development will be completed in one phase. In comparison, the interim solution requires a two-phase construction plan, disrupting accesses and resulting in higher delays and related user costs between 2031 and 2041. If the Long-Term Solution is implemented by 2031, the community's movements will be disrupted only once.

The community impacts analysis supports the implementation of the one-staged ultimate solution by 2031.

7.0 Recommended Implementation Strategy

The long-term solution of the widening Creditview Road to four lanes and implementing roundabouts at the three proposed study intersections will improve traffic operations within the study area to meet current and future traffic levels. Implementing the Long-Term Solution in 2031 also demonstrates cost benefits, with construction costs reduced by approximately $2.19 million compared to a two-phase implementation. Additionally, completing the project in one phase, instead of two, will reduce impacts on the community.

Considering operational analysis results, cost estimates, and impacts on the community, the one-staged ultimate solution is recommended by 2031.

8.0 Public Consultation

A Community Meeting was held on June 12, 2024, to provide residents with information about the previous MCEA study and the analysis results from the Creditview Road Implementation Study. Project boards were displayed identifying the findings of the analysis for the residents to view, and the residents were able to ask questions and share their comments or concerns. The project team received feedback from the residents in the form of comment sheets. A total of 37 comment sheets were completed. The top concerns raised by the residents are summarized below, including the frequency of such concerns noted in brackets:

- Concerns related to pedestrian safety at the roundabout crossings (17)
- Preference for signal heads / flashing lights / safer crosswalks for pedestrians at roundabouts (8)
- Unsupportive of roundabouts / preference for traffic signals (8)
- Difficulty turning from side-roads onto Creditview using the roundabout (7)
- Concerns related to speeding / preference for speed reductions along Creditview (6)
- Concerns related to noise level increases (6), and request to add noise walls (e.g., near Rivergate Place) (3)
- Difficulty accessing / turning left onto Creditview from uncontrolled intersections (e.g., near Rivergate Place) (4)
- Concern for removal of existing trees (4)
- Future trail connections at the Creditview Road Bridge (1)

Project display boards and comment forms from the Community Meeting are provided in Appendix I.

R.J. Burnside & Associates Limited

LICENSED PROFESSIONAL ENGINEER
R. M. BACQUIE
October 28, 2024
PROVINCE OF ONTARIO

Soha

Xinli Tu, E.I.T.	Soha Saiyed, E.I.T.	Ray Bacquie, P.Eng., MBA
Transportation Planner	Transportation Planner	Senior Vice President, Transportation

XT/SS/RB:rk

Enclosure(s)	Appendix A: Traffic Counts and Signal Timing Data
	Appendix B: Preliminary Design
	Appendix C: Existing Condition Synchro Results
	Appendix D: EMME Plots
	Appendix E: 2031 Interim Preferred Solution Synchro Results
	Appendix F: 2031 Long-term Solution Synchro Results
	Appendix G: 2041 Long-term Solution Synchro Results
	Appendix H: Cost Estimates
	Appendix I: Public Consultation Materials

058409 Creditview_Implementation Strategy Memo
10/28/2024 2:45 PM

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

Traffic and Signal Timing Data

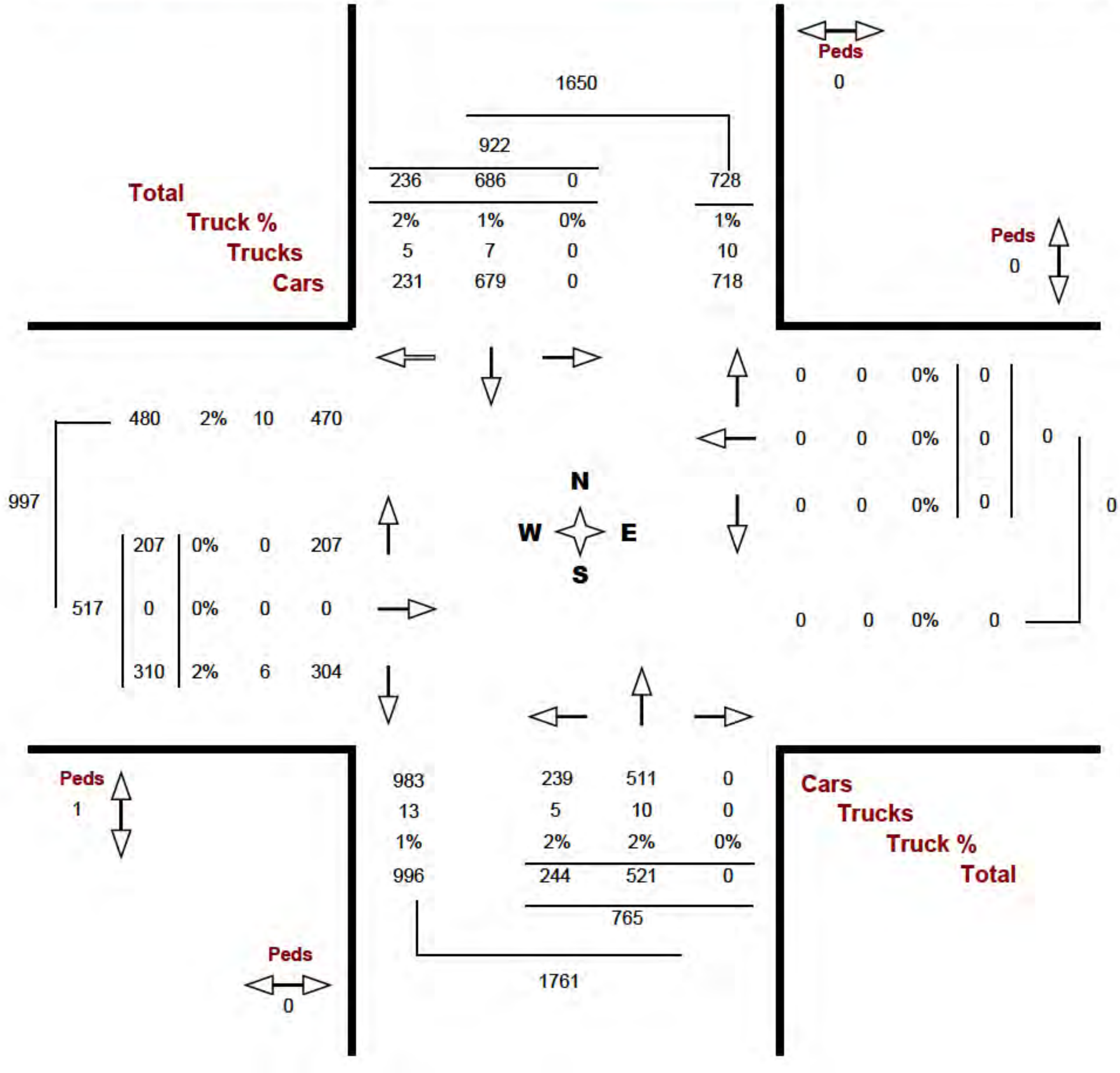
Turning Movements Report - PM Period

Location............. ARGENTIA RD @ CREDITVIEW RD

Municipality....... Mississauga **GeoID.......** 344807

Count Date....... Tuesday, 13 February, 2024 **Peak Hour......** 04:30 PM — 05:30 PM

Road 1 ARGENTIA RD **Road 2** CREDITVIEW RD



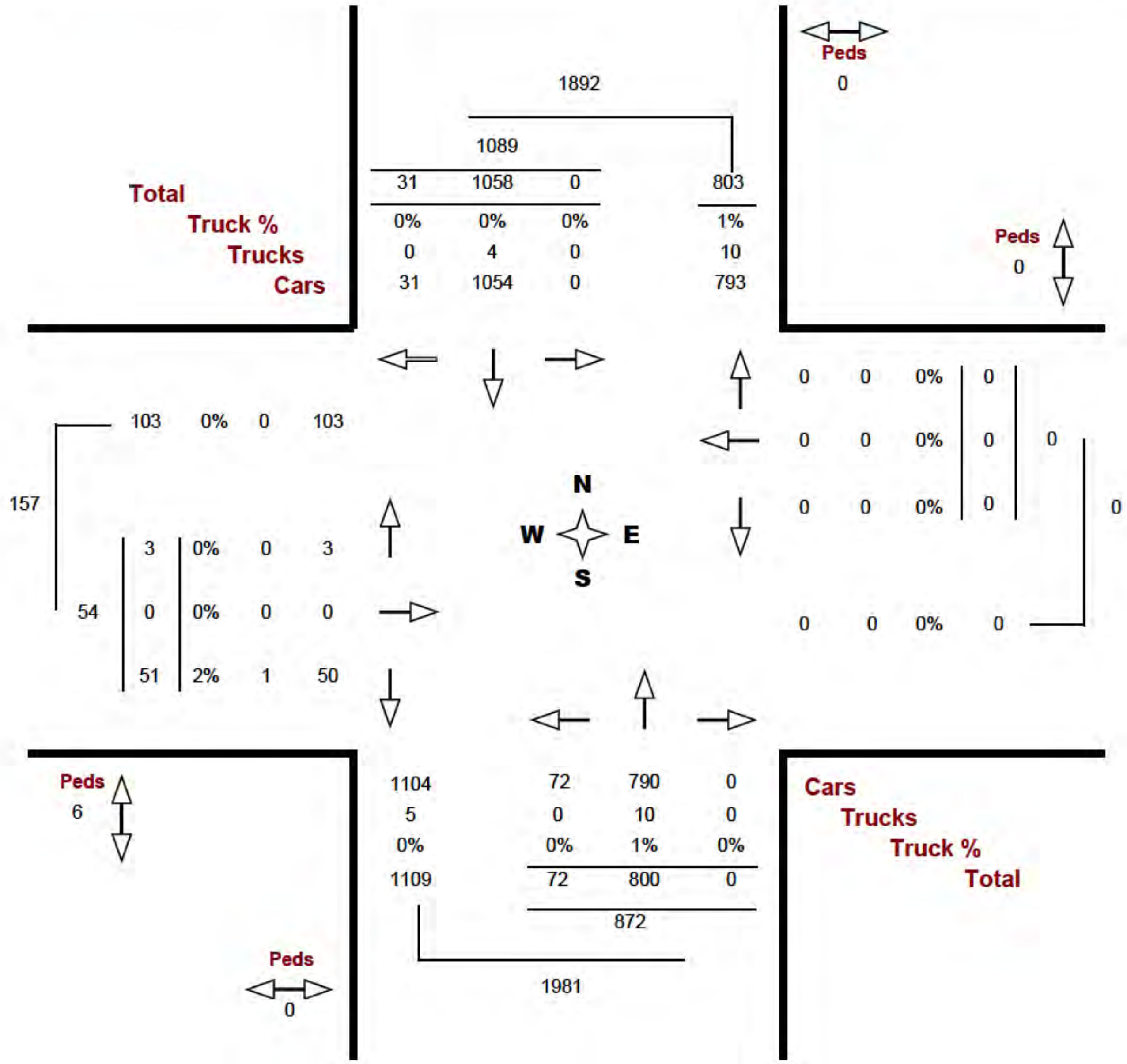
Turning Movements Report - PM Period

Location............ CREDITVIEW RD @ FALCONER DR

Municipality....... Mississauga **GeoID.......** 344910

Count Date....... Tuesday, 26 March, 2024 **Peak Hour......** 04:45 PM — 05:45 PM

Road 1 CREDITVIEW RD **Road 2** FALCONER DR



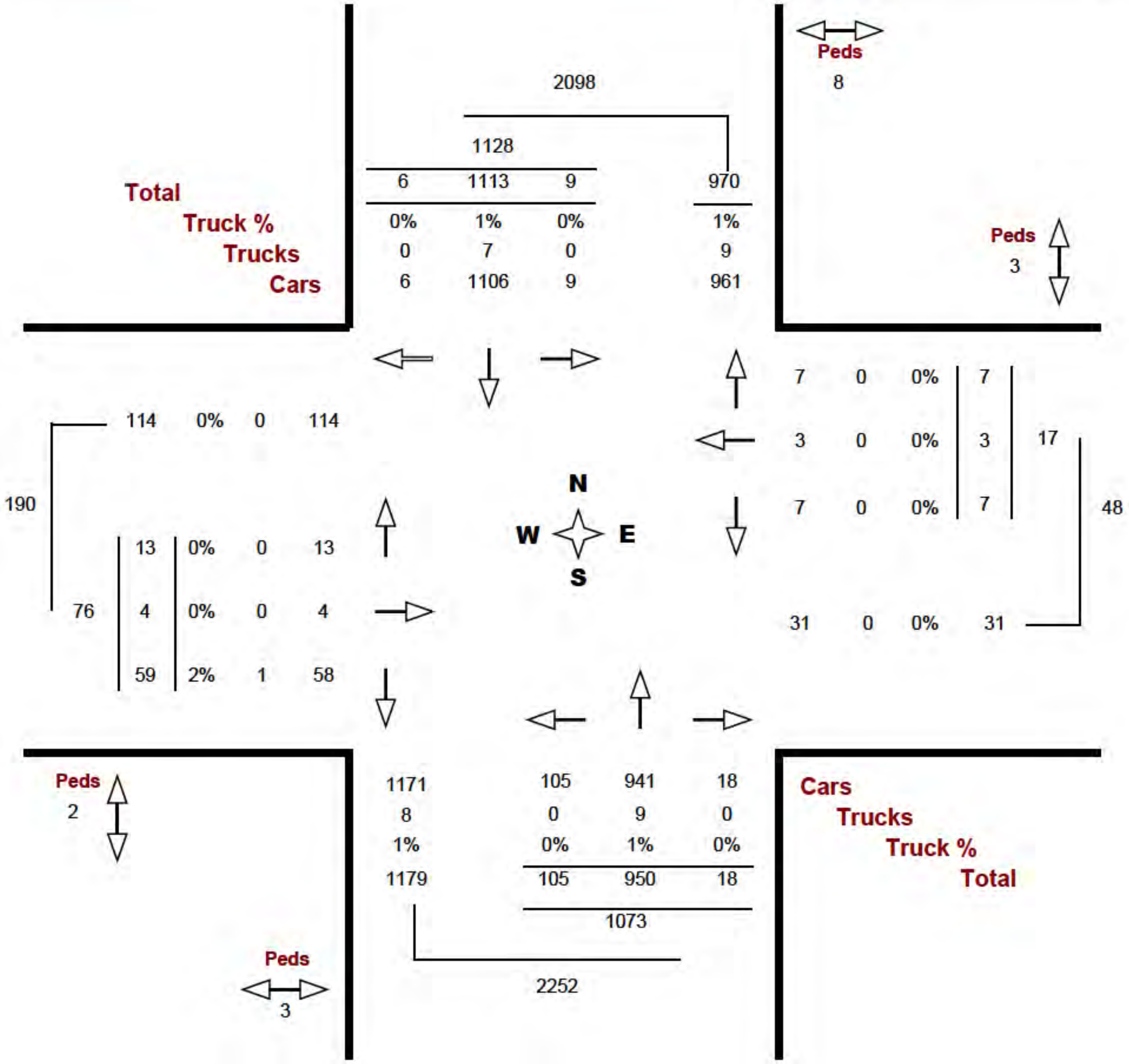
Turning Movements Report - PM Period

Location............ CREDITVIEW RD / KENNINGHALL BLVD @ KENNINGHALL CRES

Municipality....... Mississauga **GeoID.......** 345009

Count Date....... Wednesday, 27 March, 2024 **Peak Hour......** 04:45 PM — 05:45 PM

Road 1 KENNINGHALL CRES **Road 2** CREDITVIEW RD / KENNINGHALL BLVD



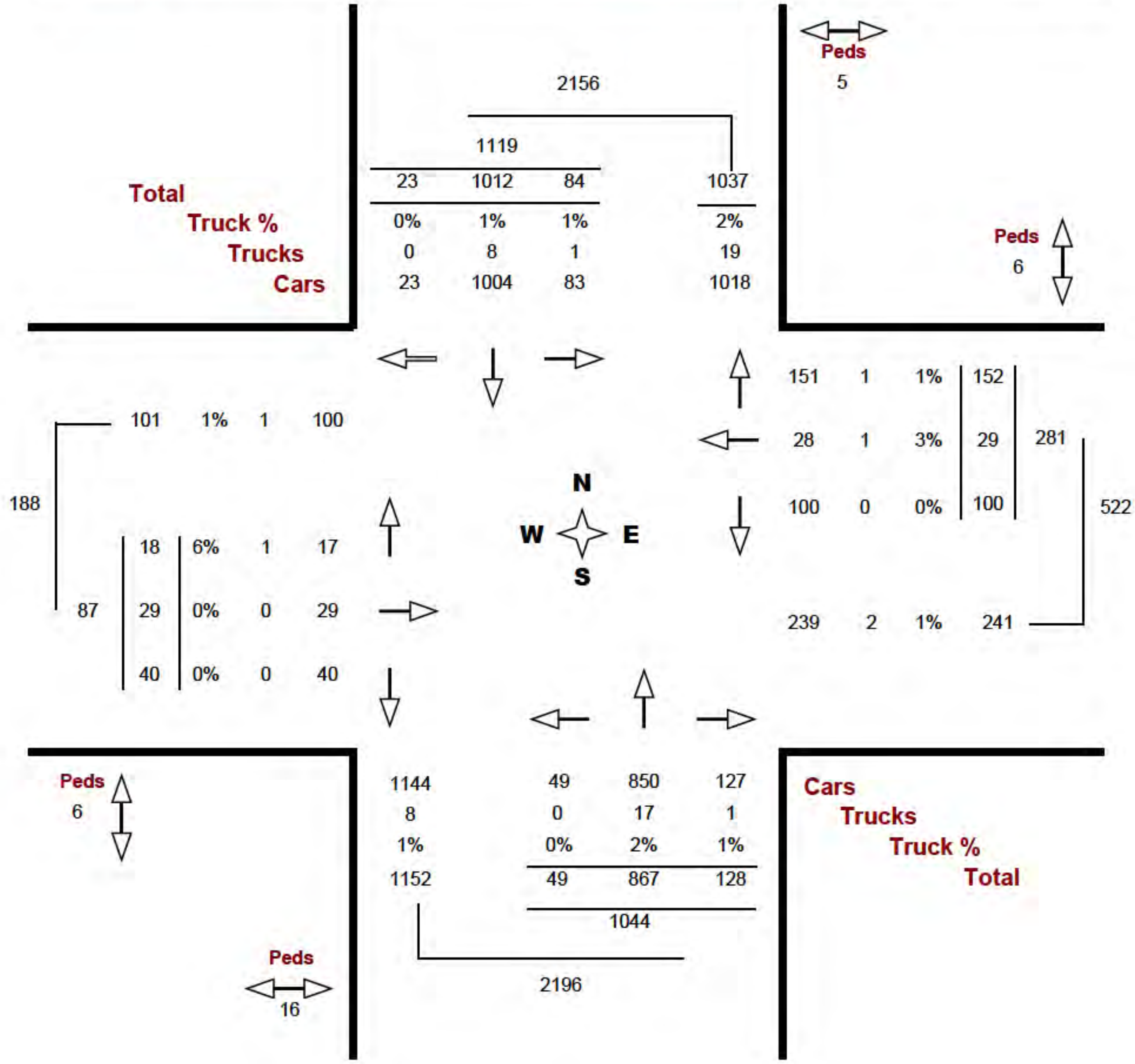
Turning Movements Report - PM Period

Location............ BANCROFT DR / SIR MONTY'S DR @ CREDITVIEW RD

Municipality....... Mississauga **GeoID.......** 345157

Count Date....... Thursday, 28 March, 2024 **Peak Hour......** 04:30 PM — 05:30 PM

Road 1 CREDITVIEW RD **Road 2** BANCROFT DR / SIR MONTY'S DR



Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String								
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	20	0	13	0	0	0	0
Min Green	Sec	7	10	0	10	0	0	0	0
Passage	Sec	2.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	50	25	0	20	0	0	0	0
Maximum 2	Sec	50	25	0	20	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.5	0.0	2.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	110	0	140	0	0	0	0	0
Offset	Sec	13	0	120	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive

Coordination - Pattern 1-32	Units	9	10	11	12	13	14	15	16
Cycle Time	Sec	130	0	140	0	0	0	0	0
Offset	Sec	38	0	5	0	0	0	0	0
Split	Split	9	10	11	12	13	14	15	16
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	standard

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	21	60	0	29	0	0	0	0
Split 1 - Coord	Enum	False	True	False	False	False	False	False	False
Split 1 - Coord Phase Options*	Bit		0: Reference Point						
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	False	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point						
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	25	76	0	39	0	0	0	0
Split 3 - Coord	Enum	False	True	False	False	False	False	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point						
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Time	Sec	58	57	0	15	0	0	0	0
Split 9 - Coord	Enum	False	True	False	False	False	False	False	False
Split 9 - Coord Phase Options*	Bit		0: Reference Point						
Split 10 - Mode	Enum	none	none	none	none	none	none	none	none
Split 10 - Time	Sec	0	0	0	0	0	0	0	0
Split 10 - Coord	Enum	False	False	False	False	False	False	False	False
Split 10 - Coord Phase Options*	Bit								
Split 11 - Mode	Enum	none	none	none	none	none	none	none	none
Split 11 - Time	Sec	65	60	0	15	0	0	0	0
Split 11 - Coord	Enum	False	True	False	False	False	False	False	False
Split 11 - Coord Phase Options*	Bit		0: Reference Point						

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------	-F----------	--M---------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	---W---	-M-----	-----F-	-M-----	-M-----
Day of Month	Bit	1234567890123456789012345678901	1234567890123456789012345678901	1234567890123456789012345678901	1------------------------------	------------------9------------	----------------------------9--	-------------------0-----------	1------------------------------
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	-----------D	-----------D	-----------D	--------S---	------------
Day of Week	Bit	-M-----	-M-----	-M-----	---W---	----T--	--T----	-M-----	SMTWTFS
Day of Month	Bit	----5--------------------------	-2-----------------------------	-------------4-----------------	------------------------5------	-------------------------6-----	-----------------------4-------	-----------------------------0-	-------------------------------
Day Plan	Number	3	3	3	3	3	3	3	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	7	9	15	18	3
Plan 1 Minute	Min	0	0	0	0	30	0
Plan 1 Action	Number	8	1	8	3	8	7
Plan 2 Hour	Hour	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String	"P.P. NBLT"	"NB/SB"		"EB/WB"				
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	18	0	20	0	0	0	0
Min Green	Sec	7	10	0	10	0	0	0	0
Passage	Sec	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	10	37	0	20	0	0	0	0
Maximum 2	Sec	10	37	0	20	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	3.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.0	0.0	3.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	110	0	140	0	0	0	0	0
Offset	Sec	55	0	15	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	phaseOmitted	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	74	0	36	0	0	0	0
Split 1 - Coord	Enum	False	True	False	False	False	False	False	False
Split 1 - Coord Phase Options*	Bit		0: Reference Point						
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	False	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point						
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	17	87	0	36	0	0	0	0
Split 3 - Coord	Enum	False	True	False	False	False	False	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point						

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------	-F----------	--M---------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	---W---	-M-----	-----F-	-M-----	-M-----
Day of Month	Bit	1234567890123456789012345678901	1234567890123456789012345678901	1234567890123456789012345678901	1------------------------------	------------------9------------	----------------------------9--	-------------------0-----------	1------------------------------
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	-----------D	-----------D	-----------D	--------S---	------------
Day of Week	Bit	-M-----	-M-----	-M-----	---W---	----T--	--T----	-M-----	SMTWTFS
Day of Month	Bit	----5--------------------------	-2-----------------------------	-------------4-----------------	------------------------5------	-------------------------6-----	-----------------------4-------	-----------------------------0-	-------------------------------
Day Plan	Number	3	3	3	3	3	3	3	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	7	9	15	18	3
Plan 1 Minute	Min	0	0	0	0	30	0
Plan 1 Action	Number	8	1	8	3	8	7
Plan 2 Hour	Hour	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String								
Walk	Sec	0	10	0	10	0	10	0	10
Ped Clear	Sec	0	13	0	21	0	13	0	21
Min Green	Sec	0	10	0	10	0	10	0	10
Passage	Sec	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Maximum 1	Sec	0	20	0	20	0	20	0	20
Maximum 2	Sec	0	20	0	20	0	20	0	20
Yellow Change	Sec	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
Red Clearance	Sec	0.0	2.0	0.0	3.5	0.0	2.0	0.0	3.5
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	redClear	other	phaseNotOn
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase
[P2] Ring	Ring	0	1	0	1	0	2	0	2
[P2] Concurrency	Phase (,)	()	(6)	()	(8)	()	(2)	()	(4)

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	55	0	140	0	0	0	0	0
Offset	Sec	19	0	18	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	36	0	19	0	36	0	19
Split 1 - Coord	Enum	False	True	False	False	False	True	False	False
Split 1 - Coord Phase Options*	Bit								
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	True	False	False
Split 2 - Coord Phase Options*	Bit								
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	88	0	52	0	88	0	52
Split 3 - Coord	Enum	False	True	False	False	False	True	False	False
Split 3 - Coord Phase Options*	Bit								

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------	-F----------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567 89012345678901	12345678901234567 89012345678901	12345678901234567 89012345678901	1--------------------------- ---	----------------7----------- ---	---------0------------------ ---	-----------------8---------- ---	1--------------------------- ---
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	-----------D	-----------D	-----------D	------------	------------
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	--3------------------------- ---	------7--------------------- ---	-----------2---------------- ---	------------------------5--- ---	--------------------------- 8---	-----------------------4---- ---	---------------------------- ---	---------------------------- ---
Day Plan	Number	3	3	3	3	3	3	0	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	3	7	9	15	18
Plan 1 Minute	Min	0	0	0	0	0	30
Plan 1 Action	Number	8	7	1	8	3	8
Plan 2 Hour	Hour	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

BURNSIDE

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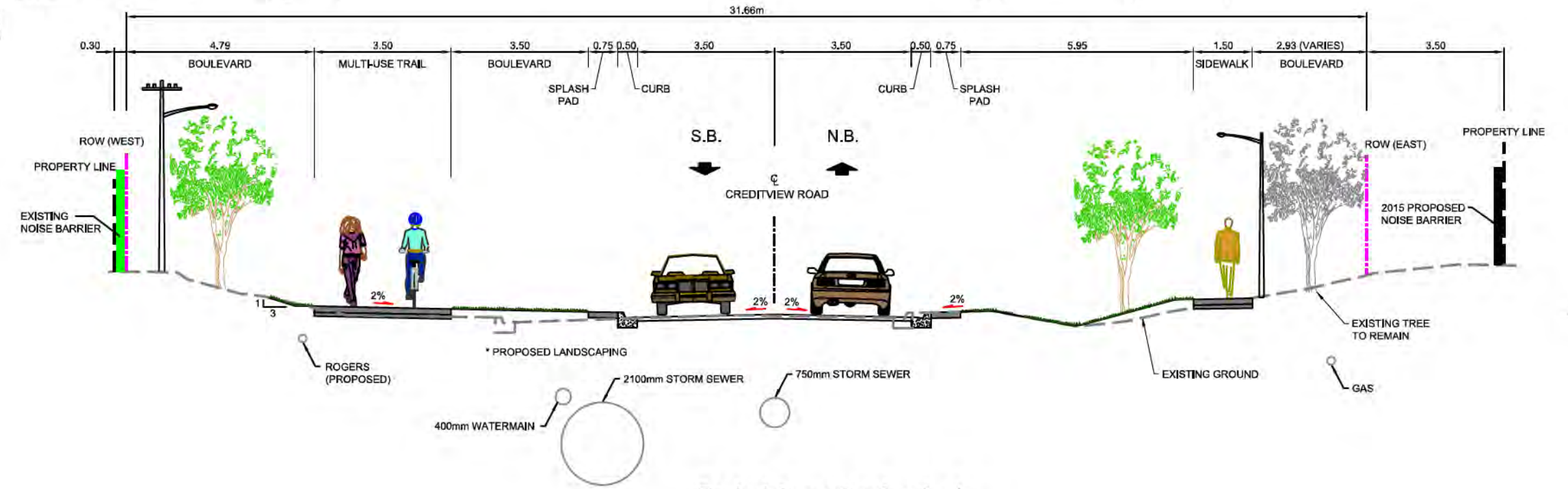
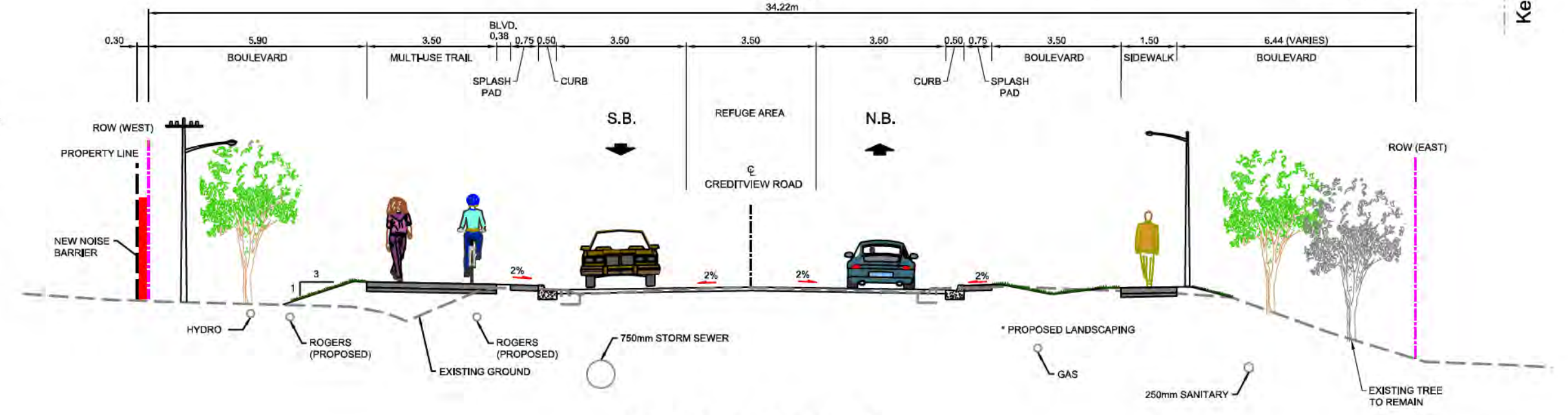
Appendix B

Preliminary Design

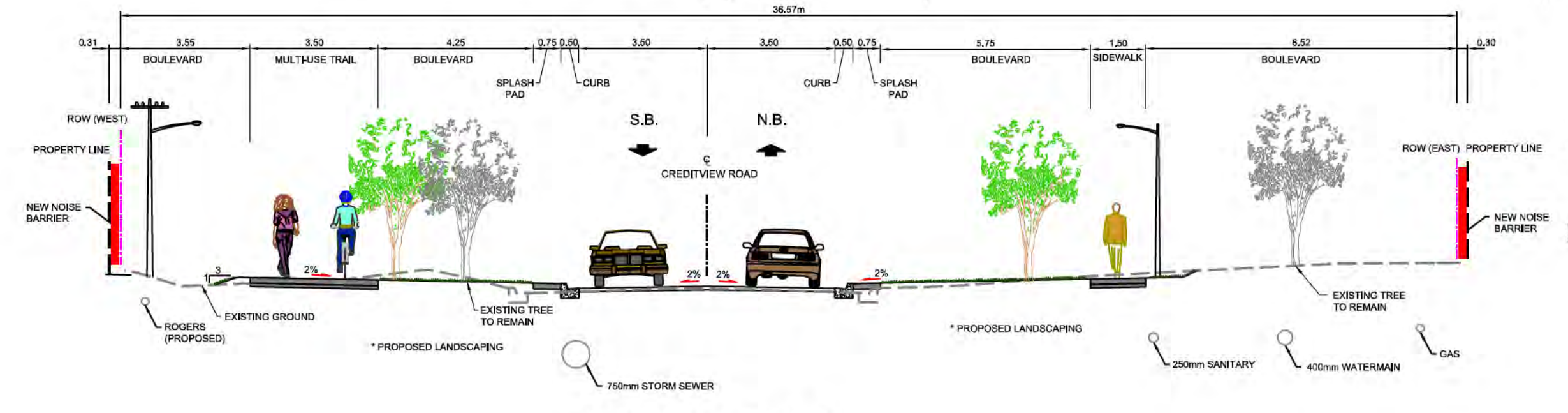
PREFERRED ALTERNATIVE



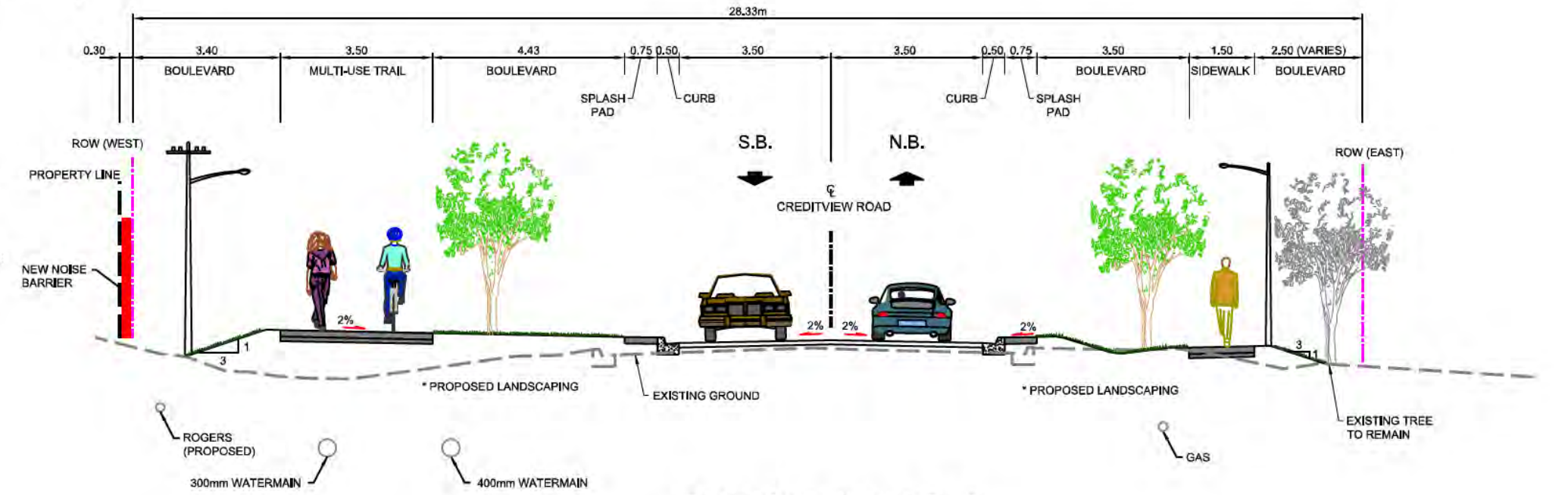
Typical Cross-Section A - A
Station 8+360
N.T.S.



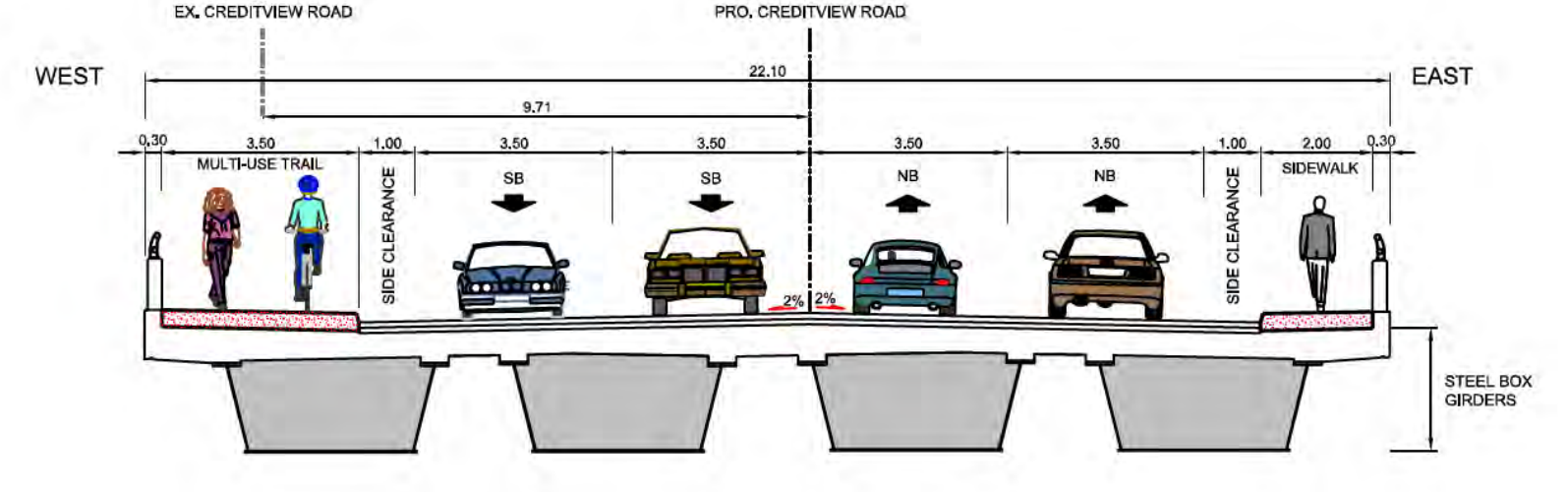
Typical Cross-Section B - B
Station 8+660
N.T.S.



Typical Cross-Section C - C
Station 9+000
N.T.S.



Typical Cross-Section D - D
Station 9+340
N.T.S.



Typical Cross-Section E - E
Station 10+000
N.T.S.

NOTES:

1. ROUNDABOUTS GEOMETRY SHOWN IN THESE ENVIRONMENT ASSESSMENT DRAWINGS ARE PRELIMINARY AND NOT FOR CONSTRUCTION. DESIGNER SHOULD RE-EVALUATE ALL COMPONENTS OF THE ROUNDABOUTS (HORIZONTALLY AND VERTICALLY) PRIOR TO DETAILED DESIGN.
2. GRADING LIMIT HAVE BEEN ESTIMATED BASED ON AVAILABLE MAPPING/DATA.
3. THE UTILITIES SHOWN IN THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSE ONLY. THE EXISTENCE, LOCATION AND ELEVATION OF UTILITIES AND/OR CONCEALED STRUCTURES IN THESE DRAWING ARE NOT GUARANTEED

LEGENDS

-·-·-·-·-	EXISTING RIGHT OF WAY
– – – – –	EXISTING PROPERTY LINE
-·-·-·-·-	PROPOSED RIGHT OF WAY
- - - - -	GRADING
━━━	EXISTING NOISE BARRIER
━━━	2015 PROPOSED NOISE BARRIER
━━━	NEW NOISE BARRIER
🟦	PROPOSED SIDEWALK
🟧	PROPOSED MULTI-USE TRAIL
▨	PROPOSED MEDIAN

CONSULTANTS

AECOM

HORIZONTAL \ VERTICAL CONTROL MONUMENTS	DIGITAL INFORMATION	No.	DATE	REVISIONS	INITIAL	SIGNED

MISSISSAUGA

CREDITVIEW ROAD CLASS EA
PLAN / CROSS SECTIONS
PREFERRED ALTERNATIVE
PLAN - STA. 8+037 TO STA. 10+487

DESIGN		DRAWN		CHECKED		CONTRACT No.
SCALE :	15 0 30	DRAWING NUMBER		SHEET
DATE :				

LONG-TERM SOLUTION

Typical Cross-Section A - A
Station 8+380
N.T.S.

Typical Cross-Section B - B
Station 8+660
N.T.S.

Typical Cross-Section C - C
Station 9+000
N.T.S.

Typical Cross-Section D - D
Station 9+380
N.T.S.

Typical Cross-Section E - E
Station 10+000
N.T.S.

NOTES:

1. ROUNDABOUTS GEOMETRY SHOWN IN THESE ENVIRONMENT ASSESSMENT DRAWINGS ARE PRELIMINARY AND NOT FOR CONSTRUCTION. DESIGNER SHOULD RE-EVALUATE ALL COMPONENTS OF THE ROUNDABOUTS (HORIZONTALLY AND VERTICALLY) PRIOR TO DETAILED DESIGN.
2. GRADING LIMIT HAVE BEEN ESTIMATED BASED ON AVAILABLE MAPPING/DATA.
3. THE UTILITIES SHOWN IN THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSE ONLY. THE EXISTENCE, LOCATION AND ELEVATION OF UTILITIES AND/OR CONCEALED STRUCTURES IN THESE DRAWING ARE NOT GUARANTEED

LEGENDS

-·-·-·-	EXISTING RIGHT OF WAY
- - - -	EXISTING PROPERTY LINE
-·-·-·-	PROPOSED RIGHT OF WAY
- - - -	GRADING
──	EXISTING NOISE BARRIER
──	2015 PROPOSED NOISE BARRIER
──	NEW NOISE BARRIER
▬	PROPOSED SIDEWALK
▬	PROPOSED MULTI-USE TRAIL
▬	PROPOSED MEDIAN

CONSULTANTS

AECOM

HORIZONTAL \ VERTICAL CONTROL MONUMENTS	DIGITAL INFORMATION	No.	DATE	REVISIONS	INITIAL	SIGNED

MISSISSAUGA

CREDITVIEW ROAD CLASS EA
PLAN / CROSS SECTIONS
LONG-TERM SOLUTION
PLAN - STA. 8+037 TO STA. 10+487

DESIGN
DRAWN
CHECKED
CONTRACT No.
SCALE : 15 0 30
DRAWING NUMBER
SHEET
DATE :

BURNSIDE

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Appendix C

Existing Condition Synchro Results

Appendix C

	↗	↘	↖	↑	↓	↙
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑	↱
Traffic Volume (vph)	207	310	244	657	799	236
Future Volume (vph)	207	310	244	657	799	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	41.0			94.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		65.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.99			0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1825	1601	1789	1883	1902	1601
Flt Permitted	0.950		0.121			
Satd. Flow (perm)	1825	1601	228	1883	1902	1566
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		326				186
Link Speed (k/h)	60			60	60	
Link Distance (m)	247.1			379.7	330.7	
Travel Time (s)	14.8			22.8	19.8	
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	2%	2%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	218	326	257	692	841	248
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	326	257	692	841	248
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases	4	4	6			2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	29.0	29.0	13.0	36.5	36.5	36.5
Total Split (s)	20.0	20.0	50.0	25.0	25.0	25.0
Total Split (%)	21.1%	21.1%	52.6%	26.3%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	0.0	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	3.0	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	12.9	12.9	46.1	42.6	30.1	30.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Actuated g/C Ratio	0.19	0.19	0.68	0.63	0.44	0.44
v/c Ratio	0.63	0.57	0.69	0.58	1.00	0.31
Control Delay (s/veh)	34.8	7.9	20.2	10.1	53.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.8	7.9	20.2	10.1	53.6	5.2
LOS	C	A	C	B	D	A
Approach Delay (s/veh)	18.7			12.9	42.6	
Approach LOS	B			B	D	
Queue Length 50th (m)	25.5	0.0	13.4	47.4	~107.2	4.5
Queue Length 95th (m)	47.9	19.1	35.4	74.4	#191.6	17.7
Internal Link Dist (m)	223.1			355.7	306.7	
Turn Bay Length (m)			41.0			94.0
Base Capacity (vph)	376	589	1241	1855	841	796
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.55	0.21	0.37	1.00	0.31

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 68

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay (s/veh): 26.7 Intersection LOS: C

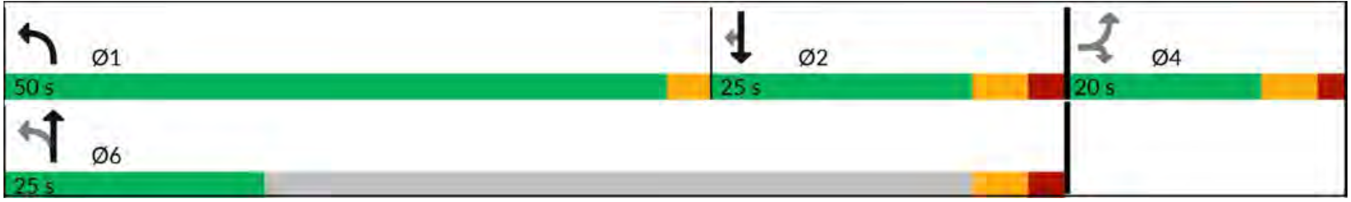
Intersection Capacity Utilization 80.8% ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Creditview Road & Argentia Road



	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑	↱
Traffic Volume (vph)	207	310	244	657	799	236
Future Volume (vph)	207	310	244	657	799	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	3.0	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1825	1601	1789	1883	1902	1567
Flt Permitted	0.95	1.00	0.12	1.00	1.00	1.00
Satd. Flow (perm)	1825	1601	228	1883	1902	1567
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	218	326	257	692	841	248
RTOR Reduction (vph)	0	264	0	0	0	104
Lane Group Flow (vph)	218	62	257	692	841	144
Confl. Peds. (#/hr)			1			1
Heavy Vehicles (%)	0%	2%	2%	2%	1%	2%
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			1	6	2	
Permitted Phases	4	4	6			2
Actuated Green, G (s)	12.9	12.9	42.6	42.6	30.1	30.1
Effective Green, g (s)	12.9	12.9	42.6	42.6	30.1	30.1
Actuated g/C Ratio	0.19	0.19	0.63	0.63	0.44	0.44
Clearance Time (s)	6.0	6.0	3.0	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	346	303	360	1179	841	693
v/s Ratio Prot			c0.10	0.37	c0.44	
v/s Ratio Perm	c0.12	0.04	0.35			0.09
v/c Ratio	0.63	0.20	0.71	0.58	1.00	0.20
Uniform Delay, d1	25.3	23.2	14.4	7.5	18.9	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	0.3	6.5	2.1	31.0	0.6
Delay (s)	29.0	23.5	20.9	9.6	49.9	12.3
Level of Service	C	C	C	A	D	B
Approach Delay (s/veh)	25.7			12.7	41.4	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

	↗	↘	↖	↑	↓	↙
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↱	
Traffic Volume (vph)	3	50	72	898	1078	31
Future Volume (vph)	3	50	72	898	1078	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	30.0	46.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		34.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1825	1601	1825	1902	1913	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1825	1601	1825	1902	1913	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	206.0			384.2	379.7	
Travel Time (s)	15.4			28.6	28.3	
Confl. Peds. (#/hr)			6			6
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	3	54	78	976	1172	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	54	78	976	1206	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 69.8% ICU Level of Service C

Analysis Period (min) 15

2: Creditview Road & Falconer Drive

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↳	
Traffic Volume (veh/h)	3	50	72	898	1078	31
Future Volume (Veh/h)	3	50	72	898	1078	31
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	54	78	976	1172	34
Pedestrians	6					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.0					
Percent Blockage	0					
Right turn flare (veh)		4				
Median type				None	None	
Median storage veh)						
Upstream signal (m)				384	380	
pX, platoon unblocked	0.74	0.57	0.57			
vC, conflicting volume	2327	1195	1212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1325	969	999			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	69	81			
cM capacity (veh/h)	103	176	400			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	57	78	976	1206
Volume Left	3	78	0	0
Volume Right	54	0	0	34
cSH	185	400	1700	1700
Volume to Capacity	0.31	0.19	0.57	0.71
Queue Length 95th (m)	9.4	5.4	0.0	0.0
Control Delay (s/veh)	34.7	16.2	0.0	0.0
Lane LOS	D	C		
Approach Delay (s/veh)	34.7	1.2		0.0
Approach LOS	D			

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↱		↰	↱	
Traffic Volume (vph)	13	4	59	7	3	7	105	950	18	9	1113	6
Future Volume (vph)	13	4	59	7	3	7	105	950	18	9	1113	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	74.0		0.0	36.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			100.0			39.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98			0.99			0.99	
Frt		0.895			0.943			0.997			0.999	
Flt Protected		0.991			0.979		0.950			0.950		
Satd. Flow (prot)	0	1659	0	0	1752	0	1825	1896	0	1825	1900	0
Flt Permitted		0.965			0.921		0.117			0.129		
Satd. Flow (perm)	0	1613	0	0	1646	0	225	1896	0	248	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63			8			2				
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		180.0			185.4			667.9			384.2	
Travel Time (s)		16.2			16.7			40.1			23.1	
Confl. Peds. (#/hr)	8		3	3		8	2		3	3		2
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	14	4	63	8	3	8	113	1022	19	10	1197	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	0	0	19	0	113	1041	0	10	1203	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	34.0		34.0	34.0	
Total Split (s)	20.0	20.0		20.0	20.0		10.0	37.0		37.0	37.0	
Total Split (%)	27.8%	27.8%		27.8%	27.8%		13.9%	51.4%		51.4%	51.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		0.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		3.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		None	Max		Max	Max	
Act Effct Green (s)		30.1			30.1		41.9	38.9		31.1	31.1	

Lane Group	Ø3	Ø5	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (m)			
Grade (%)			
Storage Length (m)			
Storage Lanes			
Taper Length (m)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (k/h)			
Link Distance (m)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor			
Growth Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Parking (#/hr)			
Mid-Block Traffic (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	3	5	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	1.0	1.0	1.0
Minimum Split (s)	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0
Total Split (%)	7%	7%	7%
Yellow Time (s)	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes
Recall Mode	None	None	None
Act Effct Green (s)			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.37			0.37		0.52	0.48		0.38	0.38	
v/c Ratio		0.12			0.03		0.44	1.14		0.10	1.65	
Control Delay (s/veh)		7.5			13.1		15.5	100.1		20.6	322.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		7.5			13.1		15.5	100.1		20.6	322.7	
LOS		A			B		B	F		C	F	
Approach Delay (s/veh)		7.5			13.1			91.9			320.3	
Approach LOS		A			B			F			F	
Queue Length 50th (m)		1.8			1.1		8.4	~191.7		1.0	~283.1	
Queue Length 95th (m)		10.4			5.2		16.1	#263.9		4.6	#355.9	
Internal Link Dist (m)		156.0			161.4			643.9			360.2	
Turn Bay Length (m)							74.0			36.0		
Base Capacity (vph)		638			616		255	937		95	728	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.13			0.03		0.44	1.11		0.11	1.65	

Intersection Summary

Area Type: Other
Cycle Length: 72
Actuated Cycle Length: 81
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.65
Intersection Signal Delay (s/veh): 200.8 Intersection LOS: F
Intersection Capacity Utilization 103.1% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent

Lane Group	Ø3	Ø5	Ø7
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (m)			
Queue Length 95th (m)			
Internal Link Dist (m)			
Turn Bay Length (m)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

HCM Signalized Intersection Capacity Analysis — EX PM (2024)
3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent — Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↱		↰	↱	
Traffic Volume (vph)	13	4	59	7	3	7	105	950	18	9	1113	6
Future Volume (vph)	13	4	59	7	3	7	105	950	18	9	1113	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Frt		0.89			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657			1750		1825	1896		1825	1901	
Flt Permitted		0.96			0.92		0.11	1.00		0.12	1.00	
Satd. Flow (perm)		1612			1646		225	1896		247	1901	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	4	63	8	3	8	113	1022	19	10	1197	6
RTOR Reduction (vph)	0	40	0	0	5	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	41	0	0	14	0	113	1040	0	10	1203	0
Confl. Peds. (#/hr)	8		3	3		8	2		3	3		2
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		30.1			30.1		39.6	39.6		31.1	31.1	
Effective Green, g (s)		30.1			30.1		39.6	39.6		31.1	31.1	
Actuated g/C Ratio		0.37			0.37		0.48	0.48		0.38	0.38	
Clearance Time (s)		6.0			6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		593			606		216	918		94	723	
v/s Ratio Prot							0.04	c0.55			c0.63	
v/s Ratio Perm		c0.03			0.01		0.22			0.04		
v/c Ratio		0.06			0.02		0.52	1.13		0.10	1.66	
Uniform Delay, d1		16.7			16.4		17.4	21.0		16.3	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.0		2.2	73.4		2.2	304.8	
Delay (s)		16.9			16.5		19.7	94.4		18.5	330.1	
Level of Service		B			B		B	F		B	F	
Approach Delay (s/veh)		16.9			16.5			87.1			327.6	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	202.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	81.7	Sum of lost time (s)	17.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑	↱	↰	↑↱	
Traffic Volume (vph)	18	29	40	100	29	152	49	903	128	84	1072	23
Future Volume (vph)	18	29	40	100	29	152	49	903	128	84	1072	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	12.0		0.0	28.0		0.0	39.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	12.0			17.6			9.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.97		0.99		0.97	0.99	0.99	
Frt		0.913			0.874				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1722	1734	0	1825	1624	0	1825	1883	1617	1807	3602	0
Flt Permitted	0.636			0.709			0.174			0.174		
Satd. Flow (perm)	1149	1734	0	1353	1624	0	334	1883	1574	331	3602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			162				164		4	
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		110.8			94.2			171.1			667.9	
Travel Time (s)		10.0			8.5			10.3			40.1	
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	31	43	106	31	162	52	961	136	89	1140	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	74	0	106	193	0	52	961	136	89	1164	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6		6	2		
Detector Phase	8	8		4	4		6	6	6	2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	37.5	37.5		37.5	37.5		29.0	29.0	29.0	29.0	29.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		40.0%	40.0%	40.0%	40.0%	40.0%	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		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	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag	Lag	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Act Effct Green (s)	31.0	31.0		31.0	31.0		23.0	23.0	23.0	23.0	23.0	

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (m)				
Grade (%)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	10%	10%	10%	10%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None
Act Effct Green (s)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.35	0.35	0.35	0.35	0.35	
v/c Ratio	0.03	0.08		0.16	0.22		0.45	1.47	0.20	0.78	0.93	
Control Delay (s/veh)	10.0	5.6		11.2	3.6		32.3	245.6	2.9	67.1	36.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	10.0	5.6		11.2	3.6		32.3	245.6	2.9	67.1	36.3	
LOS	A	A		B	A		C	F	A	E	D	
Approach Delay (s/veh)		6.6			6.3			207.2			38.5	
Approach LOS		A			A			F			D	
Queue Length 50th (m)	1.2	2.0		7.2	2.0		4.9	~167.8	0.0	9.6	71.4	
Queue Length 95th (m)	4.3	7.8		15.3	11.3		#17.8	#231.5	7.1	#33.2	#111.0	
Internal Link Dist (m)		86.8			70.2			147.1			643.9	
Turn Bay Length (m)	12.0			28.0			39.0			50.0		
Base Capacity (vph)	535	831		630	843		115	651	651	114	1248	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.04	0.09		0.17	0.23		0.45	1.48	0.21	0.78	0.93	

Intersection Summary

Area Type: Other
Cycle Length: 50
Actuated Cycle Length: 66.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.48
Intersection Signal Delay (s/veh): 103.4 Intersection LOS: F
Intersection Capacity Utilization 97.1% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Lane Group	Ø1	Ø3	Ø5	Ø7
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑	↱	↰	↑↱	
Traffic Volume (vph)	18	29	40	100	29	152	49	903	128	84	1072	23
Future Volume (vph)	18	29	40	100	29	152	49	903	128	84	1072	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.97		1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1715	1731		1808	1622		1823	1883	1571	1805	3601	
Flt Permitted	0.63	1.00		0.70	1.00		0.17	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	1148	1731		1349	1622		334	1883	1571	330	3601	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	31	43	106	31	162	52	961	136	89	1140	24
RTOR Reduction (vph)	0	23	0	0	86	0	0	0	89	0	3	0
Lane Group Flow (vph)	19	51	0	106	107	0	52	961	47	89	1161	0
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6		6	2		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	535	806		628	756		115	651	543	114	1245	
v/s Ratio Prot		0.03			0.07			c0.51			0.32	
v/s Ratio Perm	0.02			c0.08			0.16		0.03	0.27		
v/c Ratio	0.03	0.06		0.16	0.14		0.45	1.47	0.08	0.78	0.93	
Uniform Delay, d1	9.6	9.7		10.2	10.1		16.8	21.7	14.6	19.4	21.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.5	0.3		12.3	222.5	0.3	39.9	13.7	
Delay (s)	9.7	9.9		10.8	10.5		29.1	244.2	14.9	59.4	34.7	
Level of Service	A	A		B	B		C	F	B	E	C	
Approach Delay (s/veh)		9.8			10.6			207.4			36.5	
Approach LOS		A			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	103.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

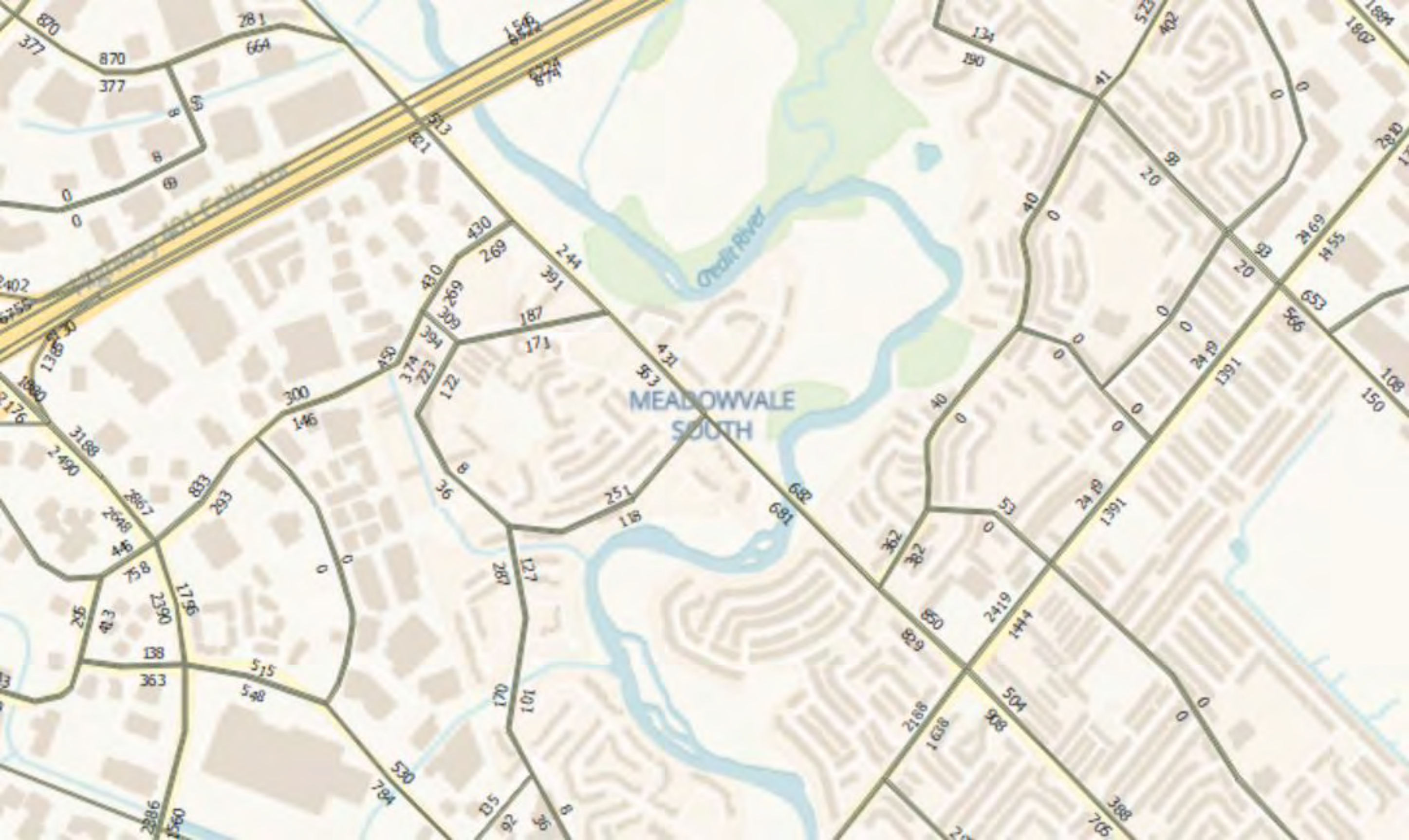
c Critical Lane Group

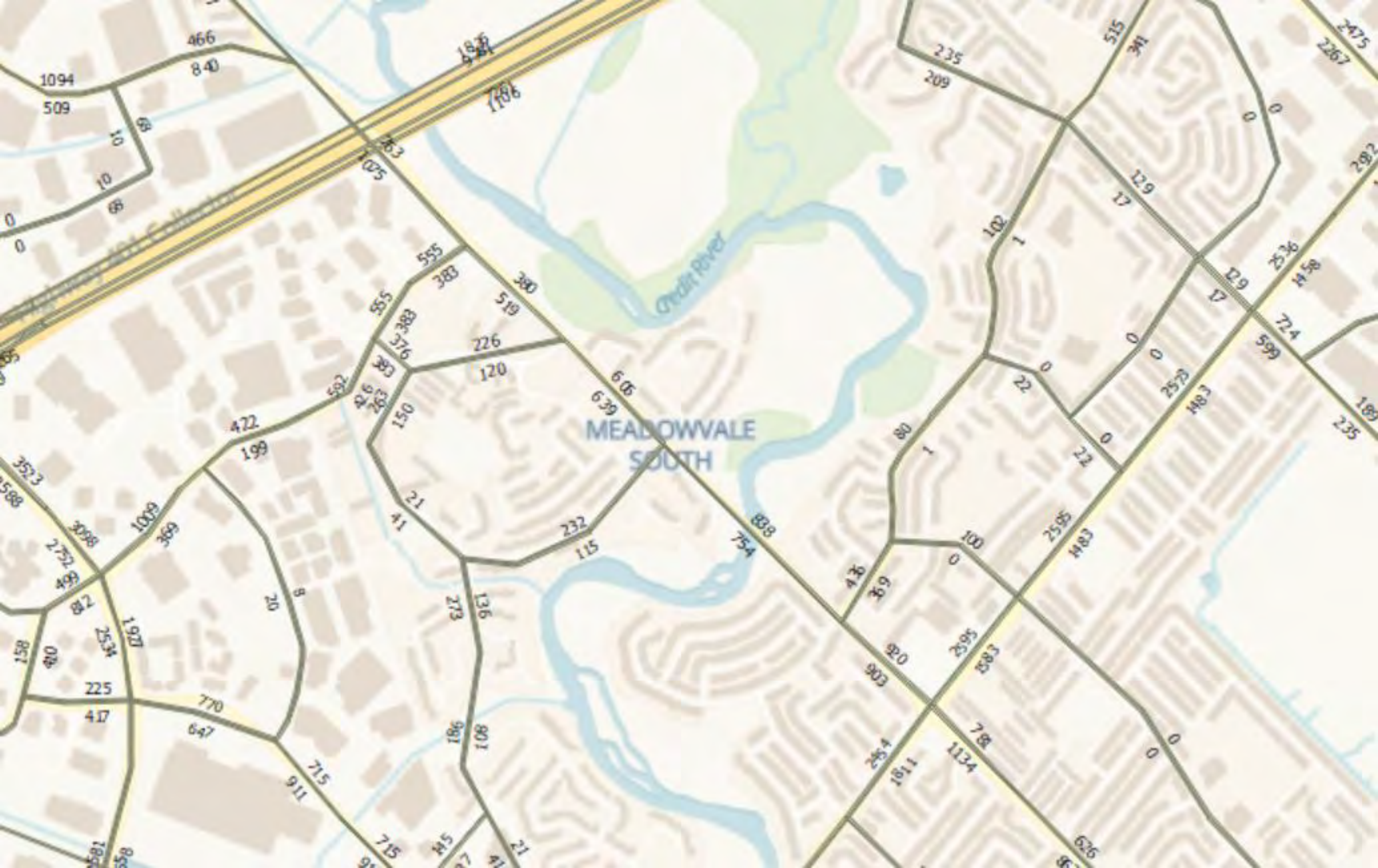
BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix D

EMME Plots


MEADOWVALE
SOUTH
Credit River
Highway 401 Collector


MEADOWVALE
SOUTH
Credit River
401 Collector
466
840
1094
509
69
10
10
69
0
0
1835
1106
763
1075
555
383
555
383
376
383
380
519
226
120
606
639
592
426
263
150
422
199
21
41
232
115
3523
3588
3098
2752
1009
369
499
812
20
8
273
136
158
410
2534
1927
225
417
770
647
715
911
186
108
715
145
21
235
209
515
341
0
0
129
17
102
1
2292
2475
2267
2536
1458
129
17
724
599
0
0
0
22
2573
1483
80
1
0
22
189
235
838
754
436
369
100
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1483
920
903
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1583
788
1134
2464
1811
0
0
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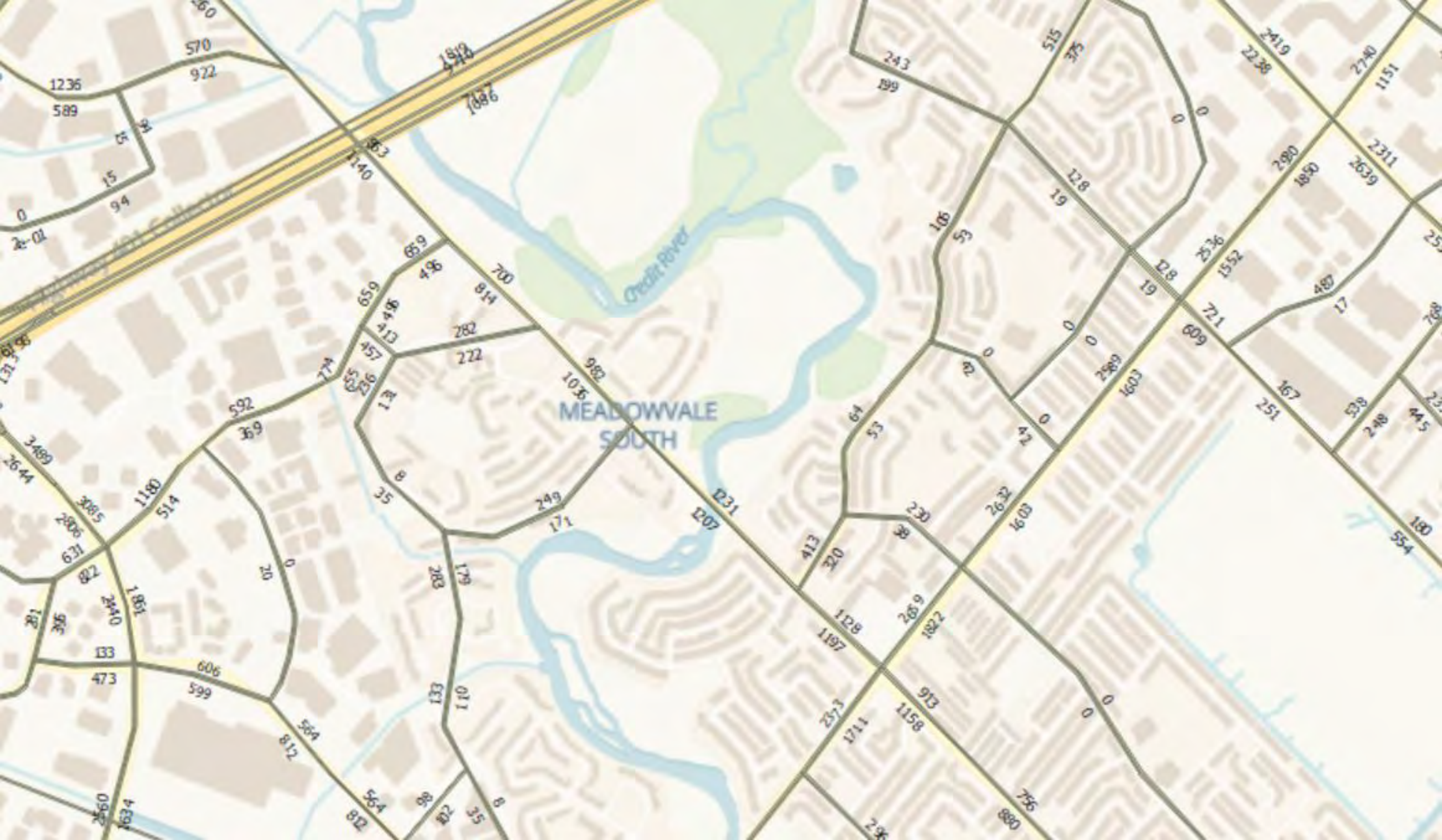
MEADOWVALE SOUTH
Credit River
401 Collector
570
922
1236
589
15
94
0
659
496
700
814
282
272
982
1036
592
369
774
3489
2644
3085
2806
1180
514
631
822
2440
1861
133
473
606
599
20
0
249
171
1231
1207
283
179
133
110
564
812
1128
1197
913
1158
2573
1711
756
880
413
320
230
39
2659
1822
2632
1603
64
53
105
53
243
199
515
375
128
19
2536
1552
721
609
167
251
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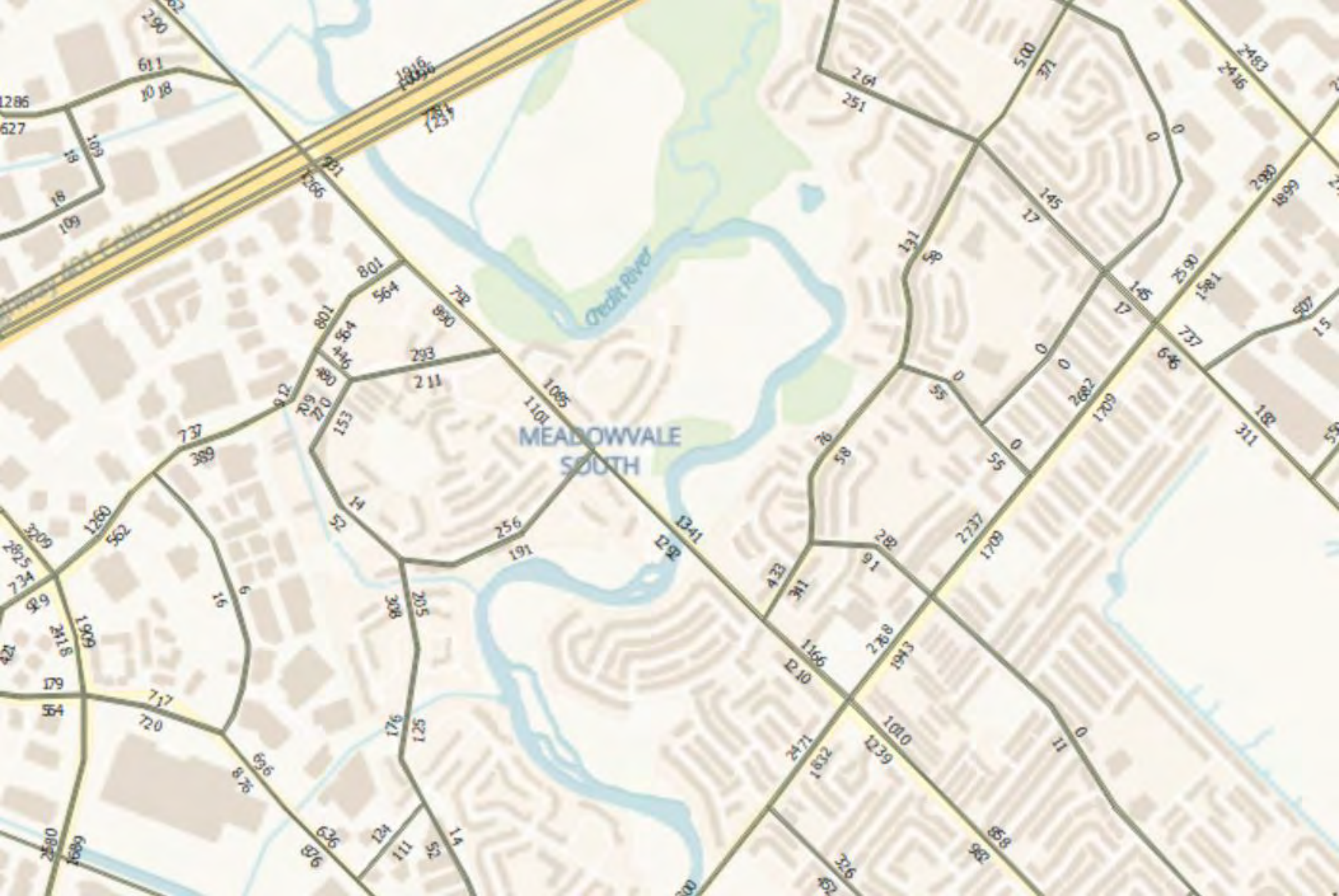
2238
2740
1151
2311
2639
2980
1850
487
17
538
248
180
554
2989
0



MEADOWVALE SOUTH
Credit River
Highway 401 Collector
290
611
1018
1286
627
109
18
18
109
1916
1231
231
1266
801
564
801
564
446
480
293
211
792
890
1085
1101
912
709
770
153
737
389
14
52
256
191
1260
562
3209
2825
734
929
2418
1909
179
564
717
720
16
6
308
205
176
125
696
876
636
876
124
111
25
14
2580
1689
1341
1292
433
341
282
91
1166
1210
2288
1943
1010
1239
2471
1832
858
982
326
264
251
500
371
0
0
145
17
131
58
0
0
0
55
0
55
2682
1209
2737
1708
76
58
145
17
2590
1581
737
646
2483
2416
2980
1899
182
311
507
15
0
11

BURNSIDE

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Appendix E

2031 Interim Preferred Solution Synchro Results

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑	↗	↰	↑↱	
Traffic Volume (vph)	18	30	40	104	30	157	49	1037	133	87	1231	23
Future Volume (vph)	18	30	40	104	30	157	49	1037	133	87	1231	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	12.0		0.0	28.0		0.0	39.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	12.0			17.6			9.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.97				0.96		0.99	
Frt		0.914			0.874				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1722	1730	0	1825	1619	0	1825	1883	1617	1807	3602	0
Flt Permitted	0.633			0.708			0.110			0.110		
Satd. Flow (perm)	1141	1730	0	1343	1619	0	211	1883	1566	209	3602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			167				95		2	
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		110.8			94.2			171.1			667.9	
Travel Time (s)		10.0			8.5			10.3			40.1	
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	32	43	111	32	167	52	1103	141	93	1310	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	75	0	111	199	0	52	1103	141	93	1334	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6		6	2		
Detector Phase	8	8		4	4		6	6	6	2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	37.5	37.5		37.5	37.5		29.0	29.0	29.0	29.0	29.0	
Total Split (s)	37.5	37.5		37.5	37.5		42.5	42.5	42.5	42.5	42.5	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		47.2%	47.2%	47.2%	47.2%	47.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		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	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag	Lag	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Act Effct Green (s)	31.0	31.0		31.0	31.0		36.5	36.5	36.5	36.5	36.5	

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (m)				
Grade (%)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	6%	6%	6%	6%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None
Act Effct Green (s)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.46	0.46	0.46	0.46	0.46	
v/c Ratio	0.04	0.10		0.21	0.27		0.54	1.28	0.18	0.97	0.81	
Control Delay (s/veh)	15.7	8.7		17.7	5.3		41.5	160.3	5.7	116.7	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	15.7	8.7		17.7	5.3		41.5	160.3	5.7	116.7	23.6	
LOS	B	A		B	A		D	F	A	F	C	
Approach Delay (s/veh)		10.2			9.8			138.7			29.7	
Approach LOS		B			A			F			C	
Queue Length 50th (m)	1.8	3.0		11.0	3.0		5.5	~216.2	3.8	13.3	88.1	
Queue Length 95th (m)	5.8	10.8		21.9	15.3		#22.8	#286.6	13.1	#42.2	114.9	
Internal Link Dist (m)		86.8			70.2			147.1			643.9	
Turn Bay Length (m)	12.0			28.0			39.0			50.0		
Base Capacity (vph)	442	696		520	729		96	859	766	95	1644	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.04	0.11		0.21	0.27		0.54	1.28	0.18	0.98	0.81	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 80

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.28

Intersection Signal Delay (s/veh): 72.4 Intersection LOS: E

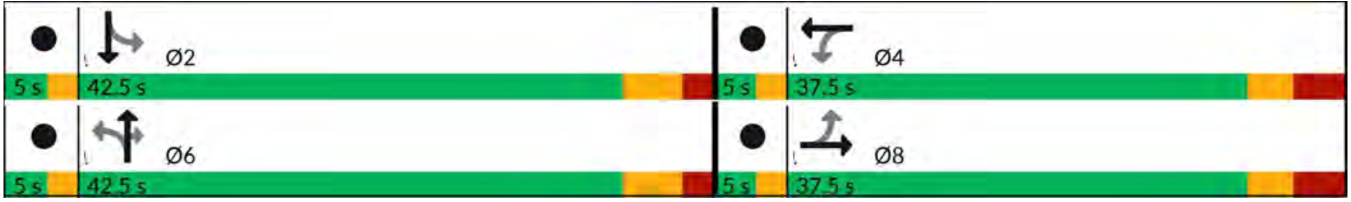
Intersection Capacity Utilization 104.2% ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 4: Creditview Road & Sir Monty's Drive/Bancroft Drive



Lane Group	Ø1	Ø3	Ø5	Ø7
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑	↱	↰	↑↱	
Traffic Volume (vph)	18	30	40	104	30	157	49	1037	133	87	1231	23
Future Volume (vph)	18	30	40	104	30	157	49	1037	133	87	1231	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.97		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1713	1732		1805	1621		1823	1883	1568	1807	3603	
Flt Permitted	0.63	1.00		0.70	1.00		0.10	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	1141	1732		1345	1621		210	1883	1568	208	3603	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	32	43	111	32	167	52	1103	141	93	1310	24
RTOR Reduction (vph)	0	26	0	0	102	0	0	0	52	0	1	0
Lane Group Flow (vph)	19	49	0	111	97	0	52	1103	89	93	1333	0
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6		6	2		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		36.5	36.5	36.5	36.5	36.5	
Effective Green, g (s)	31.0	31.0		31.0	31.0		36.5	36.5	36.5	36.5	36.5	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	442	671		521	628		95	859	715	94	1643	
v/s Ratio Prot		0.03			0.06			c0.59			0.37	
v/s Ratio Perm	0.02			c0.08			0.25		0.06	0.45		
v/c Ratio	0.04	0.07		0.21	0.15		0.54	1.28	0.12	0.98	0.81	
Uniform Delay, d1	15.2	15.4		16.3	15.9		15.7	21.7	12.5	21.5	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.9	0.5		20.7	136.6	0.3	89.9	4.4	
Delay (s)	15.4	15.6		17.2	16.4		36.5	158.4	12.9	111.5	23.2	
Level of Service	B	B		B	B		D	F	B	F	C	
Approach Delay (s/veh)		15.6			16.7			137.7			29.0	
Approach LOS		B			B			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	72.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

BURNSIDE

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Appendix F

2031 Long-term Solution Synchro Results

Lanes, Volumes, Timings

4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	18	29	40	100	29	152	49	1229	128	84	1459	23
Future Volume (vph)	18	29	40	100	29	152	49	1229	128	84	1459	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	12.0		0.0	28.0		0.0	39.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	12.0			17.6			9.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.98			0.99			0.99	
Frt		0.913			0.874			0.986			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1722	1725	0	1825	1633	0	1825	3520	0	1807	3605	0
Flt Permitted	0.600			0.709			0.072			0.100		
Satd. Flow (perm)	1083	1725	0	1341	1633	0	138	3520	0	190	3605	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			135			15			2	
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		110.8			94.2			171.1			667.9	
Travel Time (s)		10.0			8.5			10.3			40.1	
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	31	43	106	31	162	52	1307	136	89	1552	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	74	0	106	193	0	52	1443	0	89	1576	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	37.5	37.5		37.5	37.5		29.0	29.0		29.0	29.0	
Total Split (s)	37.5	37.5		37.5	37.5		62.5	62.5		62.5	62.5	
Total Split (%)	34.1%	34.1%		34.1%	34.1%		56.8%	56.8%		56.8%	56.8%	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		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	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)	31.0	31.0		31.0	31.0		56.5	56.5		56.5	56.5	

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (m)				
Grade (%)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	5%	5%	5%	5%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None
Act Effct Green (s)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.57	0.57		0.57	0.57	
v/c Ratio	0.05	0.13		0.25	0.32		0.67	0.72		0.83	0.77	
Control Delay (s/veh)	25.0	13.2		27.9	10.5		61.8	18.4		75.2	20.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	25.0	13.2		27.9	10.5		61.8	18.4		75.2	20.1	
LOS	C	B		C	B		E	B		E	C	
Approach Delay (s/veh)		15.7			16.7			20.0			23.1	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	2.6	4.2		15.3	8.0		6.6	100.8		13.3	116.6	
Queue Length 95th (m)	7.9	14.1		28.9	24.3		#29.2	126.0		#44.7	144.8	
Internal Link Dist (m)		86.8			70.2			147.1			643.9	
Turn Bay Length (m)	12.0			28.0			39.0			50.0		
Base Capacity (vph)	335	564		415	599		77	1995		107	2037	
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	0.06	0.13		0.26	0.32		0.68	0.72		0.83	0.77	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 100

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

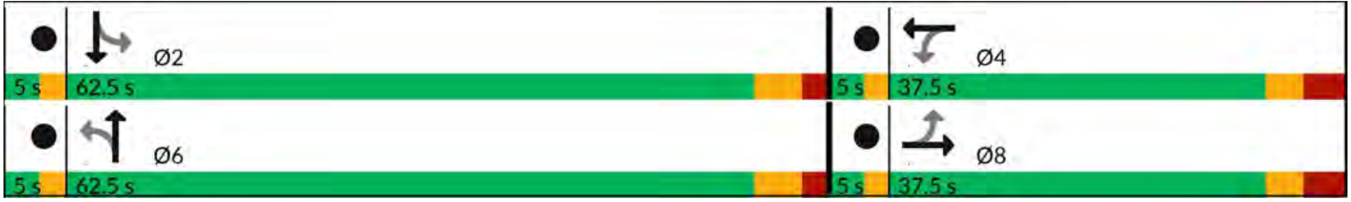
Intersection Signal Delay (s/veh): 21.0 Intersection LOS: C

Intersection Capacity Utilization 90.7% ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 4: Creditview Road & Sir Monty's Drive/Bancroft Drive



Lane Group	Ø1	Ø3	Ø5	Ø7
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

HCM Signalized Intersection Capacity Analysis
4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	18	29	40	100	29	152	49	1229	128	84	1459	23
Future Volume (vph)	18	29	40	100	29	152	49	1229	128	84	1459	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	1726		1800	1634		1825	3520		1807	3604	
Flt Permitted	0.59	1.00		0.70	1.00		0.07	1.00		0.09	1.00	
Satd. Flow (perm)	1083	1726		1343	1634		138	3520		190	3604	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	31	43	106	31	162	52	1307	136	89	1552	24
RTOR Reduction (vph)	0	30	0	0	93	0	0	7	0	0	1	0
Lane Group Flow (vph)	19	44	0	106	100	0	52	1436	0	89	1575	0
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		56.5	56.5		56.5	56.5	
Effective Green, g (s)	31.0	31.0		31.0	31.0		56.5	56.5		56.5	56.5	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.56	0.56		0.56	0.56	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	335	535		416	506		77	1988		107	2036	
v/s Ratio Prot		0.03			0.06			0.41			0.44	
v/s Ratio Perm	0.02			c0.08			0.38			c0.47		
v/c Ratio	0.05	0.08		0.25	0.19		0.67	0.72		0.83	0.77	
Uniform Delay, d1	24.2	24.4		25.8	25.3		15.2	15.9		17.8	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		1.4	0.8		38.4	2.3		50.0	2.9	
Delay (s)	24.5	24.7		27.3	26.2		53.7	18.3		67.9	19.7	
Level of Service	C	C		C	C		D	B		E	B	
Approach Delay (s/veh)		24.6			26.6			19.5			22.3	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

BURNSIDE

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Appendix G

2041 Long-term Solution Synchro Results

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	18	29	40	116	34	176	49	1358	149	97	1612	23
Future Volume (vph)	18	29	40	116	34	176	49	1358	149	97	1612	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	12.0		0.0	28.0		0.0	39.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	12.0			17.6			9.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.98			0.99			0.99	
Frt		0.913			0.874			0.985			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1722	1720	0	1825	1631	0	1825	3515	0	1807	3605	0
Flt Permitted	0.469			0.709			0.075			0.098		
Satd. Flow (perm)	846	1720	0	1335	1631	0	144	3515	0	186	3605	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			114			16			2	
Link Speed (k/h)		40			40			60			60	
Link Distance (m)		110.8			94.2			171.1			667.9	
Travel Time (s)		10.0			8.5			10.3			40.1	
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	31	43	123	36	187	52	1445	159	103	1715	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	74	0	123	223	0	52	1604	0	103	1739	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	37.5	37.5		37.5	37.5		29.0	29.0		29.0	29.0	
Total Split (s)	37.5	37.5		37.5	37.5		92.5	92.5		92.5	92.5	
Total Split (%)	26.8%	26.8%		26.8%	26.8%		66.1%	66.1%		66.1%	66.1%	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		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	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)	31.0	31.0		31.0	31.0		86.5	86.5		86.5	86.5	

Lane Group	Ø1	Ø3	Ø5	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (m)				
Grade (%)				
Storage Length (m)				
Storage Lanes				
Taper Length (m)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (k/h)				
Link Distance (m)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Growth Factor				
Heavy Vehicles (%)				
Bus Blockages (#/hr)				
Parking (#/hr)				
Mid-Block Traffic (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	1	3	5	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	4%	4%	4%	4%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None
Act Effct Green (s)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.67	0.67		0.67	0.67	
v/c Ratio	0.09	0.16		0.38	0.46		0.54	0.68		0.83	0.72	
Control Delay (s/veh)	40.2	20.1		45.8	23.8		37.5	15.1		68.6	16.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.2	20.1		45.8	23.8		37.5	15.1		68.6	16.2	
LOS	D	C		D	C		D	B		E	B	
Approach Delay (s/veh)		24.2			31.6			15.8			19.2	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	3.8	6.2		26.6	23.1		6.5	121.5		18.3	139.8	
Queue Length 95th (m)	10.7	18.6		45.4	47.7		#29.3	144.8		#58.6	165.4	
Internal Link Dist (m)		86.8			70.2			147.1			643.9	
Turn Bay Length (m)	12.0			28.0			39.0			50.0		
Base Capacity (vph)	201	442		318	475		95	2344		123	2399	
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	0.09	0.17		0.39	0.47		0.55	0.68		0.84	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 130

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay (s/veh): 19.0 Intersection LOS: B

Intersection Capacity Utilization 94.9% 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: Creditview Road & Sir Monty's Drive/Bancroft Drive

Lane Group	Ø1	Ø3	Ø5	Ø7
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

HCM Signalized Intersection Capacity Analysis
4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	18	29	40	116	34	176	49	1358	149	97	1612	23
Future Volume (vph)	18	29	40	116	34	176	49	1358	149	97	1612	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1715	1721		1792	1632		1825	3516		1807	3605	
Flt Permitted	0.46	1.00		0.70	1.00		0.07	1.00		0.09	1.00	
Satd. Flow (perm)	847	1721		1337	1632		143	3516		185	3605	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	31	43	123	36	187	52	1445	159	103	1715	24
RTOR Reduction (vph)	0	33	0	0	87	0	0	5	0	0	1	0
Lane Group Flow (vph)	19	41	0	123	136	0	52	1599	0	103	1738	0
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		86.5	86.5		86.5	86.5	
Effective Green, g (s)	31.0	31.0		31.0	31.0		86.5	86.5		86.5	86.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.67	0.67		0.67	0.67	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	201	410		318	389		95	2339		123	2398	
v/s Ratio Prot		0.02			0.08			0.45			0.48	
v/s Ratio Perm	0.02			c0.09			0.36			c0.56		
v/c Ratio	0.09	0.10		0.38	0.35		0.54	0.68		0.83	0.72	
Uniform Delay, d1	38.5	38.6		41.5	41.1		11.4	13.3		16.4	14.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.4		3.5	2.4		20.7	1.6		46.1	1.9	
Delay (s)	39.4	39.1		45.0	43.6		32.2	14.9		62.6	16.0	
Level of Service	D	D		D	D		C	B		E	B	
Approach Delay (s/veh)		39.1			44.1			15.5			18.6	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

BURNSIDE
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Appendix H

Cost Estimates

Appendix H

Project Number: 24007

Project: Creditview Road (Bancroft Drive to Argentia Road)
Alternative: Interim Preferred Alternative
Task: Creditview Road
From: Bancroft Drive To: Argentia Road

Computed
Checked
Sheet 1 of 1
Date
Date

Component/ Category	Item Description	Units	2024 Unit Price	Quantity	Total
General	Supply and Install Field Office	LS	$100,000	1	**$100,000**
	Mobilization and Demobilization	LS	$100,000	1	**$100,000**
	Environmental Protection	LS	$15,000	1	**$15,000**
	Dust Control	LS	$20,000	1	**$20,000**
	Construction Survey, As-Build Layout, Insurance	LS	$100,000	1	**$100,000**
	Sub Total				**$335,000**
Hydro and Utilities	Supply and Install Hydro Pole	each	$20,700	42	**$869,400**
	Other Utility Relocations	LS	$750,000	1	**$750,000**
	Contingency (10%)				**$161,940**
	Sub Total				**$1,781,340**
Removals	Removal of Asphalt Pavement - Full Depth	m2	$8	27115	**$216,920**
	Curb and gutter removal	m	$21	5600	**$117,600**
	Removal of Signs	each	$100	23	**$2,300**
	Removal of Existing Traffic Signals (per Intersection)	each	$25,000	4	**$100,000**
	Removal of Steel Beam Guiderail	m	$2,100	88	**$184,800**
	Removal of Hydro Poles	each	$2,100	40	**$84,000**
	Removal of Luminaire Poles	each	$3,200	50	**$160,000**
	Removal of Sidewalks and Medians	m2	$18	4700	**$84,600**
	Removal of Storm Sewer	m	$114	2400	**$273,600**
	Removal of Catch Basins and Ditch Inlets	each	$1,235	75	**$92,625**
	Removal of Maintenance Holes	each	$1,235	10	**$12,350**
	Removal of Trees	each	$250	126	**$31,500**
	Clearing and Grubbing	LS	$10,000	1	**$10,000**
	Contingency (10%)				**$132,880**
	Sub Total				**$1,503,175**
Road Work	Excavation/Earthworks	m3	$30	18819	**$564,570**
	Earth Borrow	m3	$6	20124	**$120,744**
	Granular A	tonne	$37	17710	**$655,270**
	Granular B Type II	tonne	$26	33595	**$873,470**
	Top Course Asphalt HL3 (40mm)	tonne	$132	3230	**$426,360**
	Base Course Asphalt HDBC (100mm)	tonne	$113	8287	**$936,431**
	Tack Coat	m2	$1	30395	**$18,237**
	Install Curb and Gutter (Roadway)	m	$81	5000	**$405,000**
	Install Concrete Raised Median	m2	$106	0	**$0**
	Install Concrete Splash Pad	m2	$98	3050	**$298,900**
	Install MUP	m2	$140	9716	**$1,360,240**
	Install Concrete Sidewalk	m2	$98	5000	**$490,000**
	Rip Rap	m2	$75	25	**$1,875**
	Install Subdrains	m	$41	5300	**$217,300**
	Install Catch Basin	each	$4,500	60	**$270,000**
	Install Double Catch Basin	each	$6,200	8	**$49,600**
	Install Catch Basin Leads	m	$350	2400	**$840,000**
	Install Storm Sewer	m	$1,380	2400	**$3,312,000**
	Install Manhole	each	$7,350	22	**$161,700**
	Install OGS	each	$65,000	2	**$130,000**
	LID	LS	$1,500,000	1	**$1,500,000**
	Adjust Catch Basin	each	$515	5	**$2,575**
	Adjust Water and Gas Valves	each	$150	10	**$1,500**
	Adjust Hydrant Vertical	each	$1,000	5	**$5,000**
	Roadway Clousure Gate	each	$2,500	4	**$10,000**
	1800mm Chain Link Fence	m	$160	337	**$53,920**
	Chain Link Fence Gate	each	$1,200	2	**$2,400**
	Temporary Concrete Barrier	m	$120	4000	**$480,000**
	Steel Beam Guide Rail	m	$275	600	**$165,000**
	Guide Rail - End Treatment Soft Stop Terminal	each	$9,900	4	**$39,600**
	Traffic Signs	each	$350	50	**$17,500**
	Permanent Pavement Marking	m	$7	4000	**$28,000**
	Pavement Marking - Symbols, Crosswalks, Stop Bars	each	$500	45	**$22,500**
	Contingency (10%)				**$1,345,969**
	Sub Total				**$14,805,661**
Streetlights	Supply and Install Luminaire Poles	each	$20,700	53	**$1,097,100**
	Contingency (10%)				**$109,710**
	Sub Total				**$1,206,810**
Traffic Signals	Permanent (intersection)	each	$350,000	2	**$700,000**
	Temporary (intersection)	each	$130,000	4	**$520,000**
	Contingency (10%)				**$122,000**
	Sub Total				**$1,342,000**
Roundabouts	Curbs, Pavers, Toe Walls, Medians, Landscape	LS	$200,000	3	**$600,000**
	Contingency (10%)				**$60,000**
	Sub Total				**$660,000**
Landscape	Landscape (4% of road work cost)	LS	$592,226	1	**$592,226**
	Contingency (10%)				**$59,223**
	Sub Total				**$651,449**
Traffic control	Traffic Control and Staging Plan (10% of construction cost)	LS	$2,195,043	1	**$2,195,043**
Engineering	Design and Contract Administration (12% of construction cost)	LS	$2,634,052	1	**$2,634,052**

TOTAL **$27,120,000**

Project Number: 24007

Project: Creditview Road (Bancroft Drive to Argentia Road)
Alternative: Interim Preferred Alternative to Long-Term
Task: Creditview Road
From: Bancroft Drive
To: Argentia Road

Computed
Checked
Sheet 1
Date
Date
of 1

Component/ Category	Item Description	Units	2024 Unit Price	Quantity	Total
General	Supply and Install Field Office	LS	$50,000	1	$50,000
	Mobilization and Demobilization	LS	$50,000	1	$50,000
	Environmental Protection	LS	$15,000	1	$15,000
	Dust Control	LS	$10,000	1	$10,000
	Construction Survey, As-Build Layout, Insurance	LS	$50,000	1	$50,000
	Sub Total				$175,000
Hydro and Utilities	Supply and Install Hydro Pole	each	$20,700	0	$0
	Other Utility Relocations	LS	$750,000	0	$0
	Contingency (10%)				$0
	Sub Total				$0
Removals	Removal of Asphalt Pavement - Full Depth	m2	$8	0	$0
	Curb and gutter removal	m	$21	2440	$51,240
	Removal of Signs	each	$100	0	$0
	Removal of Existing Traffic Signals (per Intersection)	each	$25,000	0	$0
	Removal of Steel Beam Guiderail	m	$2,100	0	$0
	Removal of Hydro Poles	each	$2,100	0	$0
	Removal of Luminaire Poles	each	$3,200	0	$0
	Removal of Sidewalks and Medians	m2	$18	960	$17,280
	Removal of Catch Basins and Ditch Inlets	each	$1,235	40	$49,400
	Removal of Maintenance Holes	each	$1,235	0	$0
	Removal of Trees	each	$250	0	$0
	Clearing and Grubbing	LS	$10,000	0	$0
	Contingency (10%)				$11,792
	Sub Total				$129,712
Road Work	Excavation/Earthworks	m3	$30	10531	$315,930
	Earth Borrow	m3	$6	11000	$66,000
	Granular A	tonne	$37	3650	$135,050
	Granular B Type II	tonne	$26	9125	$237,250
	Top Course Asphalt HL3 (40mm)	tonne	$132	840	$110,880
	Base Course Asphalt HDBC (100mm)	tonne	$113	2100	$237,300
	Tack Coat	m2	$1	12000	$7,200
	Install Curb and Gutter (Roadway)	m	$81	2440	$197,640
	Install Concrete Raised Median	m2	$106	1750	$185,500
	Install Concrete Splash Pad	m2	$98	915	$89,670
	Install MUP	m2	$140	480	$67,200
	Install Concrete Sidewalk	m2	$98	480	$47,040
	Rip Rap	m2	$75	25	$1,875
	Install Subdrains	m	$41	2440	$100,040
	Install Catch Basin	each	$4,500	40	$180,000
	Install Double Catch Basin	each	$6,200	0	$0
	Install Catch Basin Leads	m	$350	1400	$490,000
	Adjust Manhole	each	$515	0	$0
	Rebuild Manhole	each	$1,500	0	$0
	Adjust Catch Basin	each	$515	0	$0
	Adjust Water and Gas Valves	each	$150	0	$0
	Adjust Hydrant Vertical	each	$1,000	0	$0
	Roadway Clousure Gate	each	$2,500	0	$0
	1800mm Chain Link Fence	m	$160	0	$0
	Chain Link Fence Gate	each	$1,200	0	$0
	Temporary Concrete Barrier	m	$120	0	$0
	Steel Beam Guide Rail	m	$275	0	$0
	Guide Rail - End Treatment Soft Stop Terminal	each	$9,900	0	$0
	Traffic Signs	each	$350	0	$0
	Permanent Pavement Marking	m	$7	1220	$8,540
	Pavement Marking - Symbols, Crosswalks, Stop Bars	each	$500	20	$10,000
	Contingency (10%)				$248,712
	Sub Total				$2,735,827
Streetlights	Supply and Install Luminaire Poles	each	$20,700	0	$0
	Contingency (10%)				$0
	Sub Total				$0
Traffic Signals	Permanent (intersection)	each	$350,000	0	$0
	Temporary (intersection)	each	$130,000	0	$0
	Contingency (10%)				$0
	Sub Total				$0
Roundabouts	Curbs, Pavers, Toe Walls, Medians, Landscape	LS	$150,000	3	$450,000
	Contingency (10%)				$45,000
	Sub Total				$495,000
Landscape	Landscape (4% of road work cost)	LS	$109,433	1	$109,433
	Contingency (10%)				$10,943
	Sub Total				$120,376
Traffic control	Traffic Control and Staging Plan (10% of construction cost)	LS	$348,091	1	$348,091
Engineering	Design and Contract Administration (12% of construction cost)	LS	$417,710	1	$417,710

TOTAL $4,430,000

Project Number: 24007

Project: Creditview Road (Bancroft Drive to Argentia Road)
Alternative: Long-term Solution
Task: Creditview Road
From: Bancroft Drive To: Argentia Road

Computed ______
Checked ______
Sheet 1 of 1
Date ______
Date ______

Component/ Category	Item Description	Units	2024 Unit Price	Quantity	Total
General	Supply and Install Field Office	LS	$100,000	1	**$100,000**
	Mobilization and Demobilization	LS	$100,000	1	**$100,000**
	Environmental Protection	LS	$15,000	1	**$15,000**
	Dust Control	LS	$20,000	1	**$20,000**
	Construction Survey, As-Build Layout, Insurance	LS	$100,000	1	**$100,000**
	Sub Total				**$335,000**
Hydro and Utilities	Supply and Install Hydro Pole	each	$20,700	42	**$869,400**
	Other Utility Relocations	LS	$750,000	1	**$750,000**
	Contingency (10%)				**$161,940**
	Sub Total				**$1,781,340**
Removals	Removal of Asphalt Pavement - Full Depth	m2	$8	27115	**$216,920**
	Curb and gutter removal	m	$21	5600	**$117,600**
	Removal of Signs	each	$100	23	**$2,300**
	Removal of Existing Traffic Signals (per Intersection)	each	$25,000	4	**$100,000**
	Removal of Steel Beam Guiderail	m	$2,100	88	**$184,800**
	Removal of Hydro Poles	each	$2,100	40	**$84,000**
	Removal of Luminaire Poles	each	$3,200	50	**$160,000**
	Removal of Sidewalks and Medians	m2	$18	4700	**$84,600**
	Removal of Storm Sewer	m	$114	2400	**$273,600**
	Removal of Catch Basins and Ditch Inlets	each	$1,235	75	**$92,625**
	Removal of Maintenance Holes	each	$1,235	10	**$12,350**
	Removal of Trees	each	$250	126	**$31,500**
	Clearing and Grubbing	LS	$10,000	1	**$10,000**
	Contingency (10%)				**$132,880**
	Sub Total				**$1,503,175**
Road Work	Excavation/Earthworks	m3	$30	29350	**$880,500**
	Earth Borrow	m3	$6	31124	**$186,744**
	Granular A	tonne	$37	21360	**$790,320**
	Granular B Type II	tonne	$26	42720	**$1,110,720**
	Top Course Asphalt HL3 (40mm)	tonne	$132	4070	**$537,240**
	Base Course Asphalt HDBC (100mm)	tonne	$113	10387	**$1,173,731**
	Tack Coat	m2	$1	42395	**$25,437**
	Install Curb and Gutter (Roadway)	m	$81	5000	**$405,000**
	Install Concrete Raised Median	m2	$106	1750	**$185,500**
	Install Concrete Splash Pad	m2	$98	3050	**$298,900**
	Install MUP	m2	$140	9716	**$1,360,240**
	Install Concrete Sidewalk	m2	$98	5000	**$490,000**
	Rip Rap	m2	$75	25	**$1,875**
	Install Subdrains	m	$41	5300	**$217,300**
	Install Catch Basin	each	$4,500	60	**$270,000**
	Install Double Catch Basin	each	$6,200	8	**$49,600**
	Install Catch Basin Leads	m	$350	2400	**$840,000**
	Install Storm Sewer	m	$1,380	2400	**$3,312,000**
	Install Manhole	each	$7,350	22	**$161,700**
	Install OGS	each	$65,000	2	**$130,000**
	LID	LS	$1,500,000	1	**$1,500,000**
	Adjust Catch Basin	each	$515	5	**$2,575**
	Adjust Water and Gas Valves	each	$150	10	**$1,500**
	Adjust Hydrant Vertical	each	$1,000	5	**$5,000**
	Roadway Clousure Gate	each	$2,500	4	**$10,000**
	1800mm Chain Link Fence	m	$160	337	**$53,920**
	Chain Link Fence Gate	each	$1,200	2	**$2,400**
	Temporary Concrete Barrier	m	$120	4000	**$480,000**
	Steel Beam Guide Rail	m	$275	600	**$165,000**
	Guide Rail - End Treatment Soft Stop Terminal	each	$9,900	4	**$39,600**
	Traffic Signs	each	$350	50	**$17,500**
	Permanent Pavement Marking	m	$7	5000	**$35,000**
	Pavement Marking - Symbols, Crosswalks, Stop Bars	each	$500	45	**$22,500**
	Contingency (10%)				**$1,476,180**
	Sub Total				**$16,237,982**
Streetlights	Supply and Install Luminaire Poles	each	$20,700	53	**$1,097,100**
	Contingency (10%)				**$109,710**
	Sub Total				**$1,206,810**
Traffic Signals	Permanent (intersection)	each	$350,000	2	**$700,000**
	Temporary (intersection)	each	$130,000	4	**$520,000**
	Contingency (10%)				**$122,000**
	Sub Total				**$1,342,000**
Roundabouts	Curbs, Pavers, Toe Walls, Medians, Landscape	LS	$200,000	3	**$600,000**
	Contingency (10%)				**$60,000**
	Sub Total				**$660,000**
Landscape	Landscape (4% of road work cost)	LS	$649,519	1	**$649,519**
	Contingency (10%)				**$64,952**
	Sub Total				**$714,471**
Traffic control	Traffic Control and Staging Plan (10% of construction cost)	LS	$2,344,578	1	**$2,344,578**
Engineering	Design and Contract Administration (12% of construction cost)	LS	$2,813,493	1	**$2,813,493**

TOTAL **$28,940,000**

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix I

Public Consultation Materials

Public Display Boards
Comment Sheets

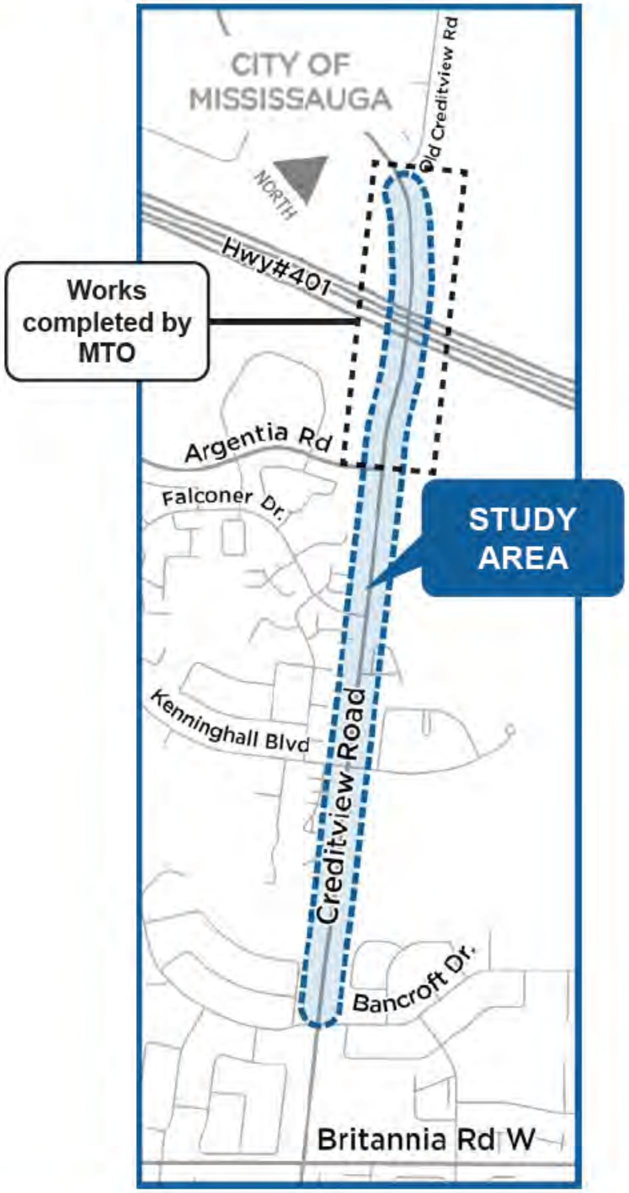
Creditview Road Implementation Strategy

Community Meeting
June 12, 2024

MISSISSAUGA

Project Overview

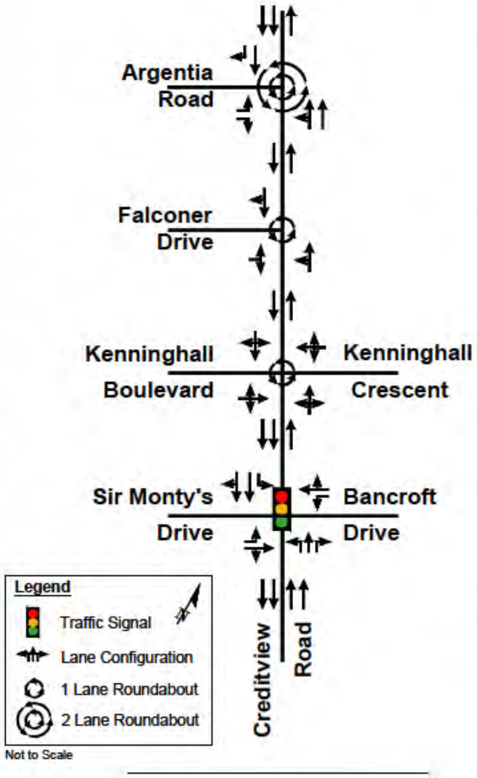
- The City completed the Creditview Road (Bancroft Drive to Old Creditview Road) Schedule 'C' Municipal Class Environmental Assessment (MCEA) Study, in 2016
- Several improvements were identified for Creditview Road, including a future widening (2 to 4 lanes), pavement rehabilitation, new roundabouts, new cycling facilities, noise walls and transit infrastructure
- The MTO has recently widened Creditview Road (2 to 4 lanes) from Argentia Road to Old Creditview Road, including the new bridge over Highway 401



Creditview Road MCEA Study Recommendations

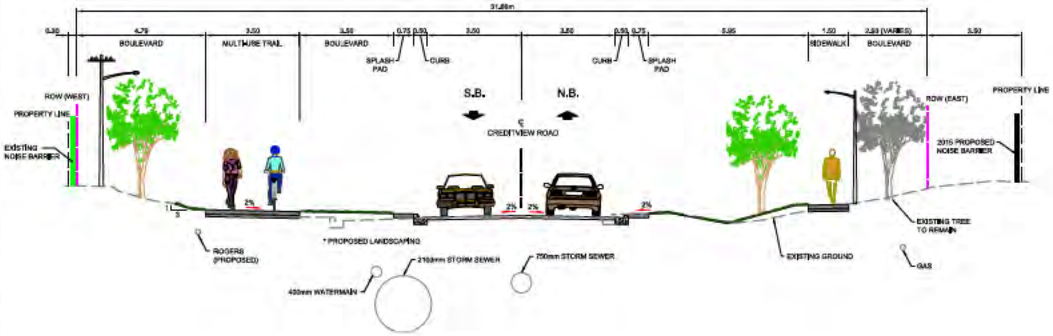
The approved Creditview Road MCEA Study recommended both an 'Interim Preferred Alternative' and 'Long-Term Solution'.

Interim Preferred Alternative



- Maintain two travel lanes between Bancroft Drive and Argentia Road;
- One-lane roundabouts at Creditview Road intersections with Kenninghall Boulevard and Falconer Drive;
- Two-lane roundabout at Creditview Road and Argentia Road; and
- Multi-use trail (west side) and sidewalk (east side).

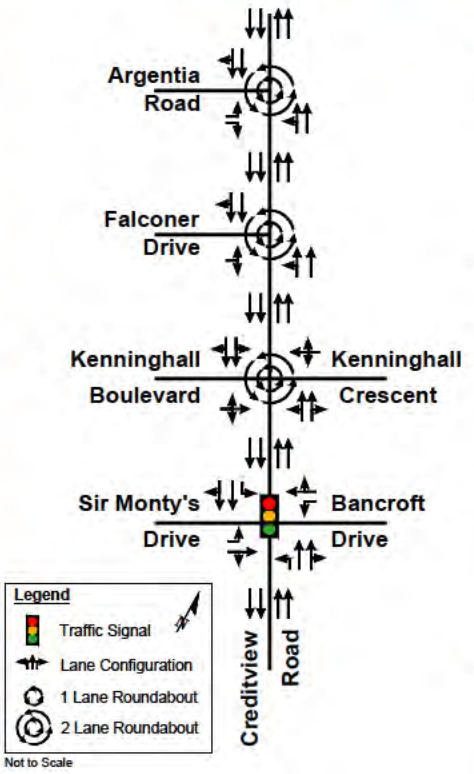
Typical Cross-Section: Interim Preferred Alternative



Creditview Road MCEA Study Recommendations

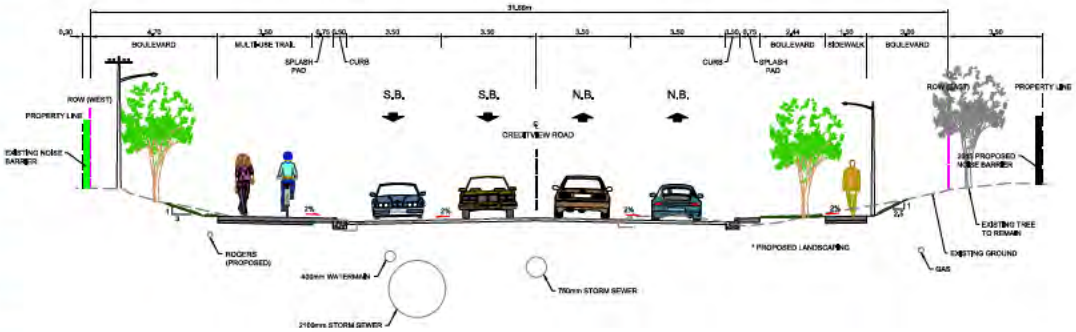
The approved Creditview Road MCEA Study recommended both an 'Interim Preferred Alternative' and 'Long-Term Solution'.

Long-Term Solution



- Widen to four travel lanes between Bancroft Drive and Argentia Road;
- Two-lane roundabouts at Creditview Road intersections with Kenninghall Boulevard, Falconer Drive and Argentia Road, and
- Multi-use trail (west side) and sidewalk (east side).

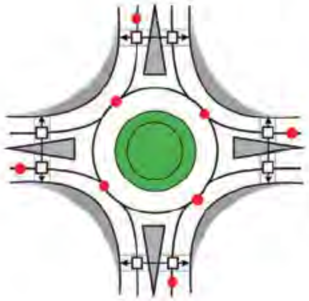
Typical Cross-Section: Long-Term Solution



Roundabout vs. Traffic Signal

	Roundabout	Traffic Signal
Traffic Safety	- Fewer conflict points for both vehicle-vehicle and vehicle-pedestrian	- Greater potential for severe collisions (i.e. right-angle or head-on)
Pedestrian / Cyclist Safety	- Circular geometry/splitter islands lower speeds	- More explicit priority for pedestrians/cyclists
Traffic Operations	- Typically accommodates greater vehicle capacity - Can accommodate high left turn volumes	- Typically accommodates lower vehicle capacity, longer delays and queuing
Environmental	- Continuous traffic flow leads to lower fuel consumption, noise pollution and emissions - May require more space at the approaches	- Requires energy consumption - May require more space to accommodate turn lanes
Cost	- Typically higher construction costs - Typically lower maintenance and operating costs	- Typically lower construction costs - Typically higher maintenance and operating costs

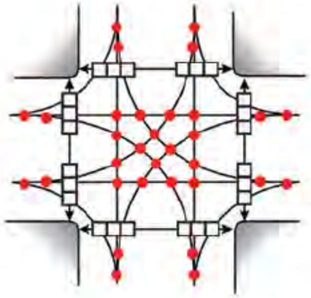
Roundabout Conflict Points



● 8 vehicle-to-vehicle conflict points

☐ 8 vehicle-to-person conflict points

Traffic Signal Conflict Points



● 32 vehicle-to-vehicle conflict points

☐ 24 vehicle-to-person conflict points

Source: AARP Livable Communities & Walkable and Livable Communities Institute

How Motorists use Roundabouts

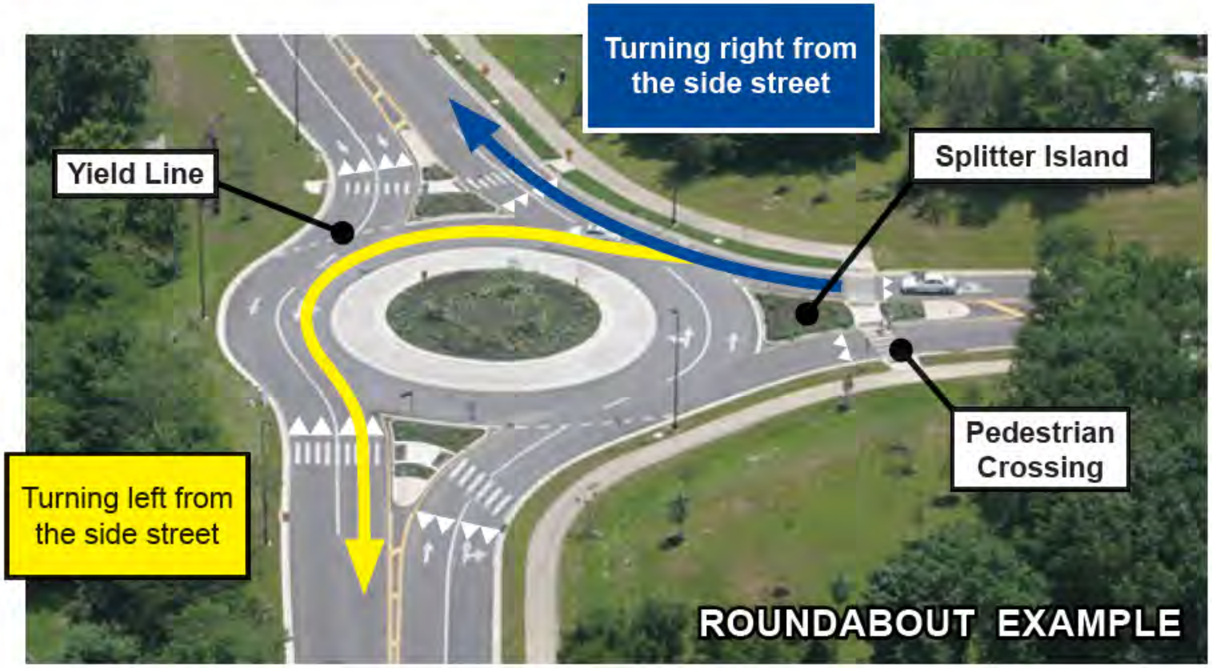
How to Drive in a Roundabout

- Slow down when approaching the roundabout
- Observe lane signs and choose the correct entry lane
- Yield to pedestrians in the cross-walk before entering the roundabout
- Wait for a gap in traffic before entering the roundabout
- Yield to traffic in the roundabout as they have the right-of-way
- Do not pass other vehicles in the roundabout and give large vehicles extra space

Know Your Roundabout Signs

Yield to all traffic in the roundabout including pedestrians at crosswalks.

There are two entry lanes to the roundabout. Choose the correct lane for your destination.



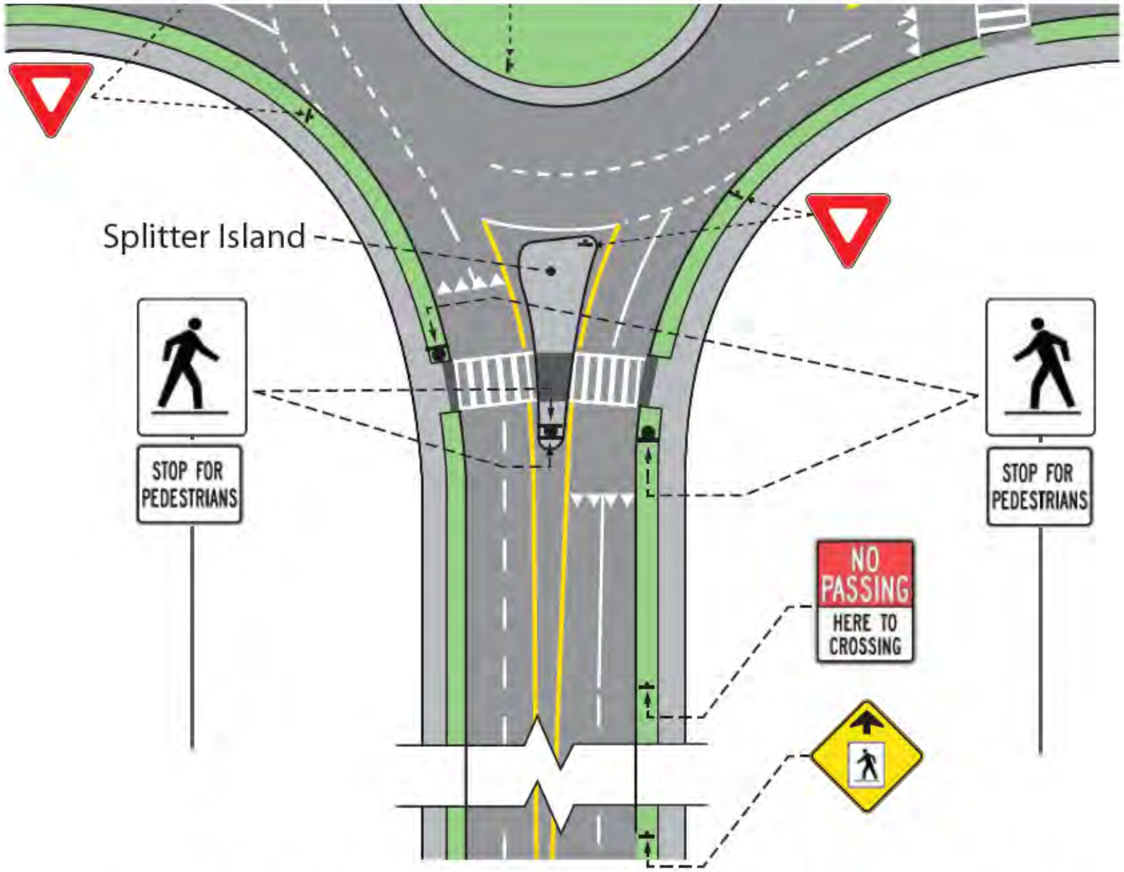
How Pedestrians use Roundabouts

Pedestrians have the right-of-way at Roundabouts

Dedicated crosswalks will be provided along each leg of the roundabout

How to walk in a roundabout:

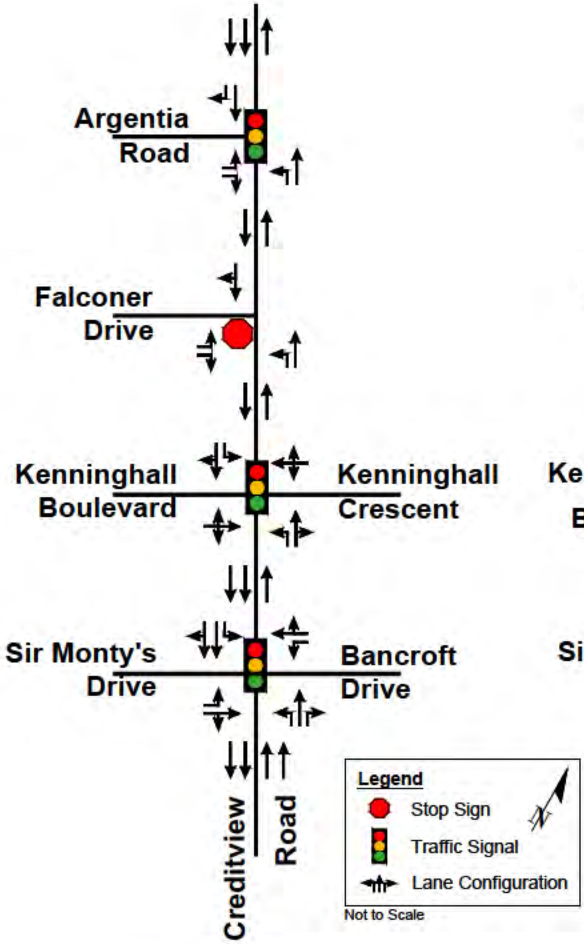
1. Step to the curb
2. Look and listen for a safe gap in traffic flow
3. Keep and make eye contact with drivers
4. Cross to the splitter island
5. Repeat Steps 1-3 to fully cross the street



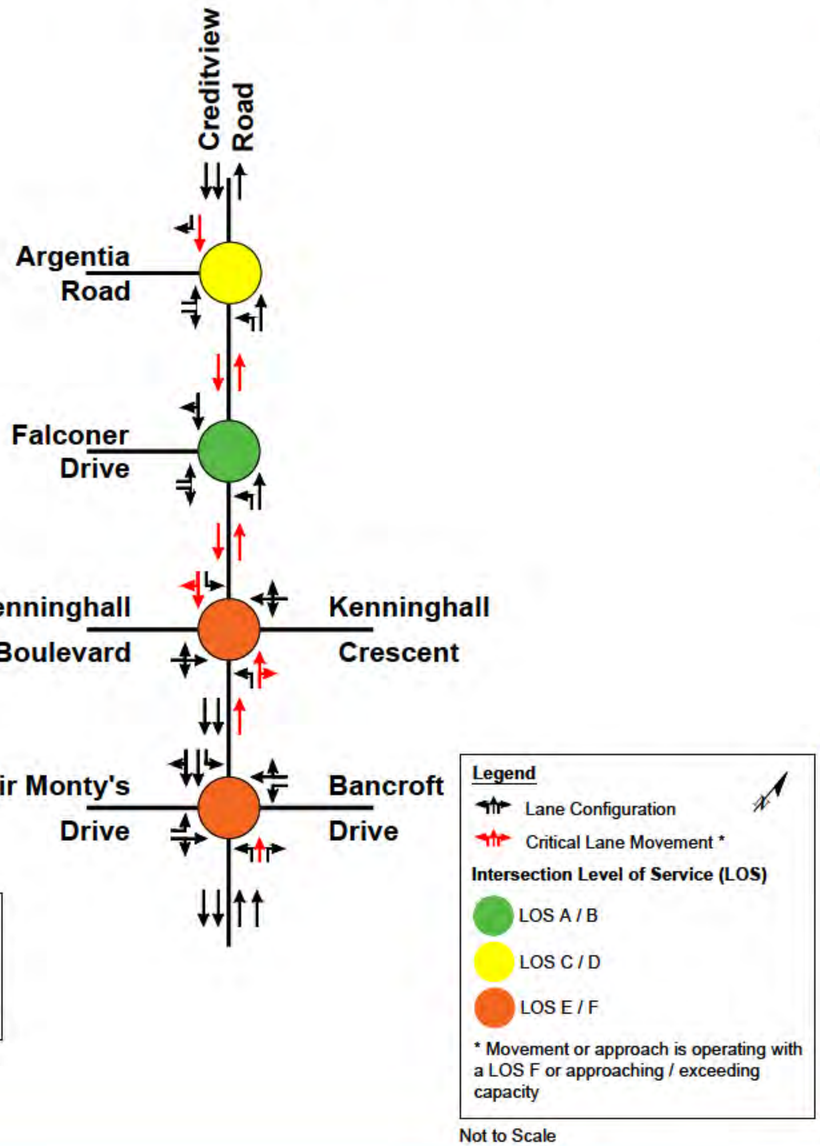
OTM Book 15 – Pedestrian Crossover (Level 2 Type D)

Existing Traffic Analysis

Existing Lane Configuration

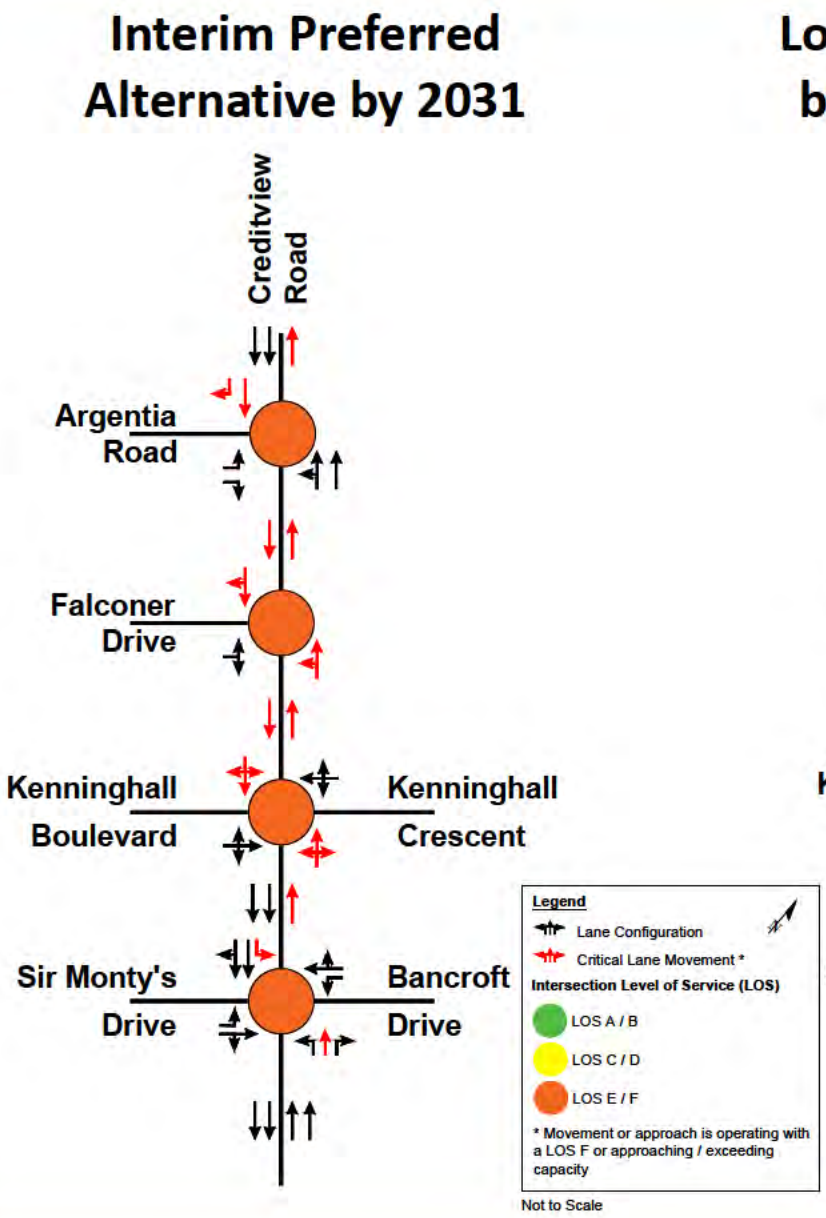


Existing Operations

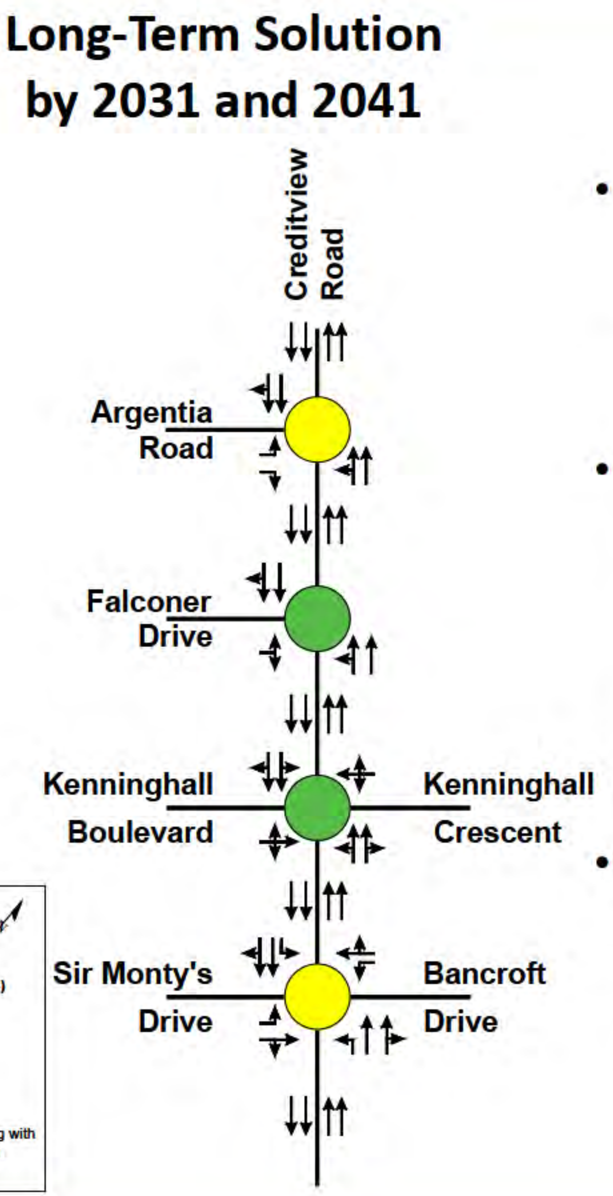


- Traffic analysis based on Spring 2024 PM peak hour
- Midblock volumes along the study corridor are already approaching/exceeding capacity
- Two existing intersections are currently operating at approaching/exceeding capacity
- Drivers observed queue jumping using the northbound right turn lane at Bancroft Road/Sir Monty's Drive

Future Traffic Analysis



Interim Preferred Alternative by 2031



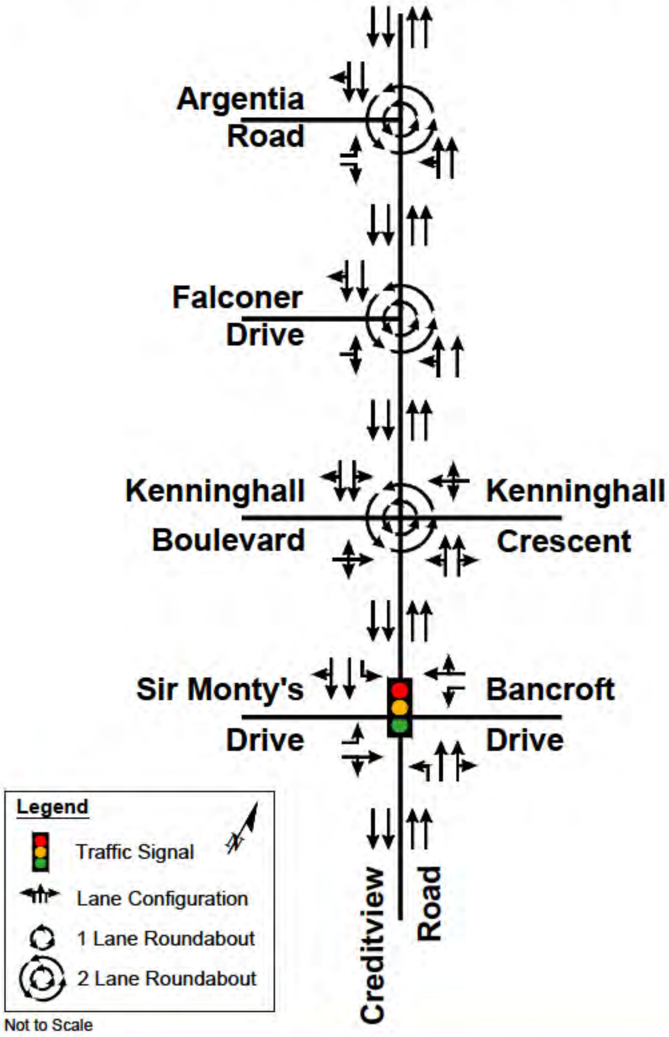
Long-Term Solution by 2031 and 2041

- Future traffic was projected for 2031 and 2041 midblock and intersection traffic volumes
- Implementation of the proposed Interim Preferred Alternative (i.e., maintaining 2 lanes along Creditview Road) is insufficient to meet the demands of the corridor
- Early implementation of the Long-term Solution is preferred from a traffic operations perspective

Recommended Implementation Strategy

- Travel demands require the implementation of the Long-Term Solution along Creditview Road by 2031
- Directly implementing the Long-Term Solution will:
  - Meet 2031 and 2041 travel demands;
  - Reduce construction costs (approximately $4.5 million in savings) with one phase of implementation;
  - Reduce community impacts due to construction activities; and
  - Provide safety and operational benefits as a result of the roundabouts.

Recommended Implementation Strategy
Long-Term Solution by 2031



Noise Walls

- The MCEA Study (2016) completed an initial Noise Assessment
- To confirm the Noise Assessment results, the City will update the noise analysis with future (2041) traffic volumes. This will be completed during detailed design.
- For qualifying noise locations, individual property owners/condominium corporations will be contacted directly
- As part of the construction phase, there may be an opportunity to advance the noise walls prior to road works

Mississauga Standard Concrete Noise Wall

Next Steps

Proceed with Long-Term Solution

2025-2026
Detailed Design

2027-2029
Construction *

* Construction timing to be confirmed during detailed design and subject to budget approval by Council.

Additional Comments / Questions?

✉ **Jeffrey Reid, LET, C.E.T.**
Manager, Transportation Projects
City of Mississauga
jeffrey.reid@mississauga.ca

☎ Call 311

Please complete a comment sheet before you leave

Creditview Road & Kenninghall Blvd./Cres.

Community Meeting
November 12, 2024

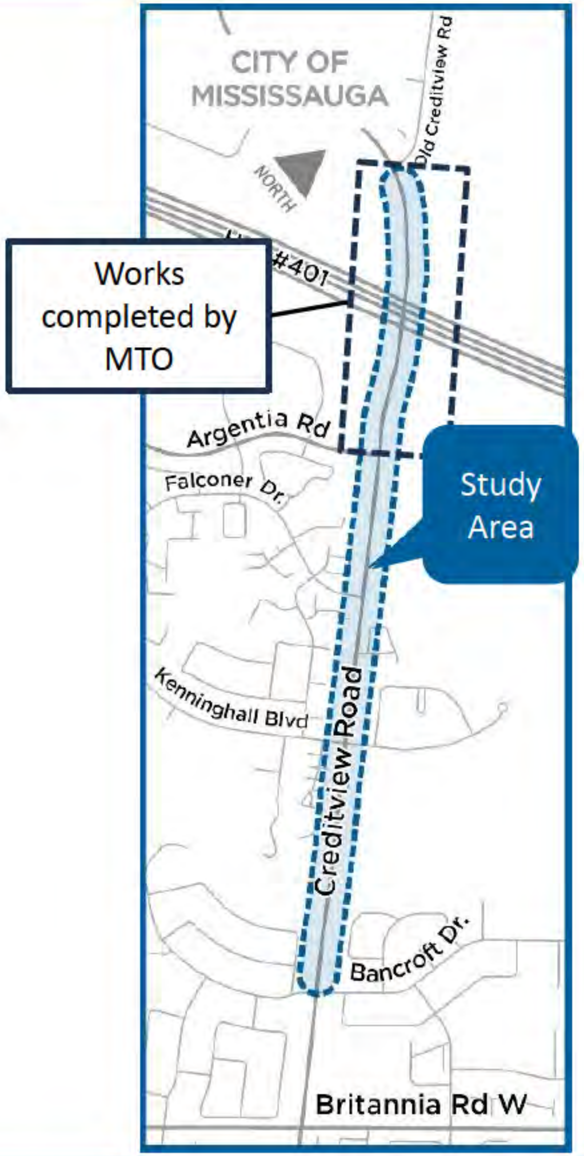
MISSISSAUGA

Project Background

- The City completed the Creditview Road (Bancroft Drive to Old Creditview Road) Schedule ‘C’ Municipal Class Environmental Assessment (MCEA) Study, in 2016. It identified two solutions:
    - Interim Preferred Alternative
    - Long-Term Solution

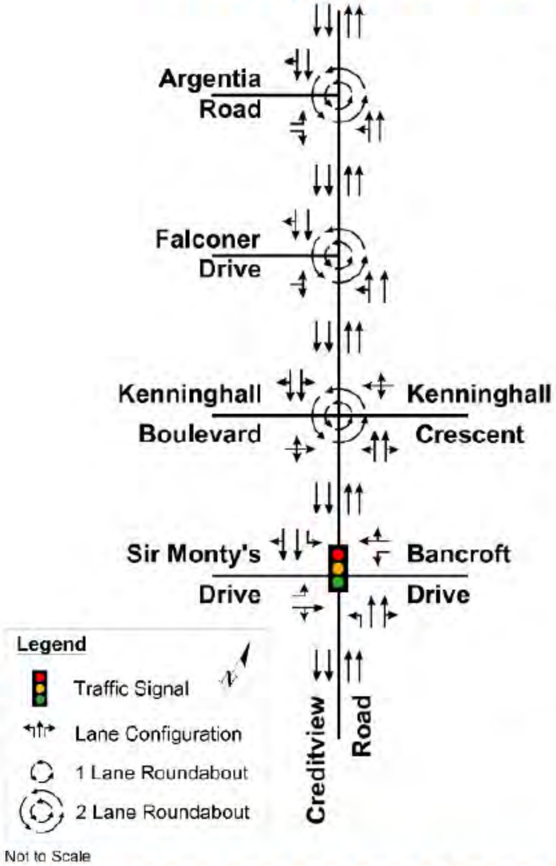
- In 2023, the MTO completed the widening of Creditview Road (2 to 4 lanes) from Argentia Road to Old Creditview Road, including the new bridge over Highway 401

- To confirm the timing of improvements, the City completed an Implementation Strategy and hosted a Community Meeting on June 12, 2024. The analysis confirmed that the Long-Term Solution will be implemented



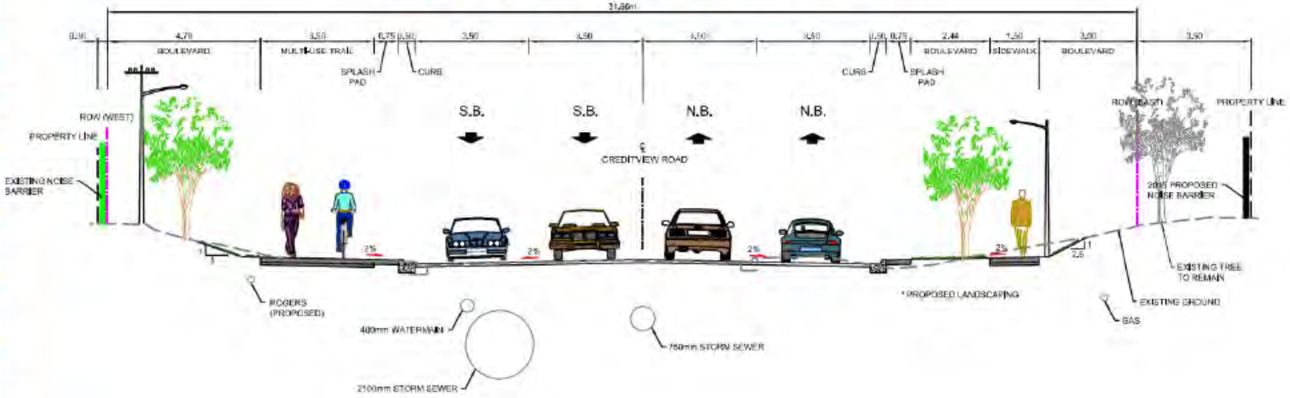
Creditview Road Long-Term Solution

Long-Term Solution



- Widen to four travel lanes between Bancroft Drive and Argentia Road;
- Two-lane roundabouts at Creditview Road intersections with Kenninghall Boulevard, Falconer Drive and Argentia Road, and
- Multi-use trail (west side) and sidewalk (east side).

Typical Cross-Section: Long-Term Solution



Why are we here?

At the Implementation Strategy Community Meeting on June 12, there were several comments received related to the intersection at Creditview Road & Kenninghall Blvd./Cres.

Purpose of today's meeting is to address the following questions:

- Advantages of Roundabouts
- How to Navigate a Roundabout
- Pedestrian Accommodation at Roundabouts
- Traffic Operations at Roundabouts

Creditview Road and Kenninghall Boulevard/ Crescent Intersection Improvements

Presenter
Phil Weber, P.Eng. | **CIMA+**

Creditview Road Online Community Meeting
City of Mississauga
November 12, 2024

Parts of a Roundabout

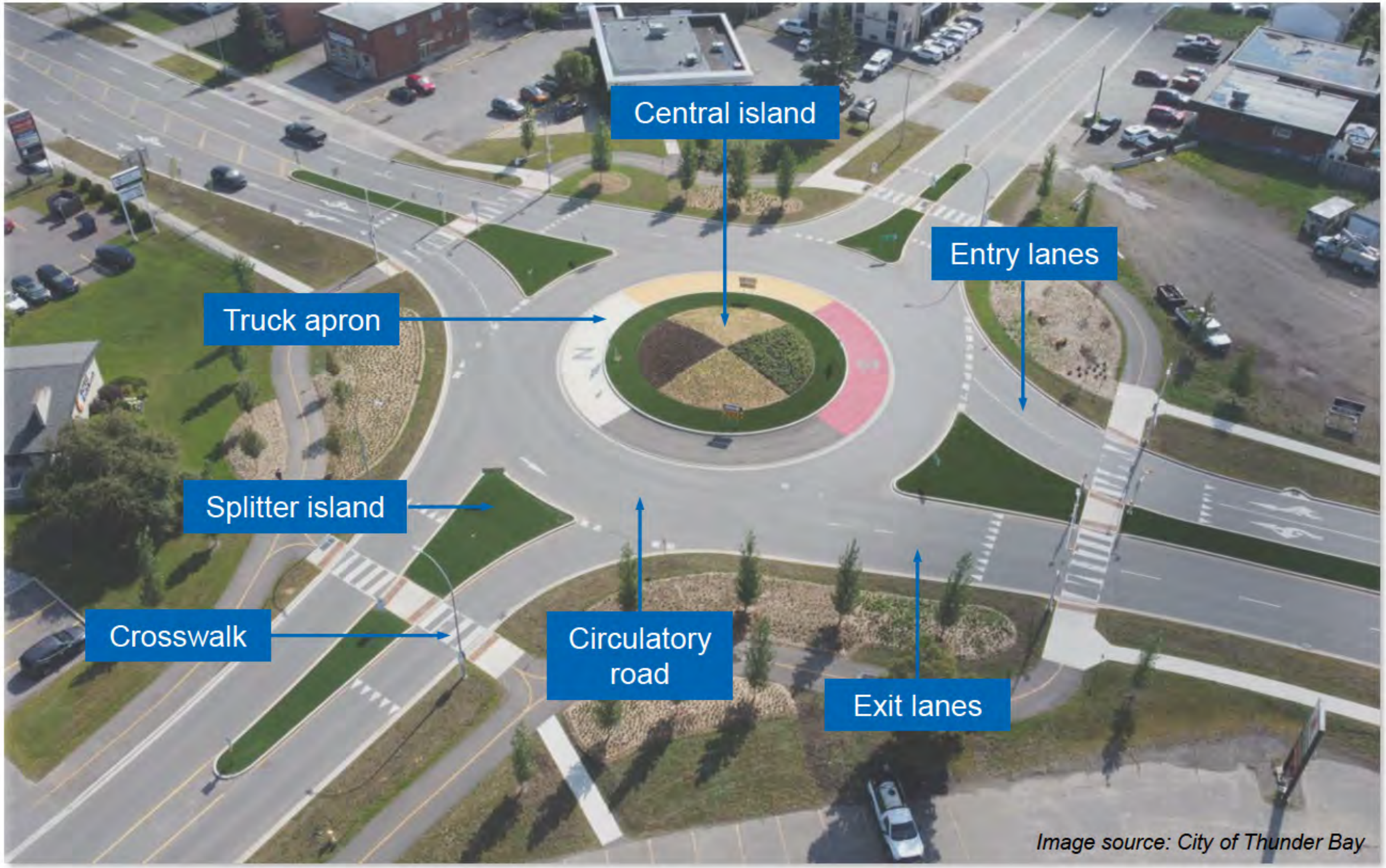


Image source: City of Thunder Bay

01

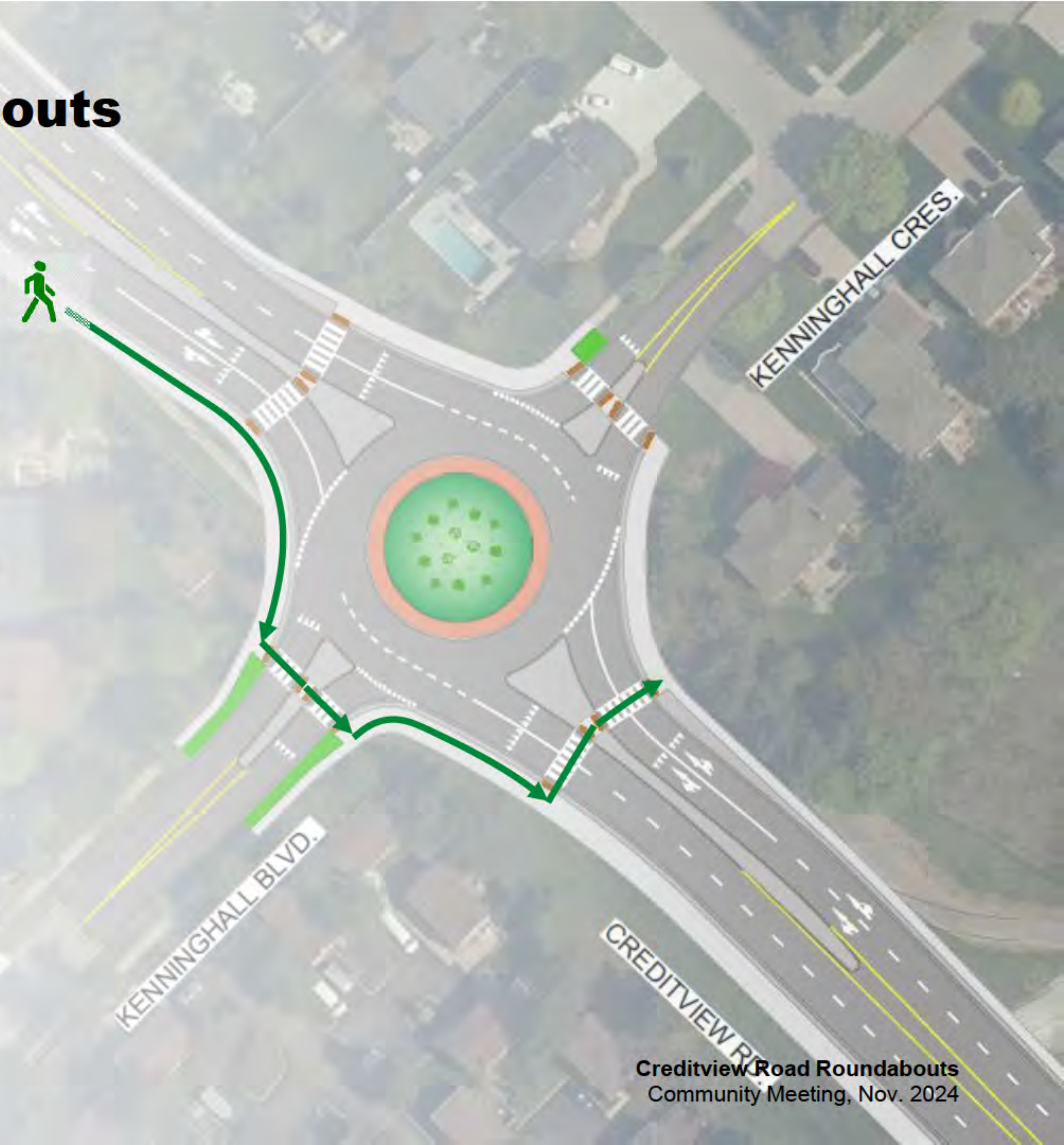
How to Navigate a Roundabout

How Motorists Use Roundabouts

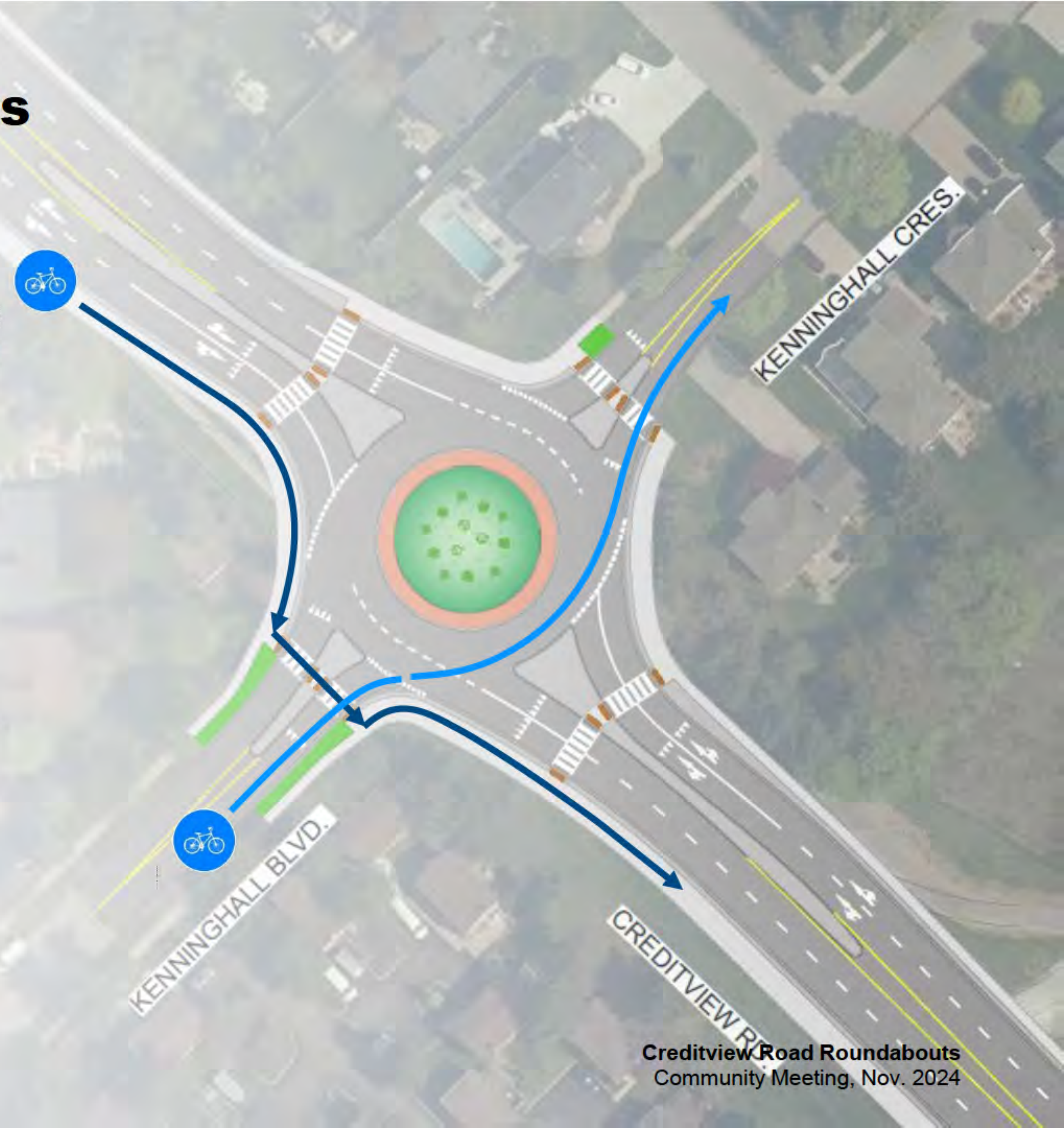
- Start slowing when you see a roundabout ahead
- On two-lane approaches (i.e. Creditview Road), choose the correct entry lane for your destination
- Yield to anyone in the crosswalk as you approach
- Yield to circulating traffic in the roundabout, and enter when there is a sufficient gap
- Do not pass other vehicles in the roundabout, and give any large trucks extra space
- Yield to anyone in the crosswalk as you depart

How Pedestrians Use Roundabouts

- Step up to the curb
- Look and listen for a sufficient gap in traffic (although you have the right-of-way at a roundabout crosswalk, you still need to give drivers time to react)
- Make and keep eye contact with drivers, and cross to the splitter island
- Repeat these steps to cross to the other side
- If the crosswalk has flashing beacons, then you may push the button to actuate the beacons and provide extra warning to drivers that you are about to cross
- Crossing distances are longer than with traffic signals, but waiting times will be shorter



How Cyclists Use Roundabouts



- In the case of Creditview Road, if you are riding on the multi-use trail on the west side then you can cross the side streets using the crosswalks
- If you are on a side street, you can cross Creditview Road either by using the crosswalks or by cycling on the street
- Vehicle speeds are lower through roundabouts than with traffic signals
- Legally, you need to dismount and walk your bike (i.e. become a pedestrian) if using the crosswalks
- Again, crossing distances are longer but waiting times will be shorter

02

Roundabouts vs. Traffic Signals

Roundabouts vs. Traffic Signals

	Roundabout	Traffic Signal
Traffic Safety	• Safer because of lower vehicle speeds and fewer conflict points	• Potential for higher-speed T-bone and head-on crashes
Conditions for Pedestrians and Cyclists	• Safer for pedestrians and cyclists because of lower speeds, two-stage crossings and traffic only coming from one direction at a time	• May feel safer even though actual level of safety is less
Traffic Operations	• Typically higher capacities and shorter delays for the same number of lanes • Can accommodate high left-turn volumes	• Typically longer delays, especially during off-peak periods
Environmental	• Lower vehicle noise, fuel consumption and emissions through more uniform speeds with less starting and stopping and less idling • May require more space at the intersection	• Higher energy consumption, and does not function well during power failures • May require more space on the approaches to accommodate turn lanes
Cost	• Typically higher construction costs • Lack of traffic signals means typically lower maintenance and operating costs	• Typically lower construction costs • Typically higher maintenance and operating costs

03

Speeding and Traffic Operations with Roundabouts

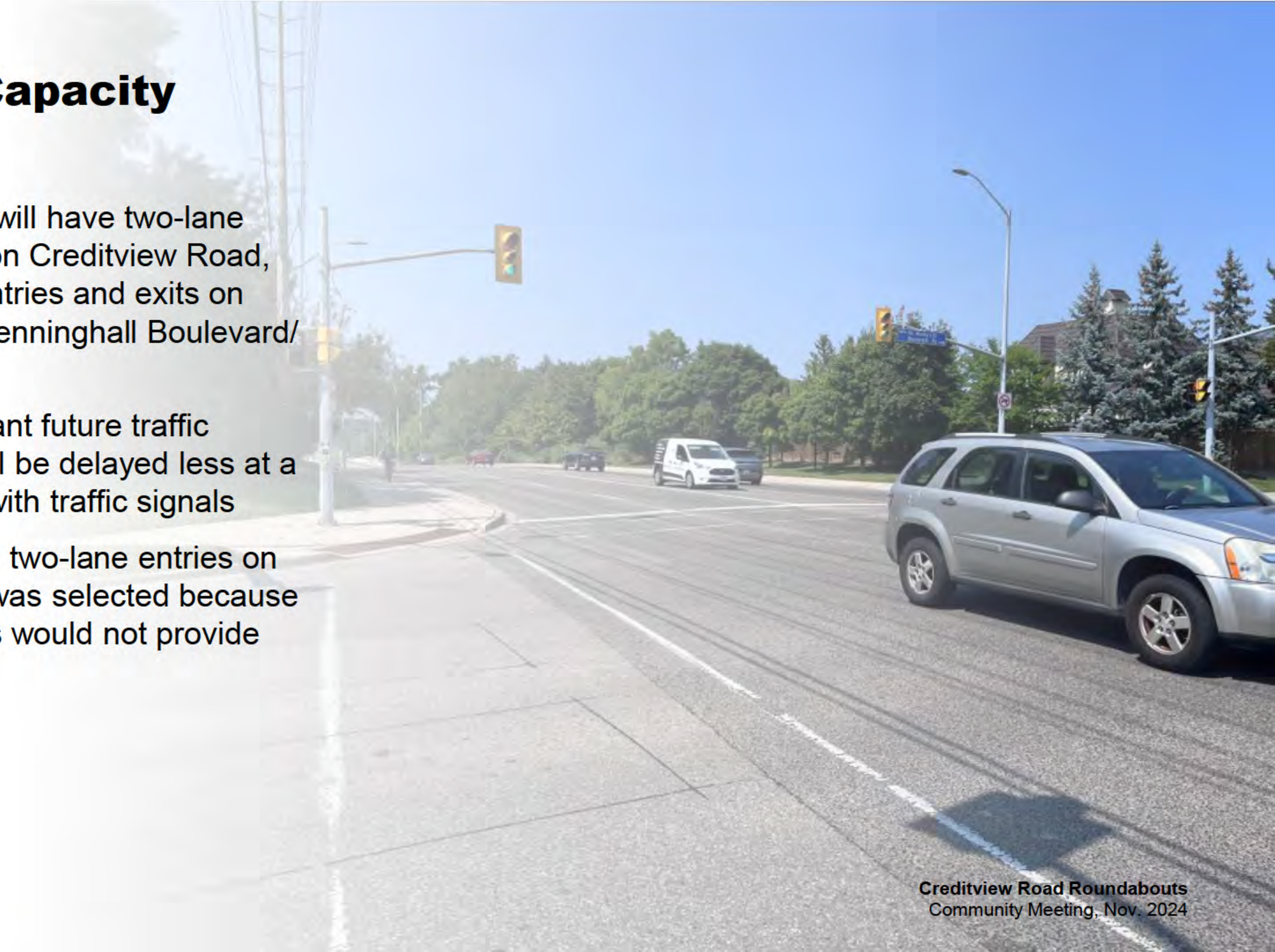
Image source: City of Mississauga

Speeding Along Creditview Road

- With a roundabout there is deflection around a central island, so you have to slow down to enter and circulate
- This means that roundabouts can function as traffic calming measures
- They typically reduce speeds to 40 km/h or less
- The City has committed to reducing the posted speed limit along Creditview Road from 60 km/h to 50 km/h

Roundabout Capacity

- The roundabouts will have two-lane entries and exits on Creditview Road, and single-lane entries and exits on side streets like Kenninghall Boulevard/ Crescent
- Even with significant future traffic growth, drivers will be delayed less at a roundabout than with traffic signals
- A roundabout with two-lane entries on Creditview Road was selected because single-lane entries would not provide enough capacity



Delays from Side Streets

- During peak periods drivers turning onto Creditview Road from Kenninghall Boulevard/Crescent (as well as from Argentia Road and Falconer Drive) will experience similar or reduced wait times during peak periods
- During off-peak periods wait times will be lower with roundabouts than with traffic signals

Truck Accommodation

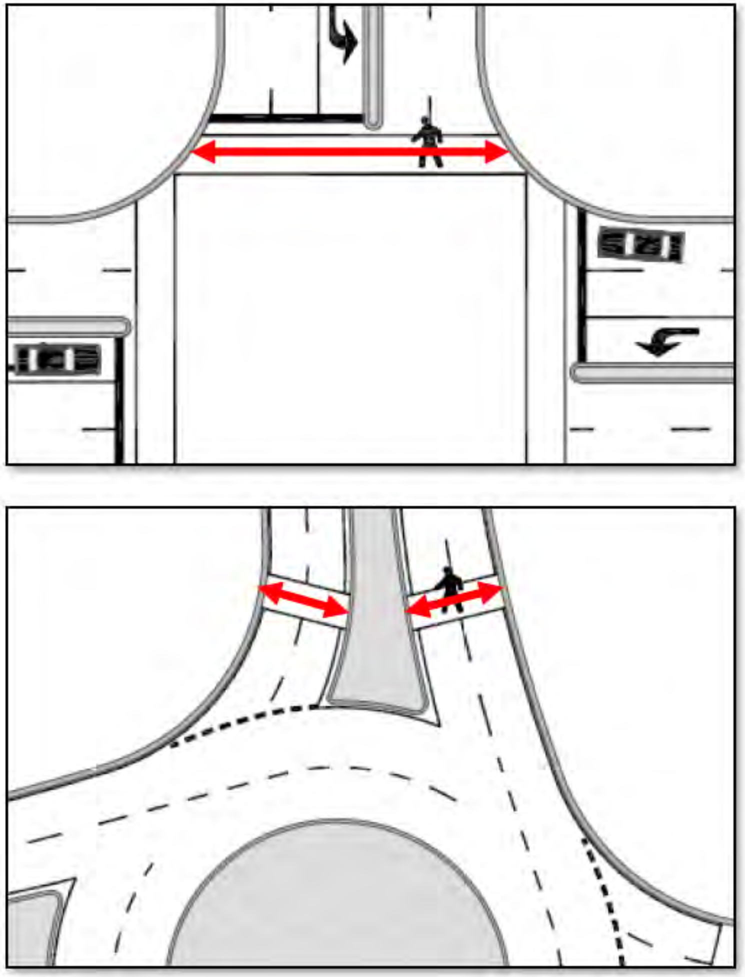
- Creditview Road is signed as a No Heavy Trucks route
- If a large truck does travel on Creditview Road then it can be accommodated at the roundabouts
- Multi-lane roundabouts are designed to accommodate large trucks by allowing some encroachment into adjacent lanes
- Vehicles such as buses and fire trucks will be able to travel through without encroaching into the adjacent lane

04

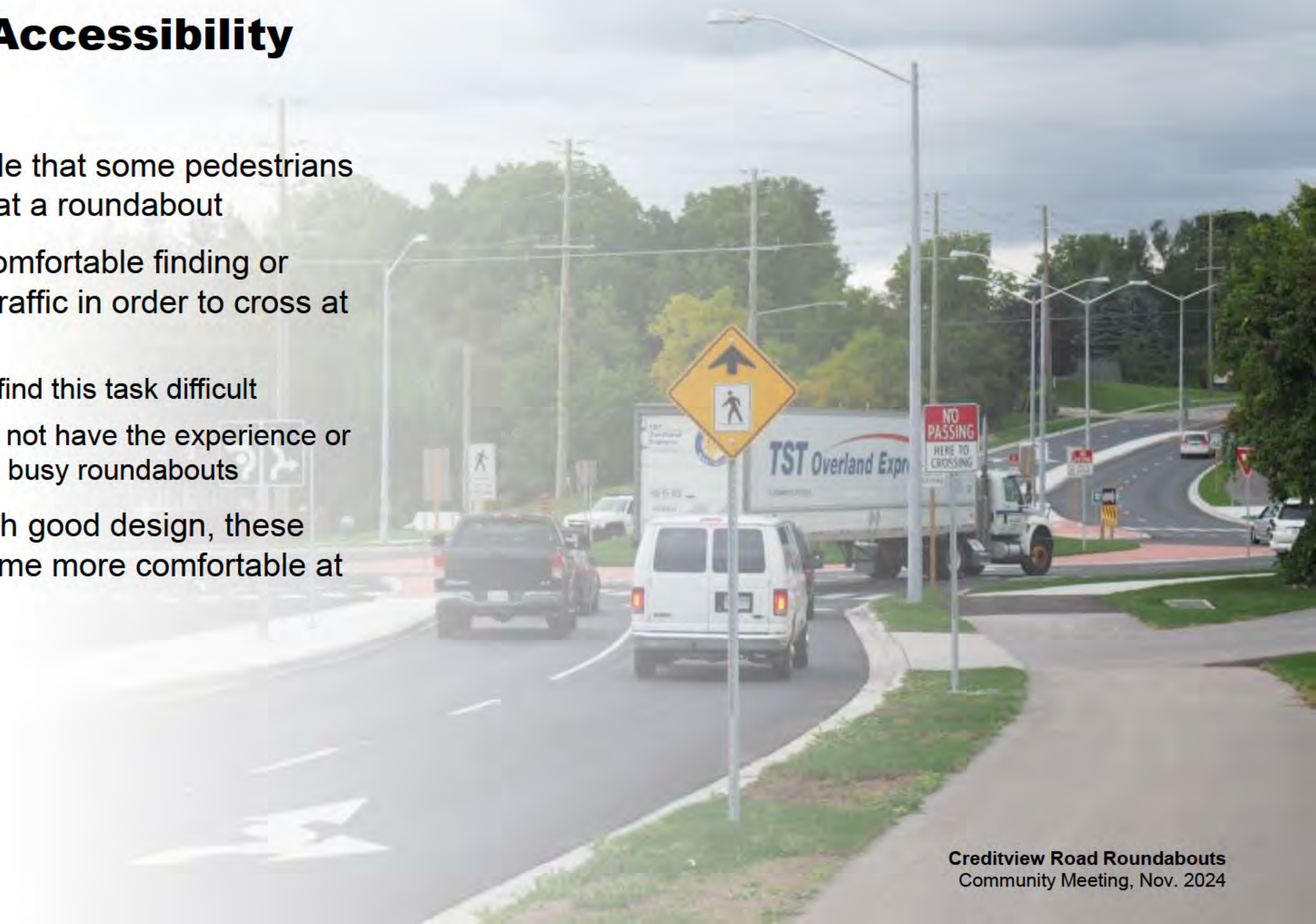
Pedestrian Accommodation at Roundabouts

Pedestrian Safety at Roundabouts

- Level of safety is good, because
  - Traffic speeds are lower, giving pedestrians and drivers more time to judge gaps and react to each other
  - The crossing distance is shorter
  - Two-stage crossings, where pedestrians need to only watch for traffic in one direction at a time
  - Drivers are more likely to be looking in the direction of pedestrians, instead of up at signals or left while turning right
- However, people don't always feel as safe at a roundabout because they don't receive a Walk indication



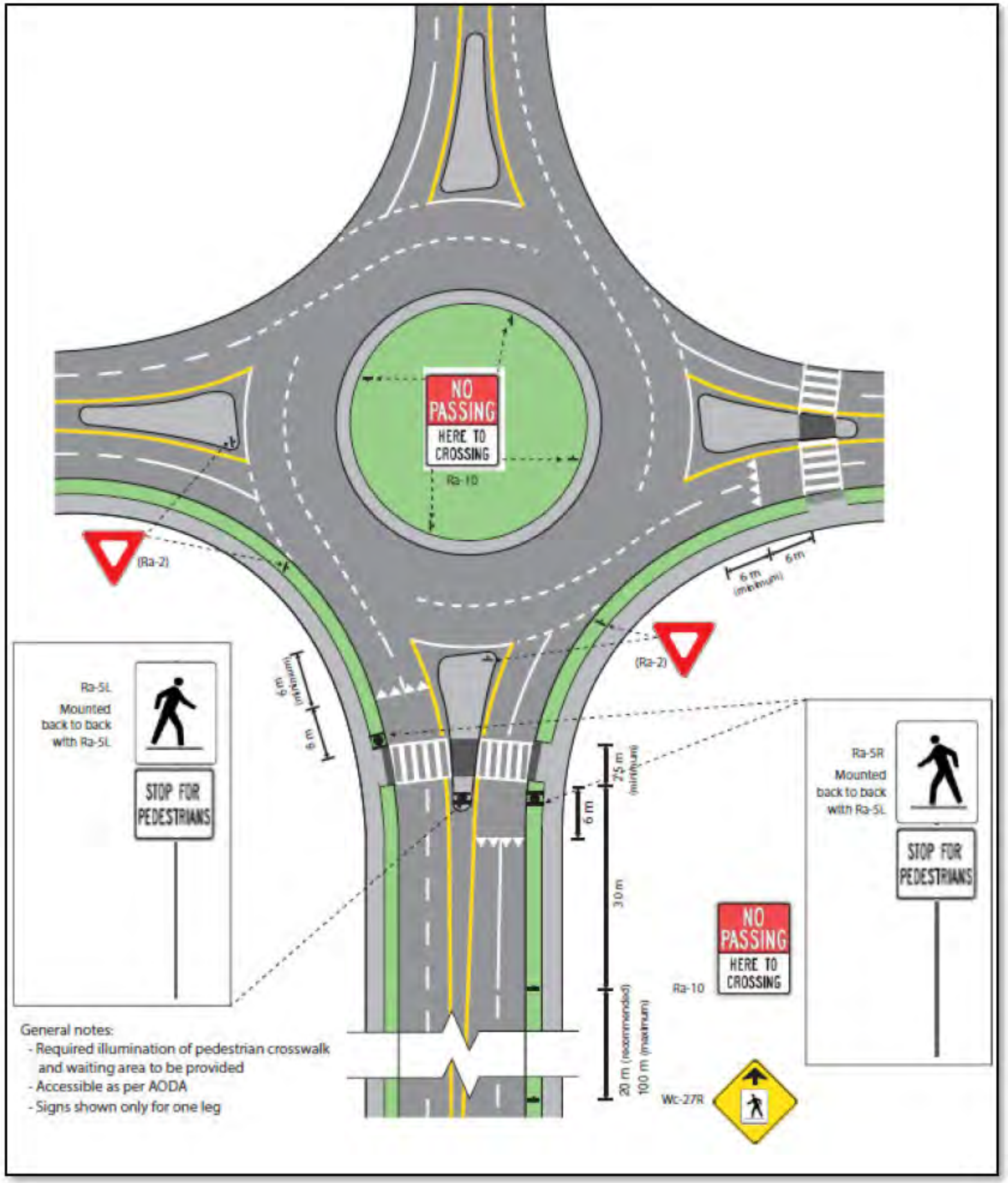
Security and Accessibility



- It is understandable that some pedestrians don’t feel as safe at a roundabout
- Not everyone is comfortable finding or creating a gap in traffic in order to cross at a roundabout
    - Seniors may find this task difficult
    - Children may not have the experience or confidence at busy roundabouts
- Over time, and with good design, these people often become more comfortable at a roundabout

Additional Optional Treatments

- The regulatory pedestrian crosswalk signs at the crosswalks of a roundabout may be supplemented with flashing beacons overtop
- Pedestrians can actuate the beacons to alert drivers that they are about to cross
- It is important to note that pedestrians have the right-of-way in a pedestrian crosswalk regardless of whether beacons are present, or whether they are flashing, because of the regulatory pedestrian crosswalk signs
- All signage, pavement marking and pedestrian treatments will be confirmed during detailed design



General notes:
- Required illumination of pedestrian crosswalk and waiting area to be provided
- Accessible as per AODA
- Signs shown only for one leg

Additional Optional Treatments

- Raised crosswalks at the two-lane exits can also help slow drivers as they leave a roundabout
- Raised traffic calming measures such as speed humps and raised crosswalks can affect bus passengers, emergency response times and winter maintenance operations, so good design is essential to minimize their impacts
- Inclusion of raised crosswalks to be confirmed during detailed design in consultation with WOM (Works, Operations & Maintenance), MiWay and Emergency Services

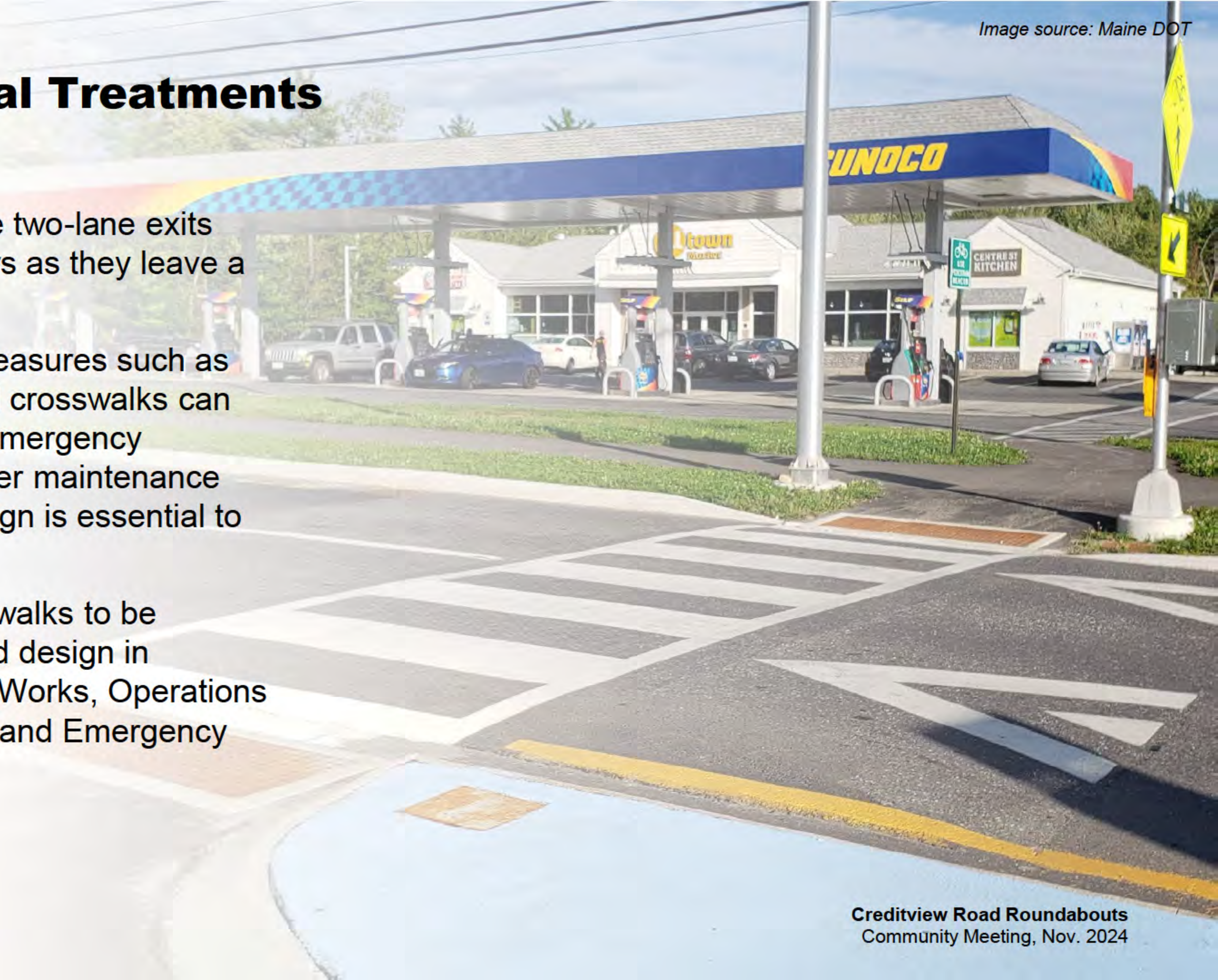


Image source: Maine DOT

Thank you.

Questions?

Phil Weber, P.Eng., Senior Project Manager
Phil.Weber@cima.ca
T 905-695-1005, 6732 **C** 416-371-0292
5935 Airport Road, Suite 500, Mississauga, ON L4V 1W5

Next Steps

- **Proceed with Long-Term Solution**
- **2025-2026** Detailed Design
- **2027-2029** Construction *

* Construction timing to be confirmed during detailed design and subject to budget approval by Council.

Additional Comments / Questions?

Erik Nevland, MASc., P.Eng., RPP, PTP
Transportation Project Engineer
City of Mississauga
erik.nevland@mississauga.ca

Call 311

Creditview Road Implementation Strategy Community Meeting

MISSISSAUGA

BURNSIDE

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

1) I am concerned about the speedlimits on CREDITVIEW RD They should be decreased at least 10 KM - 20KM / HR. I realize the round abouts will help to ease the speed..

2) I am concerned about the pedistrians actually having right of way at the round abouts. I know they should but am apprehensive that this actually take place.

3) I will be affected by the type of noise barrier implemented and would like to hear about height and type of barrier.

4) concerned about people living on eastside of creditview

(PTO)

Questions about this collection should be addressed to the Project Manager, Jeffrey Reid at Jeffrey.Reid@mississauga.ca or Call: 311

and their ability to gain access to ~~the~~ CREDITVIEW from their areas. I don't think drivers will be as courteous as they should be.

5) mature trees along creditview and the effects of the 4 lanes. will they be taken out and I would like to see the trees or facsimile maintained.

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Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

MY PREFERRED OPTION WOULD BE TO SEE
2 LANES EACH WAY NORTH + SOUTH ON CREDITVIEW
WITH APPROPIATE TURN LANES AT ARGENTIA, FALCONER,
KENNINGHALL + BANCROFT.
2ND PREFERENCE WOULD BE 2 LANES EACH WAY WITH
ROUND ABOUTS AT THE 4 ABOVE SIDE STREETS. IF NO
ROUND ABOUTS THEN ANOTHER STOPLIGHT IS NEEDED AT
FALCONER DR. IN SUMMARY 2 LANES NEEDED IN BOTH
DIRECTIONS NORTH + SOUTH WITH APPROPRIATE DESIGNS AT
CROSS STREETS. FINAL DESIGN SHOULD NOT HAVE ONLY 1 LANE IN
EITHER DIRECTION. THAT WHAT WE HAVE NOW.

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Creditview Road Implementation Strategy Community Meeting

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Phone Number (Optional):
Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

The roundabouts while easy solution to move traffic they may cause more incidents not less.

Has a study been done about leaving exsisting lights and increasing road to 2 Lanes North and 2 Lanes South. how much more traffic could move on 4 Lanes as oposed to two lanes?

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Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I have real concerns about the traffic circle at Kenninghall and Creditview. Many people, including seniors and children. Kids cross Creditview to get on school buses. Senior citizens cross for their walks. How are they going to do this? Drivers are not educated on traffic/pedestrian protocol with traffic circles.

Another huge concern is property value. I have been told by a very reputable Realtor that property values will go down. No one will want to live in an area where the only access is a traffic circle.

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

I sincerely hope that city counsel, will re-examine this project. I understand that expanding Creditview Rd to 4 lanes is a done deal. But please don't put a traffic circle at Creditview and Kenninghall. It is not needed or warranted. And it will be dangerous.

PLEASE LISTEN TO OUR VOCES

THANK YOU

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Creditview Road Implementation Strategy Community Meeting

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[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

1. Based on 2016 study, traffic volume n/s @ Kenninghall was 1,100 - 1,200 each way. I was told tonight that is 1800. Whereas volume out of Kenninghall is 1/5th of that. While 4 lanes will drop volume to 900 per lane, that is still very close to the original study amount. My concern is there will be too few gaps to enter the roundabout in peak periods, causing more accidents and long waits.

2. While the highway traffic act requires traffic to stop for pedestrians at a cross walk, this high volume is likely to cause more pedestrian injuries as drivers do not heed this rule. At least put in overhead actuated signals.

3. Our real estate agent has advised installation of round abouts will have a negative impact on our property value.

4. Very glad we are widening to 4 lanes, Thanks.

Creditview Road Implementation Strategy Community Meeting

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[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Please ensure that the multi-use trail is connected under the west side of Creditview Rd Bridge to the Culham trail in Credit Meadows park. There is an existing concrete walkway with a railing already there. This would allow connection to the Culham Trail through the pathway from Velebit to Pinecliff Park that already exists.

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Name:
Address:
Postal Code:
Phone Number (Optional):
Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

- NEED A SAFE METHOD OF CROSSING the STREET NOW THAT there ARE NO TRAFFIC LIGHTS FOR "PEDESTRIANS"
- FROM RIVERGATE PLACE there NEEDS TO be A SAFE "MERGE" TO EXIT RIVERGATE ć GET ONTO CREDITVIEW.
- "NOISE WALL" shoulD be A CONSIDERATION FOR OUR COMPLEX - DUE TO INCREASED TRAFFIC
-

PRESENTLY it IS VERY DIFFICULT ċ TIME CONSUMING TO get out of RIVERGATE ONTO CREDIT VIEW ç VICE VERSA. →

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

There NEEDS To be A WAY FOR US To get out.

The ROAD "CREDITVIEW" should be closed during construction To LOCAL TRAFFIC.

OFFENDED THAT "RIVERGATE" which has 27 UNITS WERE NOT LISTED OR DRAWN ON YOUR MAPS

ON The other HAND ONE ROUND About is good.

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

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Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

MORE CONSIDERATION HAS TO BE GIVEN TO
ACCESS IN & OUT OF RIVERGATE PLACE - SAFETY ISSUE
* NEED MERGE LANES IN + OUT AT RIVERGATE

CONCERN THERE WILL BE NO BREAKIN TRAFFIC DURING
RUSH HOUR TO ACCESS RIVERGATE PLACE -

WITH INCREASE IN TRAFFIC, NOISE WILL INCREASE.
SOUND WALL IS NEEDED ~~SO~~ BY RIVERGATE PLACE ALSO
SINCE SOME NATURAL VEGETATION WILL BE REMOVED
THAT PRESENTLY GIVES US SOUND ~~[illegible]~~ BUFFER

NOTICE OF COLLECTION OF PERSONAL INFORMATION

Creditview Road Implementation Strategy Community Meeting

* CLOSE RD TO LOCAL TRAFFIC ONLY DURING CONSTRUCTION FOR SAFETY REASONS TO ALLOW RESIDENTS TO GET IN + OUT

* CONCERN RE YOUNGSTERS USING THE PROJECTED CROSSWALKS THERE NEED TO BE FLASHING LIGHTS WHEN A PEDESTRIAN IS CROSSING TO ALERT THE DRIVERS (WHO ARE NOT ALL RESPONSIBLE)

OFFENDED THAT RIVERGATE PLACE WAS NOT ON ANY OF THE POSTERS - ONLY ON THE ARCHITECTURAL DRAWING. WHY?

I THINK THE TRAFFIC CIRCLES OFFER A GOOD SOLUTION TO TRAFFIC WOES, HOWEVER, MORE CONSIDERATION HAS TO BE GIVEN TO

①PEDESTRIAN SAFETY CROSSING - ESPECIALLY YOUNG PEOPLE

②SAFETY OF RESIDENTS OF RIVERGATE PLACE GETTING IN AND OUT OF THEIR COMMUNITY HAS TO BE CONSIDERED

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Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

(1) Pedestrian Safety on roundabout.

(2) Are we inviting more truck traffic on Creditview - More Noise (We already deal w/ airplanes & 401 noise)

(3) Pedestrian Bridge like 10th line & argentia

(4) Style of Meeting - too many People Saying different things

(5) Animal habitat disruption.

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Name: [redacted]

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Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Great Plan. Traffic is currently a disaster.
Slightly concerned about pedestrian crossing @ the
roundabouts (being so close to entry/exit points),
& especially if it would slightly hinder entry for cars.
Also want to note if we can ensure pedestrian signs
are exaggerated for safety! ♡
Please also send more mail updates on this.
Excited for the change.

GooDLUCK!

Creditview Road Implementation Strategy Community Meeting

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BURNSIDE

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SUMMARY

→ OUR NEIGHBORHOOD OF 82 HOMES ON EAST SIDE OF CREDITVIEW --- KENNINGHALL IS OUR ONLY ACCESS TO CREDITVIEW.
- 93% OF NEIGHBORS SIGNED A PETITION AGAINST ROUDABOUTS

Comment Sheet
- CONCERNS ARE BELOW.

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]
Address:
Postal Code:
Phone Number (Optional):
Email:

⑥ • SEMI-TRAILER TRUCKS -- HOW WILL THEY GET THROUGH?

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

CONCERNS.

① • WE LIVE ON EAST SIDE OF CREDITVIEW --- WITH ONLY 1 ROUTE IN + OUT, VIA KENNINGHALL
- AT PRESENT, WITH LIGHTS, WE HAVE CONTROLLED ACCESS TO CREDITVIEW RD AT RUSH HOUR (5 PM weekdays, 8 am mornings), WE WAIT BRIEFLY, BUT ARE ALWAYS ASSURED OF ACCESS TO CREDITVIEW -- NORTH OR SOUTH.

• BUT A ROUNDABOUT IS ~~AN~~ UNCONTROLLED --- WE ARE NEVER ASSURED OF ACCESS TO CREDITVIEW VIA A ROUNDABOUT.

② • ACCIDENT LEVELS WILL RISE, WHEN DRIVERS COMPETE TO GET THROUGH.

③ • CROSSWALKS - MANY PEOPLE WALK IN OUR NEIGHBORHOOD + OFTEN CROSS CREDITVIEW TOWARD THE WEST --- FOR EXERCISE, TO CATCH A BUS OR TO REACH THE VARIETY STORE.
QUESTION. HOW WILL YOU STOP THE TRAFFIC --- SO THEY CAN SAFELY CROSS CREDITVIEW ???

④ • FOUR LANES ON CREDITVIEW IS AN OBVIOUS NEED --- AND WE ARE OKAY WITH THAT
- BUT ROUNDABOUTS ARE WRONG FOR THIS AREA + APPLICATION
- LIGHTS WORK JUST FINE FOR BOTH CARS & PEDESTRIANS
- THE INTERSECTION IS CONTROLLED BY LIGHTS --- PREDICTABLE, LEGAL RULES OF THE ROAD
- ALL CURRENT DRIVERS + PEDESTRIANS UNDERSTAND + OBEY THE RULES
- UNCONTROLLED ROUNDABOUTS WILL BE A FREE-FOR-ALL COMPETITION FOR ACCESS.

⑤ • OUR NEIGHBORHOOD OF 82 HOMES HAVE ONE ACCESS, FOR IN + OUT. 93% OF SIGNATURES ARE AGAINST ROUNDABOUTS

Creditview Road Implementation Strategy Community Meeting

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MISSISSAUGA

Creditview Road Implementation Strategy Community Meeting

BURNSIDE

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:
[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I am in support of implementing the ultimate condition for Creditview as soon as possible. I would like to see improvements made to the Bancroft / Creditview intersection as that seems to be the cause of the back up on Creditview during peak hours when coming from the Financial Drive side. Would there ever be considerations to make this a turning circle too? Can we make an advanced left signall from Creditview onto Bancroft and reduce the frequency that the light is red to improve flow on Creditview during peak hours? Appreciate that the tree replacement is 2:1, but would like to see more mature trees being planted when the replacement occurs

Creditview Road Implementation Strategy Community Meeting

so that this is still considered a scenic route.

I also suggest sending more updates via mail to residents of the area since they seem hesitant to look anything up on Google themselves!

Please kindly share traffic management plans once available as part of this communication. Kindly also share any dates this plan ~~application~~ will be going to Council at any point – I would love to come and support this improvement!

Good luck :)

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Creditview Road Implementation Strategy Community Meeting

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

*- Traffic volumes are too heavy at Argentia & Creditview to have a roundabout.

*- There should be metal barriers between car lanes & sidewalks as cars are driving atleast 60 KM/HR!

- Cars are usualley driving over the speed limit

over →

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- Cars turning onto Creditview from either Kenningtball or Falconer will have difficulty during rush hours

- If the volumes increas than four lanes may be required, but keep the traffic lights!

Creditview Road Implementation Strategy Community Meeting

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Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

With the money saved (~4M) please redirect these funds into a raised pedestrian / multi-use walkway at the intersection of Creditview Rd and Kenninghall. I feel that this would allow for safer use of the trail that runs on either Side of Creditview. PTO

~~Also, what will happen~~

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

⑤ ONE LAST GOOD REASON FOR LIGHTS.

⑥ LIGHTS WILL ENABLE USE OF ADVANCED TECHNOLOGY TO OPTIMIZE TRAFFIC FLOW, PEDESTRIAN SAFETY.

- APPLY AI TECHNOLOGY INDEPENDENTLY AT EVERY 1 NTERSECTION.

— LET IT DECIDE THE BEST ~~CHOICE~~ CHOICE OF SIGNAL TO RESPOND TO CARS + PEDESTRIANS

— WAITING TIMES (FOR ACCESS TO CREDITVIEW) MAY BE LONGER -- WHEN CREDITVIEW TRAFFIC IS BACKED UP

— MAY BE SHORTER WHEN TRAFFIC IS LIGHT

— LET EMMERGENCY VEHICLES THROUGH

⑦ USE TRAFFIC CAMERAS TO MANAGE STREET RACING

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- TAKE A PICTURE OF CAR, PLATE SPEED --- THEN MAIL THEM (IF NO PAY -- REFUSE A PLATE) LARGE "SPEED VIOLATION CHARGE BY REGISTERD MAIL

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Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

The roundabouts will be dangerous at first. Pedestrians will have a hard time getting across the road. Sidewalks (trails) need to be well away from the road. There is not enough room for four lanes. The volume of traffic at Argentia is too great. A set of lights is necessary. The controlled access by traffic lights is much safer.

The speed needs to be reduced on Creditview by at least 10 Km/hr.

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Why ask for comments when everything has already been decided?

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

People don't slow down now for pedestrians. What makes you think people will change?
The noise levels are going to be terrible.
I don't have an issue with your lanes, but leave the lights!
You need a barrier between the road and the sidewalk.

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

I am against the round abouts at Creditview-Kenninghall

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

- concerned about getting out of the neighbourhood safely if the round about go forward on Creditview - Kenninghall intersaction
- concerned about using cross walks with 60 Km/hr traffic - 4 lane. Traffic is blind to the X walk after the round about.
- if you turn left, two gaps are required good luck at peak traffic times.
- lower property value

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

Is anybody listening?!!

* I am against a round-about at Kenninghall/Creditview!

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

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June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:
[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

This is discusting - no neighbourhoods included at the decision table! Creditview in the morning & after 5pm is so busy & now you are going to make it busier! How are we going to "merge" into traffic & look for an "opening" - it's not going to happen! And to cross those lanes as a pedestrian will be suicide! It may take one major accident & fatality for you to realize that you have made a mistake. This is a neighbourhood full of children. They walk across to the other side & ride their bikes across. How are they going to do this safely without an accident! →

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Creditview Road Implementation Strategy Community Meeting

You have made your decisions based on what? My friends in Brampton are actually happy about what is going to happen on Creditview. They are fed up with hwy 10 & will be using Creditview as they expect it to be faster. So you are doing this to help out another city? but one thing they did say was they would never buy a house along Creditview because you'll be stuck in your neighbourhood for both drivers & pedestrians! Are you going to compensate us for the devaluation of our properties?

Shame on you for making decisions without out input!

By the way, a cross walk needs flashing lights overhead to warn drivers to yield to pedestrians. Take a look at how Toronto does it!

Leave our neighbourhood as it is now!

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Would like to see a shorter term improvement to Kenninghall / Creditview intersection when travelling north & needing to turn left onto Kenninghall to get home.

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Interim option preferred if any. What about impact on wildlife? We have a lot of deer, rabbits, squirrels and other animals crossing Creditriver Rd in that area. We are also concerned about impact of the noise created by widened road on habitats of many unique species we have in this area. Four lines construction will be prolonged time for people living in designated area as well. Creating a lot of noise, chaos, difficulties ~~for~~ specially for eldery people and many of them living in this area.

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Because we've ~~lived~~ been living at that specific area for many years and we can value the charm and uniquess of that habitat. Consideration for ~~safety~~ Safety should be given as well.

Creditview Road Implementation Strategy Community Meeting

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June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I think there will be to much new traffic created. Also very dangerous for Pedestrians walking across without Traffic lights. Lights are needed to stop traffic for Pedestrians and all the Kids walking across street. Lastly why not just Two lanes with roundabout, than there would be less traffic using our residential area as a highway. Creditview is going to look like a highway and not a residential area.

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Please think about our Pedestrians and kids this format is dangerous.
Thanks.

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June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

The multi use trail that's proposed isn't good enough. Proper cycle tracks are needed - and more are needed throughout the city. We need to build infrastructure that encourages/enables people to use other transportation than a car. Narrow the car lanes so that cycle tracks can be put in. (It'll have the added bonus of slowing the cars down.)

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]
Address:
Postal Code:
Phone Number (Optional):
Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Roundabouts a very Good idea
Keep traffic flowing.
- No to keep lights At Kenninghall
too much Backed up traffic. Blockin
all other Streets.

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

LONG TERM SOLUTION IS THE WAY TO GO FOR THE FUTURE.

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June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

My concerns are the removal of all the trees bordering the Rivergate property without providing a sound barrier (Fence).

It is already quite noisy with 2 lanes of traffic & suspect it will be even noisier with 4 lanes.

unfortunate to see the removal of so many trees!.

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code
Phone Number (Optional):
Email:
[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Thank-you for setting up this meeting. I am very concerned about the following:

① Safety for children, family & pets crossing Creditview from Kenninghall Blvd & Cres. over Creditview

② Ability to get on to Creditview from Kenninghall Cres. with my car.

③ Noise due to traffic increase.

④ Property value: many people will NOT buy in this neighbourhood due to 4 lane, noise barriers and traffic circle

Creditview Road Implementation Strategy Community Meeting

For sure we need a way to Slow down traffic for safe pedestrian crossing.

I understand the city is growing, however, a decision to turn a quiet family neighbourhood to a major thoroughfare is poorly thought through.

Please consider other options to divert additional traffic to mavis and Erin Mills Parkway to ensure the safety of ~~our~~ our beautiful community.

[redacted]

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Creditview Road Implementation Strategy Community Meeting

BURNSIDE

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Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

① Noise level Reduction study.

② Speed limit for the Racing car.

③ Tree cutting should be factored in.

④ Backyard can not be used due to increase in noise level.

⑤ No compensation for sacrificing good night sleep.

⑥ Impact on value of Residencial units.

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Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

- WOULD LIKE TO HAVE A NOISE BARRIER FOR THE RESIDENTS OF THE RIVERGATE PLACE COMPLEX

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Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Do you have a plan "B". I don't think these roundabouts will work.

Our Condominium will be blocked out from entering or exiting due to congestion east bound to Creditview. School buses going east toward Creditview have difficulty now and it will only get worse with the roundabout.

[redacted]

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

① POOR CONCEPT ON PEDESTRIAN CROSSING

"MANDOTORY" LIGHTS TO STOP TRAFFIC "NO YIELD SIGN ONLY"!

② ONE LANE ROUNDABOUT WOULD BE BETTER

THAN 2(X2) LANES -

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Mississauga

Creditview Road Implementation Strategy Community Meeting

Burnside

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

- Concerned with the pedestrian cross walks. They need to be more visible to drivers. At the least there should be flashing yellow lights, but would prefer traffic to stop at lights (red?)

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Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

Very poor organization

Not ~~impo~~ informative!!

6'

NOTICE OF COLLECTION OF PERSONAL INFORMATION

Information will be collected in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

Questions about this collection should be addressed to the Project Manager, Jeffrey Reid at Jeffrey.Reid@mississauga.ca or Call: 311

Creditview Road Implementation Strategy Community Meeting

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MISSISSAUGA

Creditview Road Implementation Strategy Community Meeting

BURNSIDE

Thank you for attending the event – we appreciate your input. Please complete this comment form and drop it into the box provided.

Comment Sheet

Community Meeting

June 12, 2024, 6:30 – 8:30 p.m.

Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name: [redacted]

Address:

Postal Code:

Phone Number (Optional):

Email:

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I would prefer the lights @

Think the traffic circle is very expensive to install & make it more difficult for Pedestrians

[redacted]

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:
[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I DO NOT LIKE THE IDEA OF ROUND ABOUTS. KENNINGHALL CRES ONLY HAS ONE WAY OUT OF OUR SUBDIVISION. WALKING ACROSS CREDVIEW LOOKS LIKE IT WILL BE RISKY.

BEFORE COUNCIL VOTED ON THIS WE AS RESIDENTS SHOULD HAVE BEEN INFORMED OF THESE CHANGES.

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:
[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I understand that the main issues of the presentation surround the expansion to 4 lanes, the roundabouts + the noise walls but communties such as mine are being ignored. We will no longer be able to turn left in or out of our street - a point that was definitely not highlighted, and many people would not be made aware of. I understand why the lanes need to expand to 4 lanes (traffic) but am concerned about the nature, forest, and overall key element that makes this area so desirable. What will be done about that? The numbers of trees they have already removed / clear cut behind us is disgusting. Where is the priority?

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Comment Sheet

Community Meeting

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Location: River Grove Community Centre; 5800 River Grove Avenue, Mississauga ON

Name:
Address:
Postal Code:
Phone Number (Optional):
Email:

[redacted]

Do you have any comments that you would like to share with the Project Team regarding information presented at this Community Meeting? (additional space on second page):

I HAVE BEEN INVOLVED WITH THIS PROPOSED EXPANSION FOR SEVERAL YEARS. I ATTENDED A MEETING SEVERAL YEARS AGO WHEN ROUND ABOUTS WERE FIRST PROPOSED. AT THAT PRESENTATION THERE WAS NEVER ANY DISCUSSION OF INCREASING CREDITVIEW TO FOUR LANES. I AND MOST PEOPLE WHO LIVE ALONG CREDITVIEW ARE TOTALLY AGAINST 4LANE OF TRAFFIC. THE MOOD AT THIS MEETING TONIGHT IS VERY NEGATIVE TO THIS PROPOSAL

Creditview Road Implementation Strategy Community Meeting

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Questions about this collection should be addressed to the Project Manager, Jeffrey Reid at Jeffrey.Reid@mississauga.ca or Call: 311

[redacted]

ONE MORE SUGGESTIONS.

- LIGHTS ENABLE THE USE OF ADVANCED

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix E

Creditview Road Future Conditions Assessment

Creditview Road Future Conditions Assessment

City of Mississauga

R.J. Burnside & Associates Limited
6990 Creditview Road, Unit 2
Mississauga ON L5N 8R9 CANADA

May 2025
300059671.0000

Distribution List

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Record of Revisions

Revision	Date	Description
0	March 4, 2025	First Draft Submission to City of Mississauga
1	March 27, 2025	Second Draft Submission to City of Mississauga
2	May 15, 2025	Final Submission to City of Mississauga

R.J. Burnside & Associates Limited

Report Prepared By:

Soha Saiyed
Transportation Planner
SS/XT/RB:cvh/rk

LICENSED PROFESSIONAL ENGINEER
X. TU
100554989
May 15, 2025
PROVINCE OF ONTARIO

Xinli Tu, P.Eng.
Transportation Engineer

Report Reviewed By:

Ray Bacquie, P.Eng. MBA
Project Manager, Senior Vice-President – Transportation

Executive Summary

This study reassessed future (2041) traffic conditions along the corridor to confirm its accommodation requirements. The previous Environmental Assessment (EA) recommended a phased implementation strategy, including interim and long-term solutions. A subsequent study conducted in 2024 by Burnside suggested the early implementation of the long-term solution. Additionally, two stop-controlled intersections not included in the previous study were analyzed.

A detailed traffic analysis was conducted using Synchro/SimTraffic models, calibrated through on-site observations of traffic flow, queue lengths, and driver behavior. The future (2041) model was validated against Arcady results, incorporating pedestrian crossings, which were previously unaccounted for. The analysis found that all intersections would operate efficiently with excess capacity, except for the Argentia Road and Creditview Road intersection. Some movements at this intersection are projected to experience capacity concerns during the evening peak hour under both a roundabout and signalized condition.

The study also compared alternatives with roundabouts and without roundabouts (i.e., signalization). The results were similar in terms of traffic operations, but safety, environmental impact, volume thresholds and speed differential considerations favored the roundabout. Roundabouts enhance traffic efficiency by maintaining continuous vehicle flow, reducing delays and congestion, and providing higher vehicular capacity than signalized intersections.

To enhance pedestrian safety, a Pedestrian Crossover (PXO) warrant analysis was conducted. Although pedestrian volumes did not meet the minimum threshold, the site’s proximity to residential neighborhoods, Credit Meadows Park, a senior care facility, and a planned multi-use trail supported its consideration for a PXO at Kenninghall Boulevard / Kenninghall Crescent and Falconer Drive. Based on vehicular traffic volume and speed comparisons from OTM Book 15, a Level 2 Type B pedestrian crossover is recommended for the proposed double-lane roundabout. These findings should be confirmed in detail design.

Table of Contents

Tables

Figures

Appendices

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1.0 Project Background

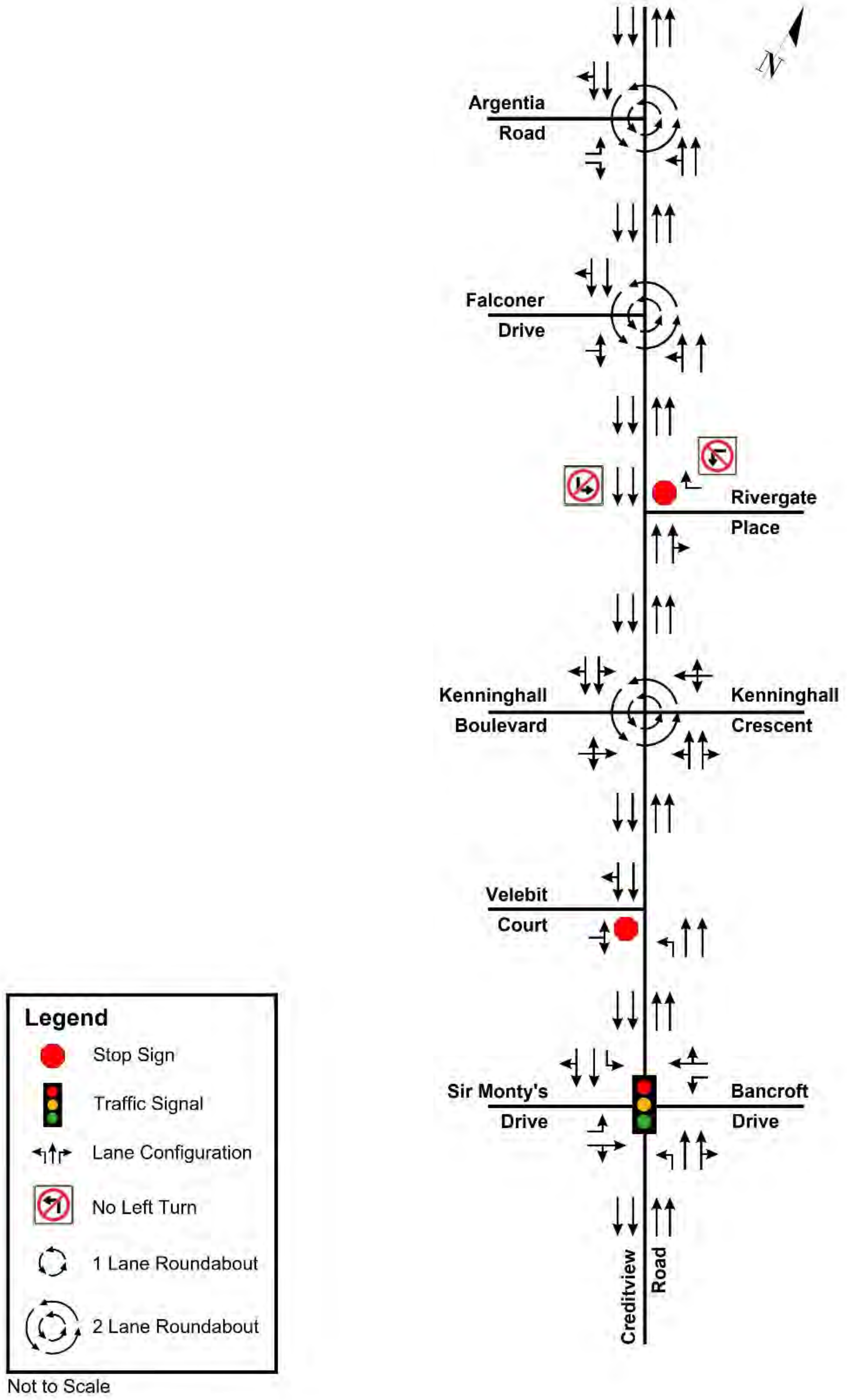
R.J. Burnside & Associates Limited (Burnside) was retained by the City of Mississauga (City) to implement the long-term solution identified in the 2016 Creditview Road Schedule C Class Environmental Assessment (EA), as shown in Figure 1. The proposed solution from the previous EA includes three two-lane roundabouts, one signalized intersection, and two stop-controlled intersections with minor roadways (one of which will be left-turn restricted).

The previous EA recommended a phased implementation, which included an interim and long-term solution. A subsequent Creditview Road Implementation Strategy study conducted by Burnside in 2024 indicated that existing intersections and mid-blocks segments are already approaching or reaching capacity based on recent (Spring 2024) count data. Therefore, an outcome of this study was the recommendation for early implementation of the long-term solution. Long-term solution design is provided in Appendix A.

The scope of this study involves a reassessment of the future (2041) PM traffic conditions to confirm the transportation requirements to accommodate the corridor. The future conditions traffic analysis is undertaken for the Creditview Road corridor from just north of the intersection with Argentia Road to just south of the intersection with Bancroft Drive/Sir Monty’s Drive.

The analysis was undertaken using SimTraffic/Synchro microscopic traffic model based on Burnside’s submitted proposal for the scope of work. The three roundabout intersections were modelled with ARCADY roundabout methodology to accurately represent real-world conditions. The impacts of pedestrian crossings were included in the analysis.

Figure 1: Previous Environmental Assessment (EA) Long-Term Solution



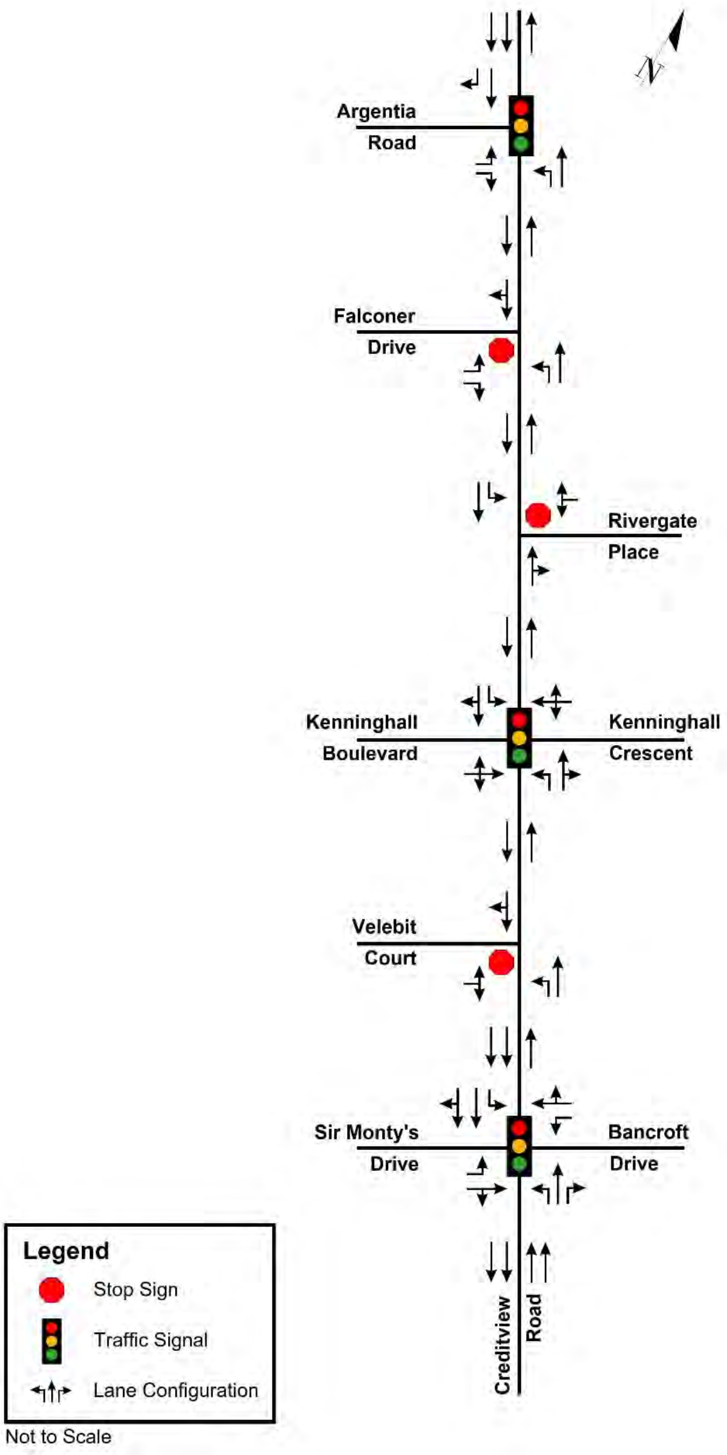
2.0 Existing Conditions

2.1 Study Corridor

The existing road network is described below and illustrated in Figure 2 with existing traffic control. All roads within the study area are under the jurisdiction of the City.

Creditview Road	Creditview Road is a major collector with a two-lane cross-section within the study corridor. It has a posted speed limit of 60 km/hr. Sidewalks are provided on both sides of the roads throughout the study corridor except on the east side between Argentia Road and Falconer Road.
Argentia Road	Argentia Road is a major collector. The roadway consists of a four-lane cross-section and has a posted speed limit of 60 km/hr. Sidewalks are provided on both sides of the roads.
Falconer Drive	Falconer Drive is a minor collector. The roadway consists of a two-lane cross-section and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the roads
Kenninghall Boulevard / Kenninghall Crescent	Kenninghall Boulevard is a minor collector that extends west of Creditview Road. The roadway consists of a two-lane configuration and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the road until the intersection of Charing Drive, thereafter the sidewalk is provided only on the south side. Kenninghall Crescent is a local road with a two-lane cross-section that extends east of Creditview Road. It has an assumed unposted speed limit of 50 km/hr. and a sidewalk is provided only on the north side.
Bancroft Drive / Sir Monty's Drive	Bancroft Drive is a minor collector that extends east of Creditview Road. The roadway consists of a two-lane cross-section and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the roads. Sir Monty's Drive is a local road that extends west of Creditview Road. The roadway consists of a two-lane cross-section and has a posted speed limit of 40 km/hr. Sidewalks are provided on both sides of the roads.
Rivergate Place	Rivergate Place is a local road that extends east of Creditview Road and connects to residential units. The roadway consists of a two-lane cross-section and has an assumed speed limit of 40 km/hr. No sidewalks are provided on either side.
Velebit Court	Velebit Court is a local road that extends west of Creditview Road and connects to residential units. The roadway consists of a two-lane cross-section and has an assumed speed limit of 40 km/hr. No sidewalks are provided on either side.

Figure 2: Existing Road Network



2.2 Existing Volumes

The City provided Turning Movement Count (TMC) and Automatic Traffic Recorder (ATR) count data collected during February and March of 2024 to cover all major study intersections as a part of the Creditview Road Implementation Strategy study conducted by Burnside in 2024. The TMC data collected was higher than that of the ATR counts collected. Hence, the TMC counts were used to establish existing baseline conditions for a more conservative analysis. Table 1 provides a summary of the traffic data. The TMC data and signal timing data used for the analysis are provided in Appendix B.

Table 1: Traffic Data Summary

Location	Date of Count
TMC Data	
Argentia Road at Creditview Road	Tuesday, 13 February, 2024
Falconer Drive at Creditview Road	Tuesday, 26 March, 2024
Kenninghall Boulevard / Kenninghall Crescent at Creditview Road	Wednesday, 27 March, 2024
Sir Monty’s Drive / Bancroft Road at Creditview Road	Thursday, 28 March, 2024
ATR Data	
Creditview Road between HWY 401 and Argentia Road (Northbound and Southbound)	Tuesday, March 26, 2024
Creditview Road between Kenninghall Crescent and Rivergate Place (Northbound and Southbound)	Tuesday, March 26, 2024
Creditview Road between Bancroft Drive / Sir Monty’s Drive and Credit River (Northbound and Southbound)	Tuesday, March 26, 2024

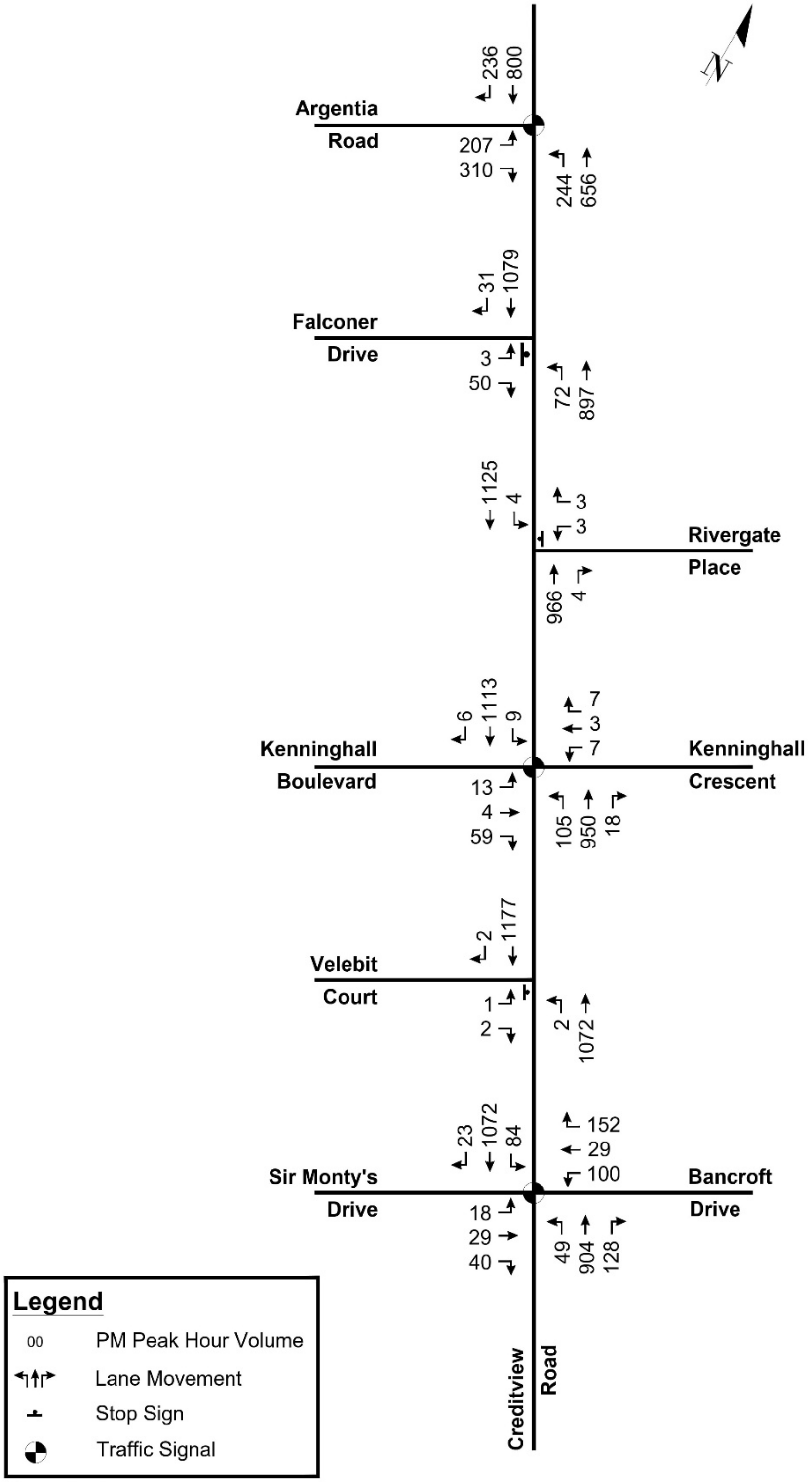
The previous study did not include the intersections of Rivergate Place and Velebit Court along Creditview Road. Hence, the turning movement count for the intersection of Rivergate Place and Velebit Court was estimated using existing land uses and information contained in the *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers (ITE). The volumes along the corridor were balanced for a conservative analysis.

Table 2: Trip Generation

Intersection	Land Uses	ITE Land Use	Estimated Trips	Split
Rivergate Place / Creditview Road	Single-Family Attached Housing (25 units)	215	7 inbound 8 outbound	50/50
Velebit Court / Creditview Road	Single-Family Detached Housing (6 units)	210	4 inbound 3 outbound	50/50

The distribution was assumed based on the left and right turning traffic at the Kenninghall Boulevard – Kenninghall Crescent and Creditview Road intersection, which indicated a 50/50 split along Creditview Road. Figure 3 shows the existing traffic volumes.

Figure 3: Existing Condition PM Traffic Volumes



Not to Scale

2.3 Model Calibration

To ensure that the model developed to assess future (2041) conditions is reflective of observed conditions, simulation parameters were adjusted in SimTraffic/Synchro. To support this calibration exercise, a site visit was conducted on Tuesday, January 28, 2025 during the evening peak hour (4:30 to 5:30 p.m.).

During the site visit, traffic flow, queue lengths, driver behaviour, and overall intersection operations were observed. The Creditview Road Implementation Strategy study indicated that most of the corridor is currently already operating at capacity. On site, drivers were observed taking advantage of gaps in traffic, particularly at the signalized intersections, where drivers were noted to use yellow time to clear the intersection and react quickly to green time to reduce follow-up headways.

The average queue lengths observed from the field survey were documented and used to calibrate the SimTraffic model for existing conditions to as closely match observed traffic conditions as possible. The parameters adjusted, along with the resulting modelled queues compared to observed queues are summarized in Table 3.

Table 3: Calibration Parameters and Results

Intersection and Movement	Initial Parameters		Adjusted Parameters		Observed Average Queues (vehicles)	Modelled Average Queues (vehicles)	Modelled Minus Observed Average Queues (vehicles)
	Saturation Flow Rate (vphpl)	Turning Speed (km/h)	Saturation Flow Rate (vphpl)	Turning Speed (km/h)			
Argentia Road and Creditview Road							
EBL	1900	24	-	-	10	7	-3
EBR	1900	14	1875	20	3	8	5
NBL	1900	24	1875	-	5	7	2
NBT	1900	n/a	-	n/a	11	9	-2
SBT	1900	n/a	2000	n/a	16	17	1
SBR	1900	14	1950	20	2	3	1
Falconer Drive and Creditview Road							
EBL	1900	24	-	-	0	0	0
EBR	1900	14	-	-	1	2	1
NBL	1900	24	-	-	3	3	0
Rivergate Place and Creditview Road							
WBLR	1900	n/a	-	n/a	0	1	1
SBL	1900	24	-	-	0	0	0
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road							
EBLTR	1900	n/a	1925	n/a	5	2	-3
WBLTR	1900	n/a	-	n/a	1	1	0
NBL	1900	24	-	-	3	3	0
NBTR	1900	14	1875	24	14	22	8

Intersection and Movement	**Initial Parameters**		**Adjusted Parameters**		**Observed Average Queues (vehicles)**	**Modelled Average Queues (vehicles)**	**Modelled Minus Observed Average Queues (vehicles)**
	Saturation Flow Rate (vphpl)	**Turning Speed (km/h)**	**Saturation Flow Rate (vphpl)**	**Turning Speed (km/h)**			
SBL	1900	24	-	-	0	1	1
SBTR	1900	14	1975	24	30	32	2
Velebit Court and Creditview Road							
EBLR	1900	n/a	-	n/a	0	0	0
NBL	1900	24	-	-	0	0	0
Sir Monty’s Drive/ Bancroft Drive and Creditview Road							
EBL	1900	24	1925	-	3	1	-2
EBTR	1900	14	-	-	1	2	1
WBL	1900	24	1925	-	6	4	-2
WBTR	1900	14	-	-	5	6	1
NBL	1900	24	-	-	2	3	1
NBT	1900	n/a	2100	n/a	15	23	8
NBR	1900	14	2100	20	3	7	4
SBL	1900	24	2000	-	2	5	3
SBT	1900	n/a	-	n/a	12	11	-1
SBTR	1900	14	2000	20	8	12	4

Notes: 1. Modelled queues were presented in metres and converted to number of vehicles by multiplying queue lengths by 5.75 m.

2. Critical movements at unsignalized intersections shown only.

3. “-“ signifies no change to the movement parameters.

The green reaction time was also adjusted slightly from 0.8 to 0.7 sec to account for observed driver behaviour at signalized intersections, as noted previously.

As shown, the calibrated model simulates average queue lengths that are close (8 vehicles or less) to that of observed queues. The detailed SimTraffic results are provided in Appendix C. These assumptions were carried forward into the model developed for 2041 to improve model reliability for the future conditions analyses.

3.0 Future Conditions Assessment

3.1 Planned Improvements

Early implementation of the Creditview Road widening to four lanes as shown in Figure 1, including roundabouts at three intersections and the left turn restrictions at Rivergate Place, was recommended by 2031 as part of the Creditview Road Implementation Strategy study completed in August 2024. These planned improvements were carried forward into the future conditions assessment.

3.2 Future Growth

The growth rates that were used for this study are summarized in Table 4 and were calculated based on the 2041 link volume plots from the EMME macroscopic travel demand model provided by the City. The growth rates applied are consistent with those of the Creditview Road Implementation Strategy. The City's EMME model accounts for additional traffic that may be attracted to the corridor as a result of the future widening. For the local roads of Rivergate Place, Kenninghall Crescent, Velebit Court and Sir Monty's Drive, growth is projected to be negative or nominal due to the presence of established residential neighbourhoods. Therefore, no growth rate was applied to these roads. The EMME plots are provided in Appendix D.

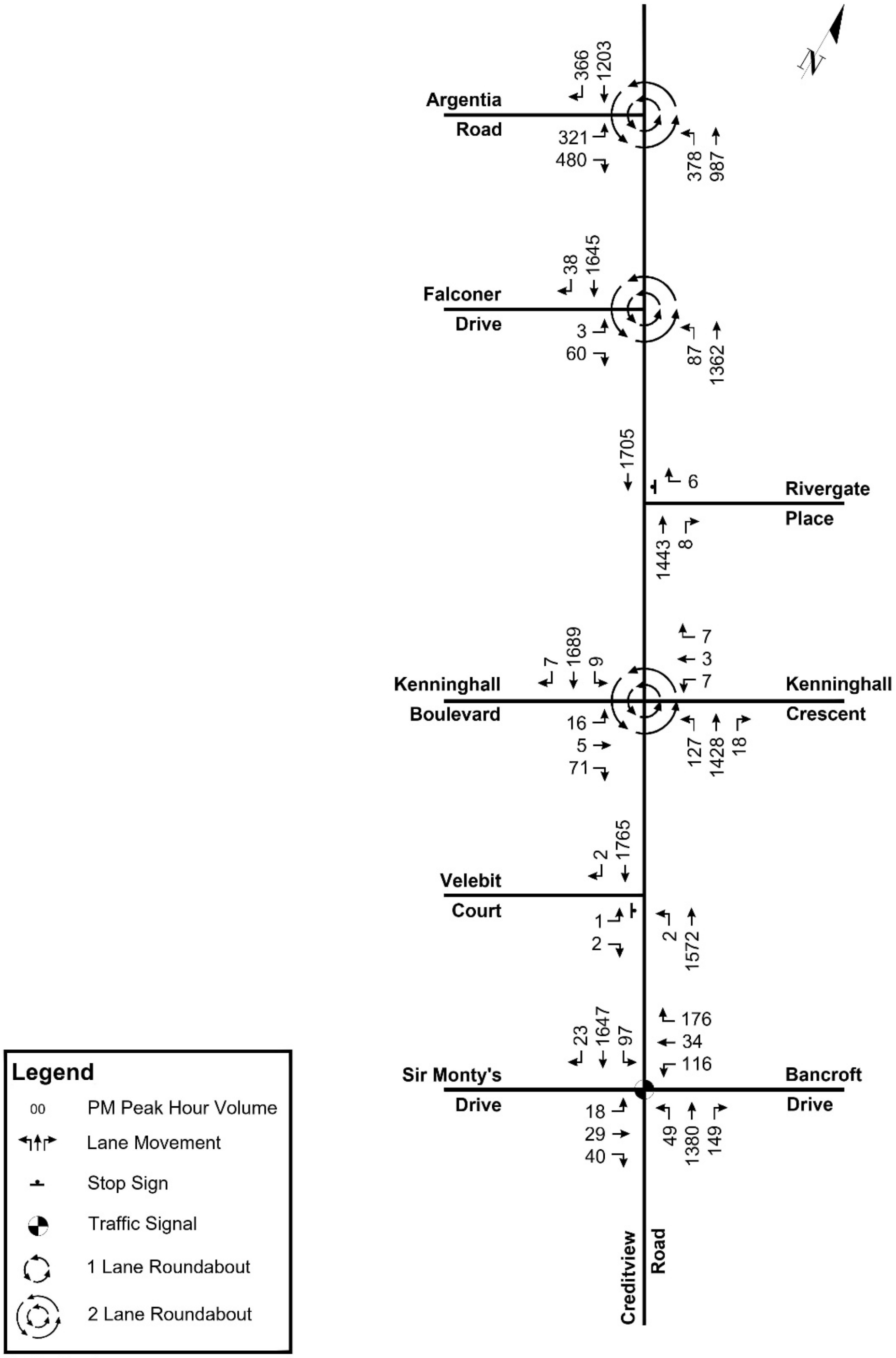
Table 4: Annual Growth Rates

Study Corridor	Annual Growth Rate to 2041
Creditview Road	2.4%
Argentia Road	2.6%
Falconer Drive	1.0%
Kenninghall Boulevard	1.1%
Bancroft Drive	0.9%

3.3 Future Volumes

Future volumes were projected using the annual growth rates per Table 4. Figure 4 shows the future 2041 traffic volumes.

Figure 4: Future 2041 PM Traffic Volumes



Not to Scale

3.4 Future Operations Assessment

3.4.1 Operations Analysis Approach

The corridor analysis was conducted for 2041 conditions using a calibrated model from the Creditview Road Implementation Strategy. The analysis was conducted in SimTraffic. SimTraffic is an integrated software within Synchro that facilitates traffic animation and simulation, whereas Synchro is a macroscopic tool for analyzing intersection traffic operations. SimTraffic tracks each vehicle individually throughout the simulation, collecting operational performance data for each vehicle at every 0.1-second interval. Unlike Synchro, SimTraffic captures the complete effects of queuing and blocking.

SimTraffic utilizes input parameters such as lane configurations at signalized intersections, roundabout geometry (including inner radius, outer radius, exit lanes, and roundabout lanes) vehicle composition, driver behaviour (e.g., headways, gap acceptance, green react time, etc.) and saturation flow rates to model traffic operations. The outputs of the operational analysis used to assess future conditions include volume to capacity (v/c) ratios, average delay per vehicle, 95th percentile queues and average speeds.

The modelled SimTraffic outputs at roundabouts were validated using a specialized roundabout software called Junctions 10, which applies the ARCADY roundabout methodology. Pedestrian crossings and volumes were modelled in ARCADY based on the proposed cross-section design developed from the 2016 Creditview Road Class Environmental Assessment.

Parameters like Peak hour Factors (PHF), saturation flow rate, turning speeds and lane width were adjusted in synchro and green react time was adjusted in SimTraffic to obtain results comparable to ARCADY queue lengths.

3.4.2 Future Operations (With Roundabout)

The intersection operations analysis with the three proposed roundabouts along the corridor show that all movements at all study intersections are anticipated to operate with excess capacity, and queue lengths within their respective storage length or link distance except for the Argentia Road and Creditview Road intersection, whereby a couple of movements are observed to operate over capacity, however, the delays remain acceptable (i.e., less than 2 min). These results are validated against Arcady results, the resulting queues from Arcady and SimTraffic are almost similar. Appendix E shows the Synchro/SimTraffic results, and Appendix F shows the Arcady results.

Table 5: 2041 Intersection Operations Analysis (with Roundabouts)

Intersection & Movement	Existing Storage/ Link Distance (m)	Vehicles Entered	v/c	Delay in sec	95th Queue (m)	Avg Speed (kph)
Argentia Road and Creditview Road						
Overall	-	-	1.09	64 (E)	212	17
EBL	250	321	1.20	113 (F)	203	6
EBR	250	480	1.37	61 (E)	204	10
NBLT	300+	378	0.88	25 (C)	97	27
NBT	300+	0	0.91	8 (A)	82	36
SBT	300+	0	1.08	116 (F)	351	8
SBTR	300+	366	1.12	59 (E)	336	12
Falconer Drive and Creditview Road						
Overall	-	-	0.47	7 (A)	9	32
EBL	200	3	0.01	9 (A)	3	23
EBR	200	60	0.21	6 (A)	17	31
NBLT	145	87	0.56	6 (A)	4	32
NBT	145	0	0.60	6 (A)	5	32
SBT	300+	0	0.70	8 (A)	21	37
SBTR	300+	38	0.74	8 (A)	5	38
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road						
Overall	-	-	0.53	21 (C)	30	30
EBLTR	180	92	0.34	14 (B)	22	19
WBLTR	185	17	0.06	13 (B)	11	20
NBLT	215	127	0.61	10 (A)	45	32
NBTR	215	18	0.66	10 (A)	56	31
SBLT	245	9	0.75	38 (D)	29	38
SBLR	245	7	0.79	39 (D)	19	39
Creditview Road & Sir Monty's Drive/Bancroft Drive						
Overall	-	-	0.46	56 (E)	68	11
EBL	15	18	0.09	42 (D)	14	2
EBTR	110	69	0.10	34 (C)	28	9
WBL	30	116	0.38	42 (D)	49	3
WBTR	95	210	0.35	21 (C)	66	11
NBL	40	49	0.59	79 (E)	32	6
NBTR	175	1529	0.62	21 (C)	155	17
SBL	50	97	0.83	191 (F)	89	1
SBTR	125	1670	0.74	16 (B)	110	38
Creditview Road and Rivergate Place						
Overall	-	-	0.39	7 (A)	11	30
WBR	60	6	0.02	17 (B)	4	10

Intersection & Movement	Existing Storage/ Link Distance (m)	Vehicles Entered	v/c	Delay in sec	95th Queue (m)	Avg Speed (kph)
NBTR	240	1451	0.61	2 (A)	16	41
SBT	145	1705	0.55	1 (A)	12	38
Creditview Road and Velebit Court						
Overall	-	-	0.33	16 (B)	10	37
EBLR	65	3	0.07	6 (A)	4	14
NBL	50	2	0.01	49 (D)	3	48
NBT	340	1572	0.50	6 (A)	22	48
SBTR	215	1767	0.75	1 (A)	12	42

3.4.3 Future Operations (With Signalization)

The 2041 intersection operation analysis at the intersections with proposed roundabouts was reassessed under signalized traffic control. The results show that all the intersections are anticipated to operate with excess capacity, and queue lengths within their respective storage length or link distance except for the Argentia Road and Falconer Drive intersections. Under signalized traffic control, the Argentia Road intersection is observed to experience over one minute delays for several movements. It should be noted that the delays observed under the roundabout scenario are significantly lower compared to signalization at the Falconer Drive and Kenninghall Crescent intersection. Detailed Synchro/SimTraffic analysis results are shown in Appendix G.

Table 6: 2041 Intersection Operations Analysis (with Signalization)

Intersection & Movement	Existing Storage/ Link Distance (m)	Volume	v/c	Delay in sec	95th Queue (m)	Avg Speed (kph)
Argentia Road and Creditview Road						
Overall	-	-	0.83	61 (E)	168	16
EBL	250	321	0.86	87 (F)	158	8
EBR	250	480	0.82	34 (C)	137	16
NBL	300+	378	1.17	90 (F)	122	3
NBT	300+	988	0.41	57 (E)	244	35
SBTR	300+	1570	0.87	36 (D)	178	19
Falconer Drive and Creditview Road						
Overall	-	-	0.39	19 (B)	28	24
EBL	200	3	0.02	25 (C)	4	36
EBR	200	60	0.28	16 (B)	18	4

Intersection & Movement	Existing Storage/ Link Distance (m)	Volume	v/c	Delay in sec	95th Queue (m)	Avg Speed (kph)
NBL	145	87	0.57	41 (D)	33	5
NBT	145	1363	0.48	5 (A)	43	37
SBTR	300+	1684	0.60	9 (A)	44	40
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road						
Overall	-	-	0.39	28 (C)	71	17
EBLTR	180	92	0.10	32 (C)	39	12
WBLTR	185	17	0.03	22 (C)	10	14
NBL	75	127	0.67	34 (C)	40	12
NBTR	215	1446	0.64	17 (B)	116	17
SBL	240	9	0.06	28 (C)	25	28
SBTR	240	1696	0.84	32 (C)	198	18
Creditview Road & Sir Monty's Drive/Bancroft Drive						
Overall	-	-	0.55	63 (E)	71	7
EBL	15	18	0.06	26 (C	15	2
EBTR	110	69	0.08	28 (C	30	11
WBL	30	116	0.29	40 (D)	43	3
WBTR	95	210	0.29	27 (C)	72	9
NBL	40	49	0.88	97 (F)	37	1
NBTR	175	1529	0.70	17 (B)	127	17.1
SBL	50	97	1.27	234 (F)	119	1
SBTR	125	1670	0.83	31 (C	129	11
Creditview Road and Rivergate Place						
Overall	-	-	0.30	22 (C)	15	21
WBLR	60	6	0.03	64 (E)	7	3
NBTR	240	1451	0.62	3 (A)	33	35
SBL	15	4	0.01	17 (B)	5	4
SBT	145	1702	0.54	3 (A)	15	42
Creditview Road and Velebit Court						
Overall	-	-	0.34	9 (A)	15	25
EBLR	65	3	0.09	- (A)	4	5
NBL	50	2	0.01	26 (C)	5	7
NBT	340	1572	0.50	3 (A)	21	52
SBTR	215	1758	0.75	8 (A)	30	34

Based on Table 5 and Table 6 the overall intersection performance—including average delays, Level of Service (LOS), and queue lengths—is better in the roundabout scenario. The modelled average speed is also higher with a roundabout (31 kph) compared to traffic signals (21 kph). The average speeds calculated by Synchro/SimTraffic are volume-weighted and account for stopped (idle) time and denied entry time. Since signalized intersections require more stopping and waiting, they result in lower average speeds. In contrast, roundabouts provide more efficient operations by reducing delays and maintaining a smoother traffic flow.

3.5 Roundabout Assessment

A comparison of roundabouts and traffic signals was conducted based on various criteria, including pedestrian safety, collision potential, environmental impacts, costs, volume thresholds, intersection operations, and spacing. The findings are discussed below.

3.5.1 Pedestrian Safety

At a roundabout, pedestrians and cyclists only need to consider one direction of conflicting traffic at a time, making crossings more manageable. However, unlike signalized intersections, which provide explicit priority for active transportation users, roundabouts rely on drivers to yield.

To enhance safety and accessibility, roundabouts can be designed with additional features such as pedestrian signals, which have been evaluated as part of this study. Design features can also improve pedestrian visibility and safety. Crosswalks are positioned one car length behind the yield line at entry points, allowing drivers to sequentially address conflicts—first yielding to pedestrians before merging into the circulatory roadway. A similar process occurs at exits, where drivers first leave the roundabout before encountering the pedestrian crosswalk.

Clear signage, pavement markings, and proper lighting can further improve pedestrian safety to create a safer environment for all users.

3.5.2 Collision Potential

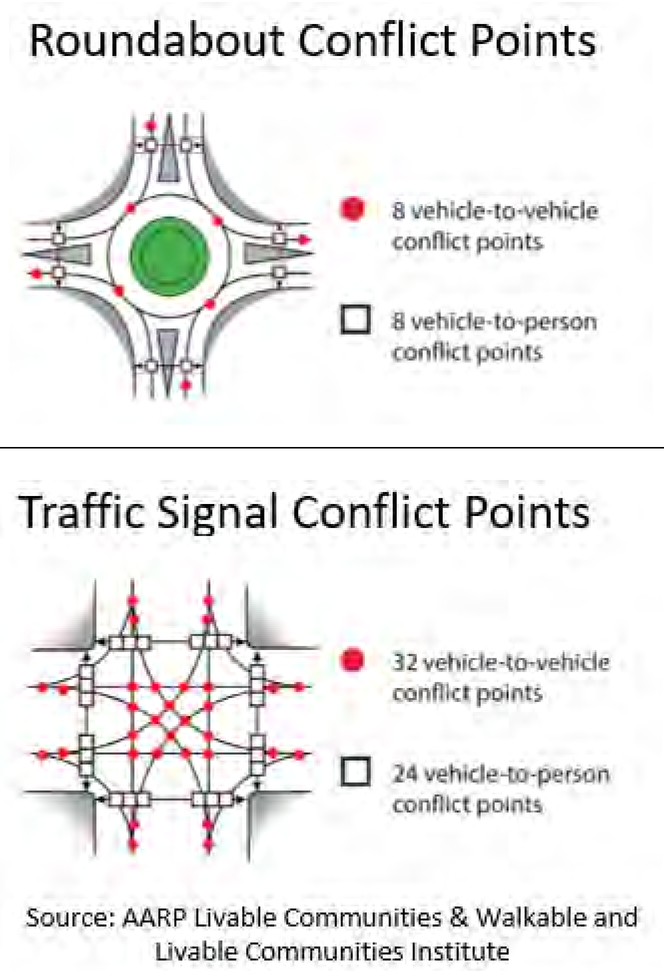
Burnside reviewed collision data reports along the study corridor provided by the City. A six-year dataset (2019–2023) was analyzed, revealing the following:

- Argentia Road & Creditview Road: 23 property damage-only (PDO) collisions (52% rear end collision, 30% turning movement collision)
- Falconer Drive & Creditview Road: 6 PDO collisions (33% rear end collision, 33% turning movement collision)
- Kenninghall Boulevard/Kenninghall Crescent & Creditview Road: 8 collisions, including one non-fatal injury (63% rear end collision, 0% turning movement collision)

The majority of these collisions involved rear-end and turning movement crashes. Implementing a roundabout would help reduce conflict points, particularly those related to rear-end and turning vehicle collisions, thereby enhancing safety at the intersection.

Figure 5 provides a comparison of conflict points between a traditional intersection versus a roundabout.

Figure 5: Roundabout vs Traffic Signal Conflict Points



Source: AARP Livable Communities & Walkable and Livable Communities Institute

Studies indicate that roundabouts significantly reduce both the frequency and severity of crashes compared to traditional intersections. Their circular design naturally lowers vehicle speeds, while fewer conflict points help minimize crash risks. Additionally, roundabouts eliminate the potential for severe right-angle and head-on collisions, enhancing overall safety.

3.5.3 Environmental Impacts

Roundabouts promote continuous traffic flow, reducing idling time, fuel consumption, noise pollution, and emissions. This benefit is particularly significant along highly trafficked corridors like Creditview Road. Unlike traffic signals, roundabouts also require no energy consumption, further adding to their environmental advantages.

In addition to their operational benefits, roundabouts typically experience lower vehicle delays compared to signalized intersections when operating within capacity. Since vehicles do not need to come to a complete stop when no conflicts are present, traffic moves more efficiently, even during peak hours. When queues form, vehicles generally continue moving, preventing the stop-and-go conditions common at traffic signals.

3.5.4 Cost

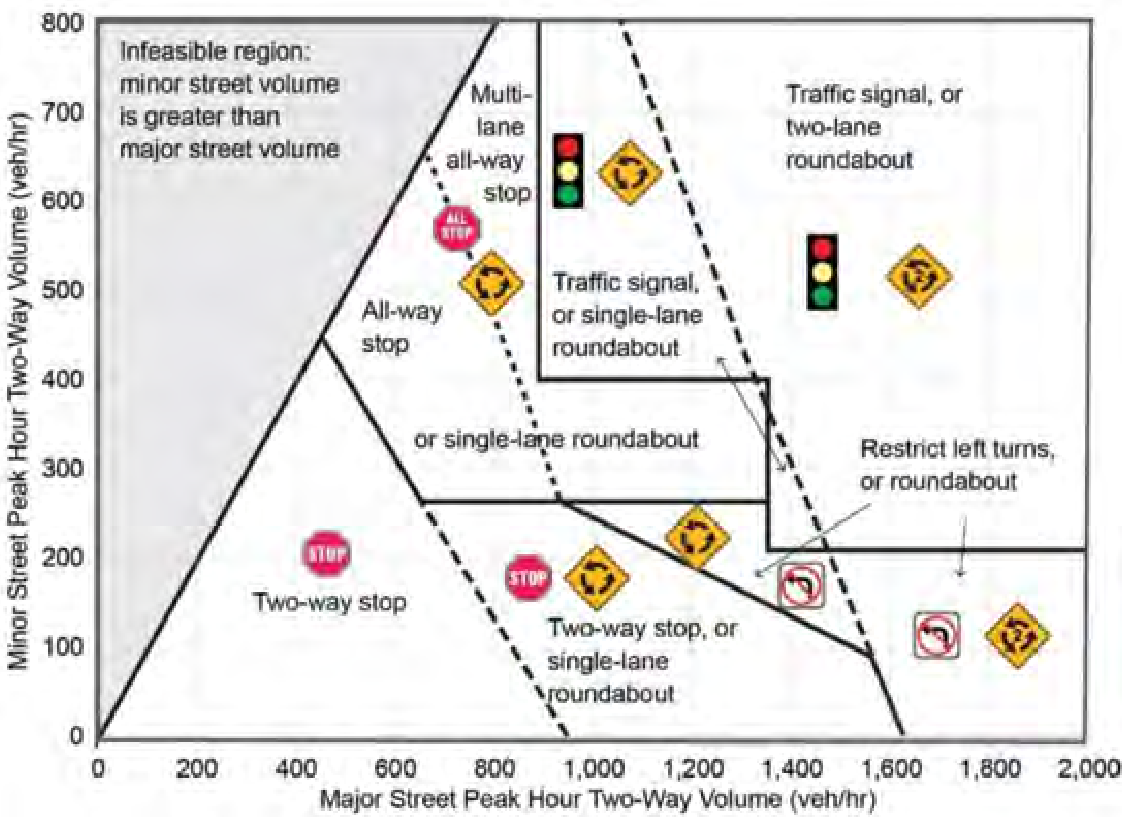
Roundabouts generally have lower maintenance and operational costs compared to other traffic control methods. They do not require energy costs associated with operating traffic control signals. They can also save drivers time and fuel, particularly in urbanized areas where congestion is more prevalent.

However, the initial construction costs of roundabouts tend to be higher than those of traditional intersections. This is due to the need for design modifications, road realignments, and additional landscaping.

3.5.5 Volume Thresholds

The National Cooperative Highway Research Program (NCHRP) Guide for Roundabouts provides the chart illustrated in Figure 6, which determines the preferred type of intersection control based on the volume distribution on each street. Table 7 presents the two-way volumes on major and minor streets during the peak hour under projected (2041) conditions, which were used to determine the appropriate control type.

Figure 6: Volume Thresholds for Single and Two-Lane Roundabouts



Source: Exhibit 8.8 from the Guide for Roundabouts (Research Report 1043), 2023, prepared by the National Cooperative Highway Research Program (NCHRP).

Table 7: Future Two-way Volumes on Major and Minor Streets during Peak Hour

Intersection	Major Street Peak Hour Two-way Volume (veh/hr)	Minor Street Peak Hour Two-way Volume (veh/hr)
Argentia Road	2,200	1,500
Falconer Drive	3,000	200
Kenninghall Crescent	3,100	200

Based on the two-way volumes (Table 7) and the graph shown in Figure 6, a roundabout is recommended for the intersections of Falconer Drive and Kenninghall Crescent/Kenninghall Boulevard, as major street volumes exceed 1,600 vehicles and minor street volumes are approximately 200 vehicles during the peak hour, resulting in convergence at the bottom-right quadrant of the graph.

For the Argentia Road intersection, major street volumes exceed 2,000 vehicles and minor street volumes exceed 1,500 vehicles, resulting in convergence at the upper right quadrant of the graph where either traffic signals or a roundabout is deemed suitable.

3.5.6 Intersection Spacing

Roundabouts should generally be avoided in locations where their proximity to signalized intersections or other roundabouts could lead to system interactions, resulting in queue spillback and traffic congestion. Proper spacing and traffic flow analysis are essential to ensure efficient operations and prevent disruptions. The analysis conducted in this study indicates that the spacing between proposed roundabouts will be adequate in that vehicle queues are not anticipated to extend from intersection to intersection.

3.5.7 Intersection Operations

A comparison of the forecasted traffic operations under a roundabout and signalized scenario, as described below, is provided in Table 8.

- **Roundabout Scenario**: Roundabouts at Argentia, Falconer and Kenninghall and restricted right-in/right-out access at Rivergate Place
- **Traffic Signals Scenario**: Traffic signals at Argentia, Falconer and Kenninghall and full movement access at Rivergate Place

All study intersections except Argentia Road are projected to operate more efficiently (lower overall delays) under the roundabout scenario. Further, delays for movements entering the intersection from all minor approaches (Falconer Drive, Kenninghall Boulevard, Kenninghall Crescent, Rivergate Place, Velebit Court) are notably lower under the roundabout scenario.

At Argentia Road, a couple of movements at the intersection are projected to experience higher delays under both the roundabout and traffic signals scenario. Both scenarios are expected to result in similar delays under future conditions.

At Falconer Drive, all individual movements achieve LOS A under the roundabout scenario. In contrast, under the signalized scenario, the LOS for intersection movements range from a D to A. The vehicles turning from the minor street onto Creditview Road are also projected to operate with lower delays under the roundabout scenario.

At Kenninghall Crescent/Kenninghall Boulevard, all individual movements operate at LOS D or better in both scenarios, but the roundabout scenario is projected to operate with lower overall delays. The vehicles turning from the minor street onto Creditview Road are also projected to operate with lower delays under the roundabout scenario.

At the Sir Monty’s Drive/Bancroft Drive intersection, similar movements are projected experience operational issues under both conditions, but the roundabout scenario is projected to operate with slightly lower overall delays.

At the Rivergate Place intersection, all movements are projected to operate at LOS B or better under the roundabout scenario. Under the signalized scenario, the overall LOS is

C, with the westbound movement operating at LOS E, indicating higher delays for vehicles turning onto Creditview Road compared to the roundabout scenario.

Similarly, at Velebit Court, the eastbound movement is projected to operate at a LOS F under the signalized scenario whereas the same movement is projected to operate with a LOS A under the roundabout scenario. The northbound left movement at the intersection is noted to experience slightly higher (13 seconds more) delays under the roundabout scenario, which can be attributed to greater competing circulating flows (southbound and eastbound) that northbound left turn vehicles will need to yield to compared to unsignalized conditions, where northbound left turning vehicles wait for a gap in the southbound traffic only.

Table 8: 2041 Intersection Operations Comparison

Roundabout Scenario			**Traffic Signals Scenario**		
Intersection & Movement	**Delay in sec**	**LOS**	**Intersection & Movement**	**Delay in sec**	**LOS**
Argentia Road and Creditview Road					
Overall	64	E	Overall	61	E
EBL	113	F	EBL	87	F
EBR	61	E	EBR	34	C
NBLT	25	C	NBL	90	F
NBT	8	A	NBT	57	E
SBT	116	F	-	-	-
SBTR	59	E	SBTR	36	D
Falconer Drive and Creditview Road					
Overall	7	A	Overall	19	B
EBL	9	A	EBL	25	C
EBR	6	A	EBR	16	B
NBLT	6	A	NBL	41	D
NBT	6	A	NBT	5	A
SBT	8	A	-	-	-
SBTR	8	A	SBTR	9	A
Kenninghall Boulevard / Kenninghall Crescent and Creditview Road					
Overall	21	C	Overall	28	C
EBLTR	14	B	EBLTR	32	C
WBLTR	13	B	WBLTR	22	C
NBLT	10	A	NBL	34	C
NBTR	10	A	NBTR	17	B
SBLT	38	D	SBL	28	C
SBLR	39	D	SBTR	32	C
Creditview Road & Sir Monty's Drive/Bancroft Drive					
Overall	56	E	Overall	63	E

Roundabout Scenario			**Traffic Signals Scenario**		
EBL	42	D	EBL	26	C
EBTR	34	C	EBTR	28	C
WBL	42	D	WBL	40	D
WBTR	21	C	WBTR	27	C
NBL	79	E	NBL	97	F
NBTR	21	C	NBTR	17	B
SBL	191	F	SBL	234	F
SBTR	16	B	SBTR	31	C
Creditview Road and Rivergate Place					
Overall	7	A	Overall	22	C
WBR	17	B	WBLR	64	E
NBTR	2	A	NBTR	3	A
-	-	-	SBL	17	B
SBT	1	A	SBT	3	A
Creditview Road and Velebit Court					
Overall	16	B	Overall	9	A
EBLR	6	A	EBLR	> 80	F
NBL	49	D	NBL	26	C
NBT	6	A	NBT	3	A
SBTR	1	A	SBTR	8	A

3.5.8 Corridor Speeds

The modelled average corridor speed along Creditview Road under future traffic conditions is 31 km/h and 21 km/h for the roundabout and signalized scenario, respectively.

The modelled speed along each segment of the study corridor reflects an average of the speeds at both the midpoint and intersection approaches. The average speeds reported are weighted by volume and account for stopped (idle) time and denied entry time. Speeds at signalized intersections are lower due to the increased stopping and waiting time. This can create greater speed differentials, which is a safety concern and typically produces more severe collisions/injuries.

In contrast, speeds for a corridor with roundabouts tend to be more consistent and provide less speed differential as vehicles are to yield to circulating traffic rather than come to complete stop.

3.6 Comparison Summary

Table 9 presents a comparison of roundabouts and traffic signals across the various thresholds discussed above.

Table 9: Comparison between Roundabouts and Traffic Signals

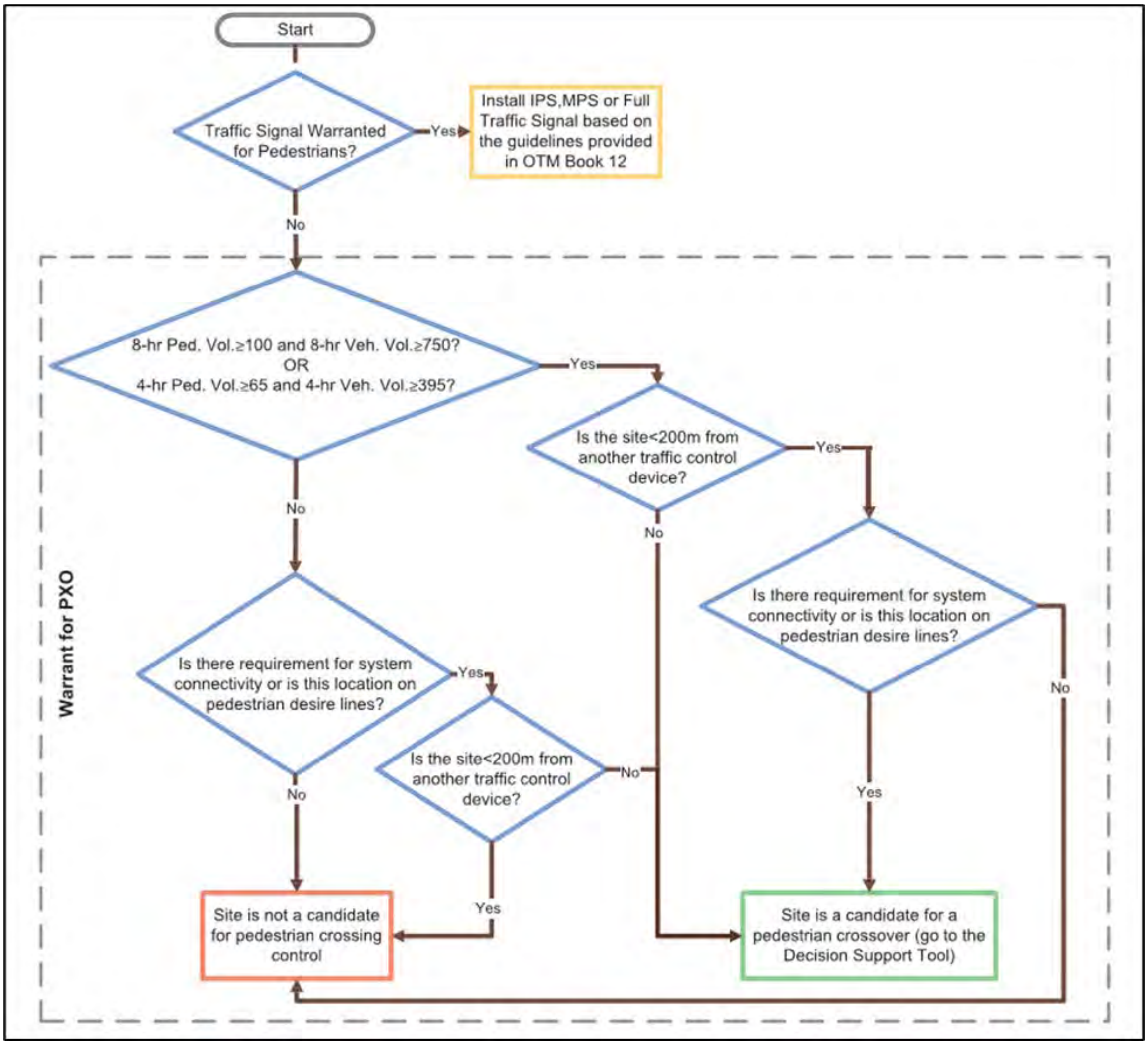
Criteria	Roundabout	Traffic Signals
Pedestrian Safety	**✓ - Presence of pedestrian signals can provide dedicated crossing priority**	**✓ - Dedicated crossing priority via pedestrian signals**
Collision Potential	**✓ - Fewer conflict points**	✗ - More conflict points
Environmental Impacts	**✓ - Lower vehicle delays, increased fuel saving, reduced greenhouse gases**	✗ - More queues and vehicle delays
Cost	✗- High construction Cost **✓ - Low maintenance cost**	**✓ - Low construction cost** ✗ - High maintenance cost
Volume Threshold *	**✓ - Two-lane roundabout warranted based on major and minor street volumes**	✗ - Traffic signals are not the preferred control type based on major and minor street volumes
Intersection Spacing	**✓ - Adequate intersection spacing to accommodate queues**	**✓ - Adequate intersection spacing to accommodate queues**
Intersection Operations	**✓ - Lower average delays** **✓ - Better operations for movements entering from minor streets**	✗ - Higher average delays ✗ - Higher delays for minor street movements
Corridor Speeds	**✓ - Less speed differential and more consistent speeds**	✗ - More speed differential, which typically produces more severe collisions

* Based on warrants from the National Cooperative Highway Research Program (NCHRP) Guide for Roundabouts

3.7 Pedestrian Crossover (PXO) Warrants

Warrants for pedestrian crossover (PXO) treatments were assessed at the three proposed roundabouts based on Book 15 (Pedestrian Crossing Treatments) of the OTM, which outlines a procedure for determining the appropriate type of PXO, depending on the traffic volumes, pedestrian volumes, pedestrian desire lines, speed limits and lane configurations. The PXO warrant process is summarized in the flowchart shown in Figure 7.

Figure 7: Pedestrian Crossover (PXO) Warrant Process



Source: Figure 2 from OTM Book 15- Pedestrian Crossing Treatment, June 2016

As the first step in the PXO warrant process, traffic signal warrants were evaluated using the guidelines in Book 12 (Traffic Signals) of the Ontario Traffic Manual (OTM). Justification 6—Pedestrian Volumes and Delay—assesses the need for pedestrian treatment by considering pedestrian volumes, including “unassisted” pedestrians (children under 12, seniors, and individuals with disabilities) adjusted to “equivalent adults,” as well as pedestrian delays.

The purpose of this assessment is to determine whether traffic signals are warranted to address pedestrian delays caused by high vehicle volumes on the main road or a high number of crossing pedestrians. A pedestrian treatment under traffic signal control is justified if both the minimum pedestrian volume and minimum delay criteria are met over an 8-hour period. Based on a review of peak 8-hour pedestrian volumes, Justification 6 is not met.

If a traffic signal is not warranted, the 8-hour and 4-hour pedestrian and vehicular volume is assessed. Peak 8-hour and 4-hour pedestrian volumes crossing the main road do not meet the volume thresholds, as shown in Table 10.

Table 10: PXO Warrant Volumes

	8-Hour Volume		4-Hour Volume	
	Pedestrians	**Vehicles**	**Pedestrians**	**Vehicles**
Argentia Road and Creditview Road	6	9,479	4	6,080
Threshold	100	750	65	395
Threshold Met?	**No**	**Yes**	**No**	**Yes**
Falconer Drive and Creditview Road	5	10,143	4	6,683
Threshold	100	750	65	395
Threshold Met?	**No**	**Yes**	**No**	**Yes**
Kenninghall Crescent and Creditview Road	41	11,491	26	7,533
Threshold	100	750	65	395
Threshold Met?	**No**	**Yes**	**No**	**Yes**

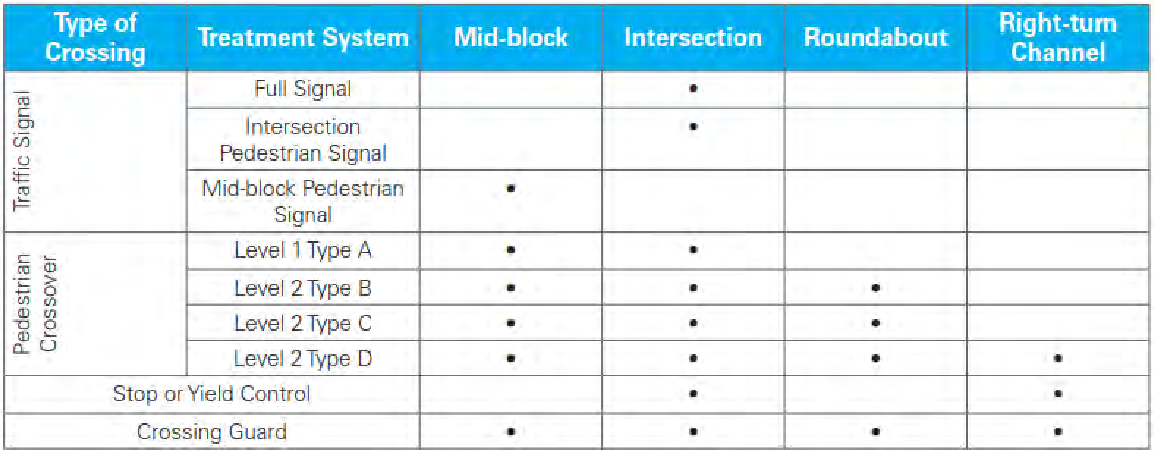
As noted in the flowchart, if the minimum volume criteria are not met, the site may still be a viable candidate for a PXO if it plays a key role in enhancing pedestrian connectivity or aligns with natural pedestrian desire lines.

The Kenninghall Boulevard – Kenninghall Crescent intersection is situated near residential neighborhoods and close to Credit Meadows Park, a popular riverside park featuring walking trails and playgrounds that attract visitors during their leisure time and weekends. Additionally, a senior care facility on Falconer Drive further contributes to pedestrian activity in the area, and a planned multi-use trail along Creditview Road, as outlined in the EA, will further support active transportation. It is also noted that local residents expressed their interest in implementing PXO crossing during the public consultation held in July 2024 for the Creditview Road Implementation Strategy study. Given these factors, implementing a PXO crossing at this location may be a suitable option to improve pedestrian accessibility and safety.

Figure 8 outlines three potential pedestrian treatment systems for roundabouts. These options were further assessed using Table 7 of the OTM Book 15 Pedestrian Crossover Selection Matrix to determine the most suitable treatment for the study intersections. Based on this evaluation, a Level 2 Type B pedestrian crossover was identified as the appropriate option for Falconer Drive and Kenninghall Crescent/Kenninghall Boulevard intersections.

Figure 9 shows the Level 2 Type B pedestrian crossover for a double lane roundabout.

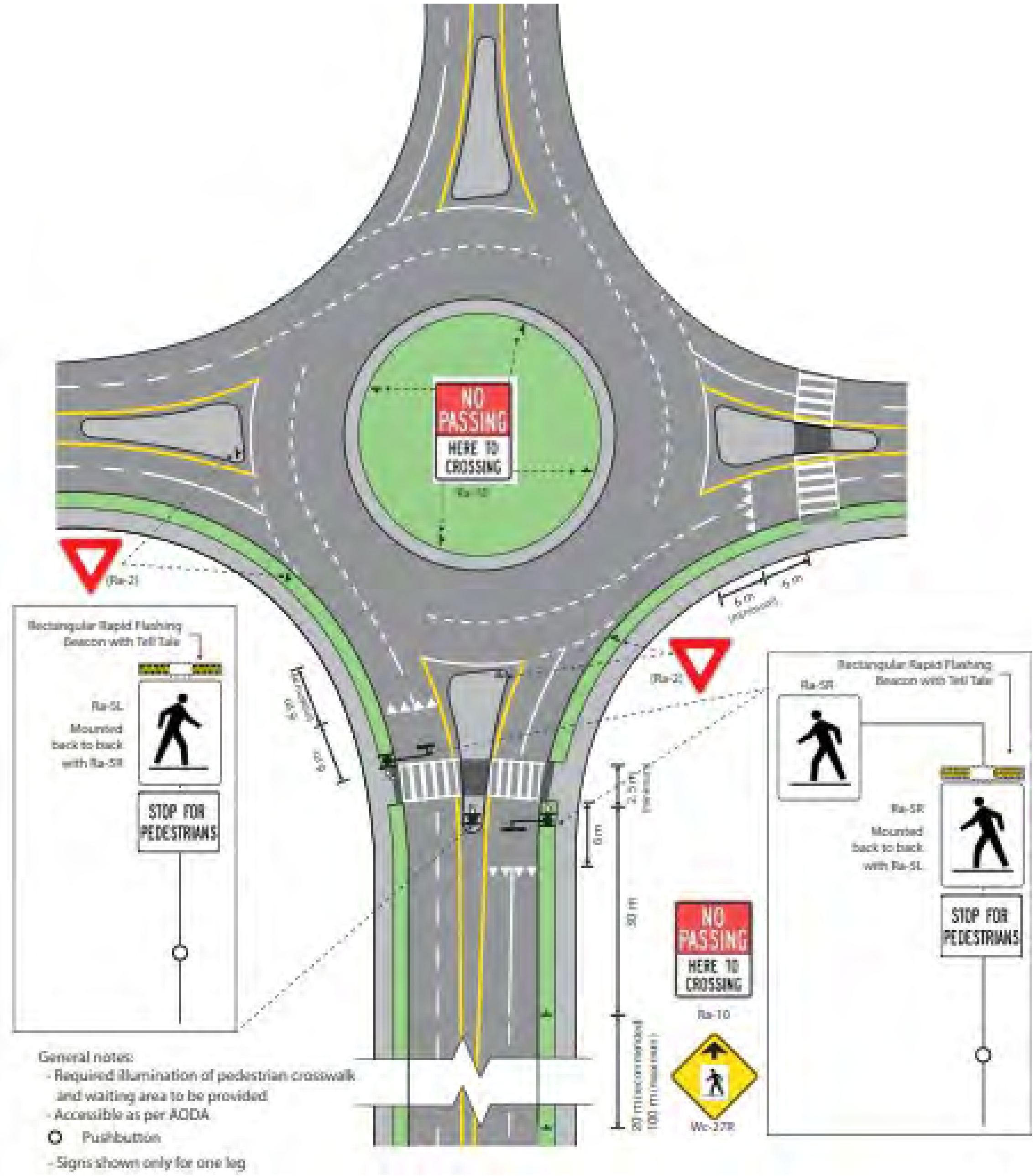
Figure 8: Treatment System by Application Environment



Type of Crossing	Treatment System	Mid-block	Intersection	Roundabout	Right-turn Channel
Traffic Signal	Full Signal		•		
	Intersection Pedestrian Signal		•		
	Mid-block Pedestrian Signal	•			
Pedestrian Crossover	Level 1 Type A	•	•		
	Level 2 Type B	•	•	•	
	Level 2 Type C	•	•	•	
	Level 2 Type D	•	•	•	•
Stop or Yield Control			•		•
Crossing Guard		•	•	•	•

Source: Table 6 from OTM Book 15- Pedestrian Crossing Treatment, June 2016

Figure 9: Pedestrian Crossover Level 2 Type B – Double-Lane Roundabout



4.0 Conclusions

This study reassessed future (2041) traffic conditions to confirm the corridor’s accommodation requirements. The previous Environmental Assessment (EA) recommended a phased implementation, consisting of interim and long-term solutions. A subsequent Creditview Road Implementation Strategy study, conducted by Burnside in 2024, recommended an early implementation of the long-term solution. Additionally, two stop-controlled intersections, not considered in the previous study, were incorporated into this analysis. Traffic volumes, growth rates, and other relevant data from the previous study were utilized.

The existing condition Synchro/SimTraffic model was calibrated to real-world conditions through a site visit. Key observations included traffic flow, queue lengths, driver behavior, and overall intersection operations. Calibration adjustments were made to parameters such as saturated flow rate, turning speeds in Synchro, and green reaction time in SimTraffic. The future (2041) Synchro/SimTraffic model was further validated against Arcady results, with pedestrian crossings modeled in Arcady—an aspect not considered in the previous study. The analysis found that all intersections would operate efficiently with excess capacity, except for the Argentia Road and Creditview Road intersection. Some movements at this intersection are projected to experience capacity concerns during the evening peak hour under both a roundabout and signalized condition.

To determine the feasibility of a roundabout for the study corridor, additional parameters were evaluated, including a future (2041) model without a roundabout and a four-lane configuration on Creditview Road. The results of this analysis were comparable to those of the future (2041) scenario with a roundabout. However, considerations such as safety, environmental impact, volume thresholds and speed differentials indicated that a roundabout would be the preferable option. Roundabouts enhance traffic efficiency by maintaining continuous vehicle flow, reducing delays, queue lengths, and idling time. They also provide greater vehicular capacity than traditional signalized intersections, optimizing traffic movement and minimizing congestion.

To address pedestrian safety and community interests, a Pedestrian Crossover (PXO) warrant analysis was conducted. While vehicle volume met the PXO threshold, pedestrian volume did not. However, sites that do not meet pedestrian volume criteria may still qualify for a PXO if they enhance connectivity or align with natural pedestrian desire lines. The Kenninghall Boulevard – Kenninghall Crescent intersection is located near residential neighborhoods and Credit Meadows Park, a popular riverside park with walking trails that attract visitors during leisure hours and weekends. Additionally, a senior care facility on Falconer Drive contributes to pedestrian activity in the area. Furthermore, a planned multi-use trail along Creditview Road, as outlined in the EA, will support active transportation. Based on the two-way vehicular traffic volume and speed comparison in Table 7 of OTM Book 15, a Level 2 Type B pedestrian crossover is recommended for the double-lane roundabout. These findings should be confirmed in detail design

BURNSIDE

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Appendix A

Preliminary Design

LONG-TERM SOLUTION

Typical Cross-Section A - A
Station 8+360
N.T.S.

Typical Cross-Section B - B
Station 8+660
N.T.S.

Typical Cross-Section C - C
Station 9+000
N.T.S.

Typical Cross-Section D - D
Station 9+380
N.T.S.

Typical Cross-Section E - E
Station 10+000
N.T.S.

NOTES:

1. ROUNDABOUTS GEOMETRY SHOWN IN THESE ENVIRONMENT ASSESSMENT DRAWINGS ARE PRELIMINARY AND NOT FOR CONSTRUCTION. DESIGNER SHOULD RE-EVALUATE ALL COMPONENTS OF THE ROUNDABOUTS (HORIZONTALLY AND VERTICALLY) PRIOR TO DETAILED DESIGN.
2. GRADING LIMIT HAVE BEEN ESTIMATED BASED ON AVAILABLE MAPPING/DATA.
3. THE UTILITIES SHOWN IN THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSE ONLY. THE EXISTENCE, LOCATION AND ELEVATION OF UTILITIES AND/OR CONCEALED STRUCTURES IN THESE DRAWING ARE NOT GUARANTEED

LEGENDS

-·-·-·-	EXISTING RIGHT OF WAY
- - - -	EXISTING PROPERTY LINE
-·-·-·-	PROPOSED RIGHT OF WAY
- - - -	GRADING
━━━	EXISTING NOISE BARRIER
━━━	2015 PROPOSED NOISE BARRIER
━━━	NEW NOISE BARRIER
▬	PROPOSED SIDEWALK
▬	PROPOSED MULTI-USE TRAIL
▬	PROPOSED MEDIAN

AECOM

CONSULTANTS

HORIZONTAL \ VERTICAL CONTROL MONUMENTS	DIGITAL INFORMATION	No.	DATE	REVISIONS	INITIAL	SIGNED

MISSISSAUGA

CREDITVIEW ROAD CLASS EA
PLAN / CROSS SECTIONS
LONG-TERM SOLUTION
PLAN - STA. 8+037 TO STA. 10+487

DESIGN
DRAWN
CHECKED
CONTRACT No.
SCALE : 15 0 30
DRAWING NUMBER
SHEET
DATE :

BURNSIDE

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Appendix B

TMC and Signal Timing Data

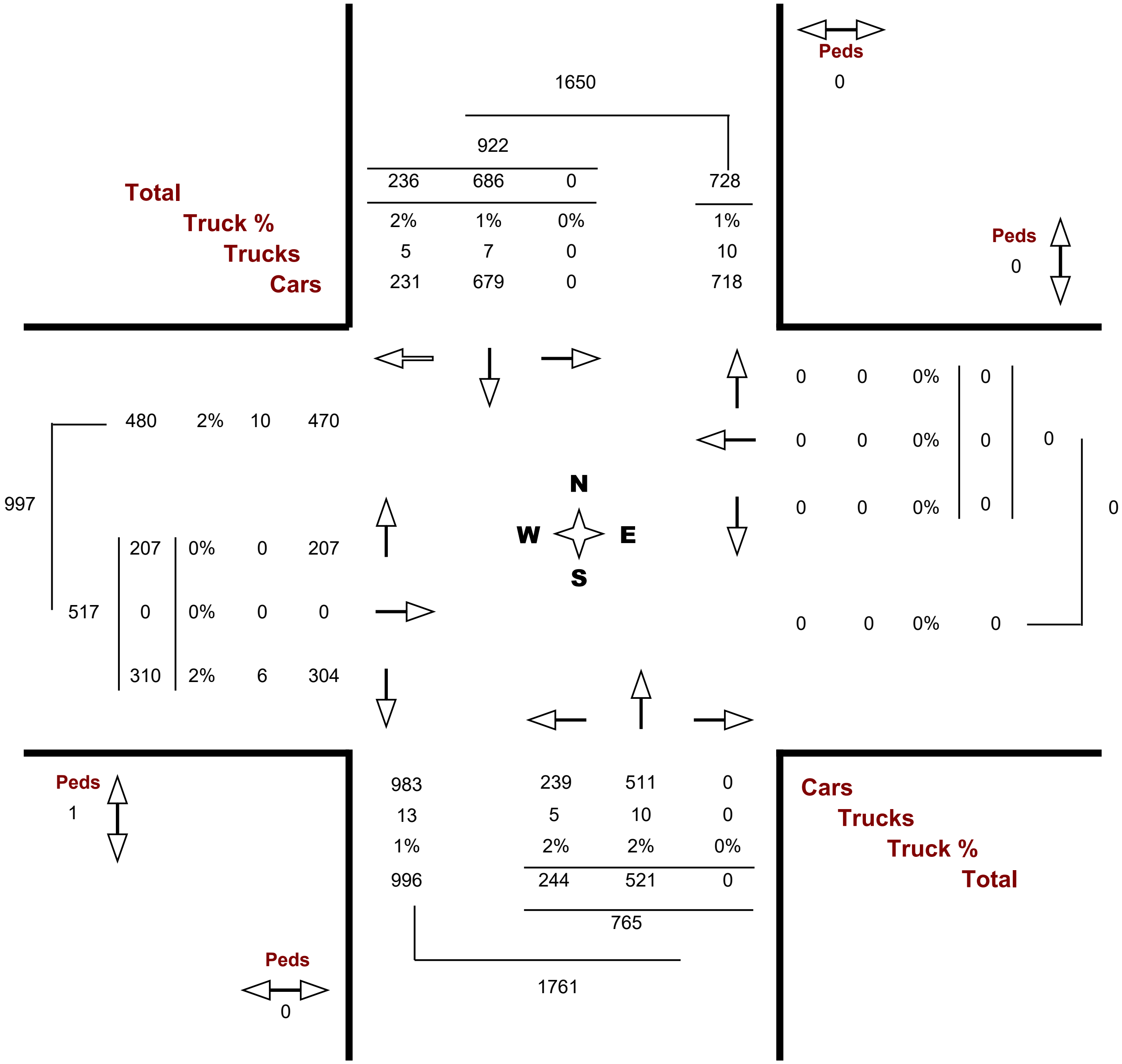
Turning Movements Report - PM Period

Location............. ARGENTIA RD @ CREDITVIEW RD

Municipality....... Mississauga **GeoID.......** 344807

Count Date....... Tuesday, 13 February, 2024 **Peak Hour......** 04:30 PM ___ 05:30 PM

Road 1 ARGENTIA RD **Road 2** CREDITVIEW RD



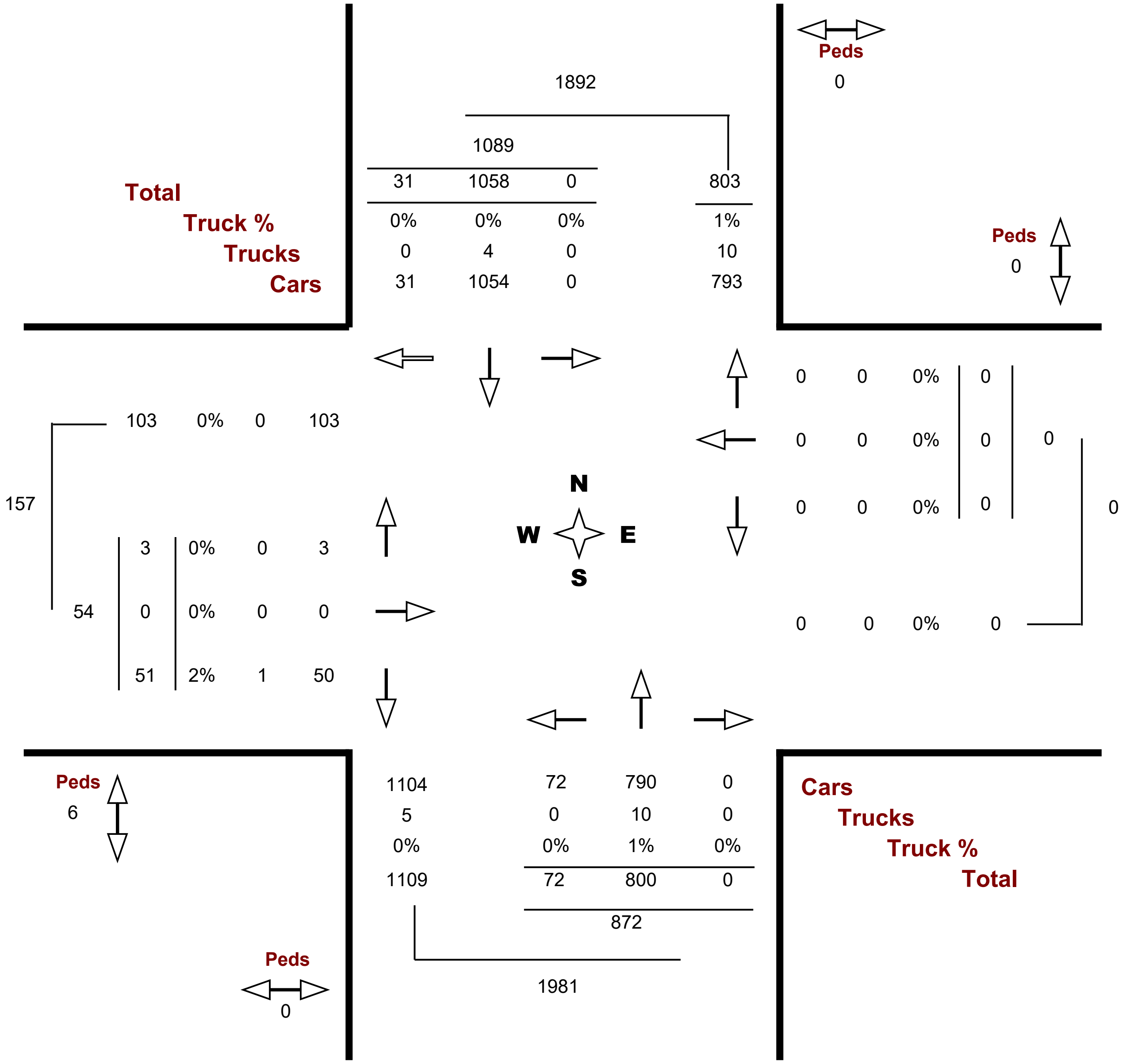
Turning Movements Report - PM Period

Location............. CREDITVIEW RD @ FALCONER DR

Municipality....... Mississauga **GeoID.......** 344910

Count Date....... Tuesday, 26 March, 2024 **Peak Hour......** 04:45 PM — 05:45 PM

Road 1 CREDITVIEW RD **Road 2** FALCONER DR



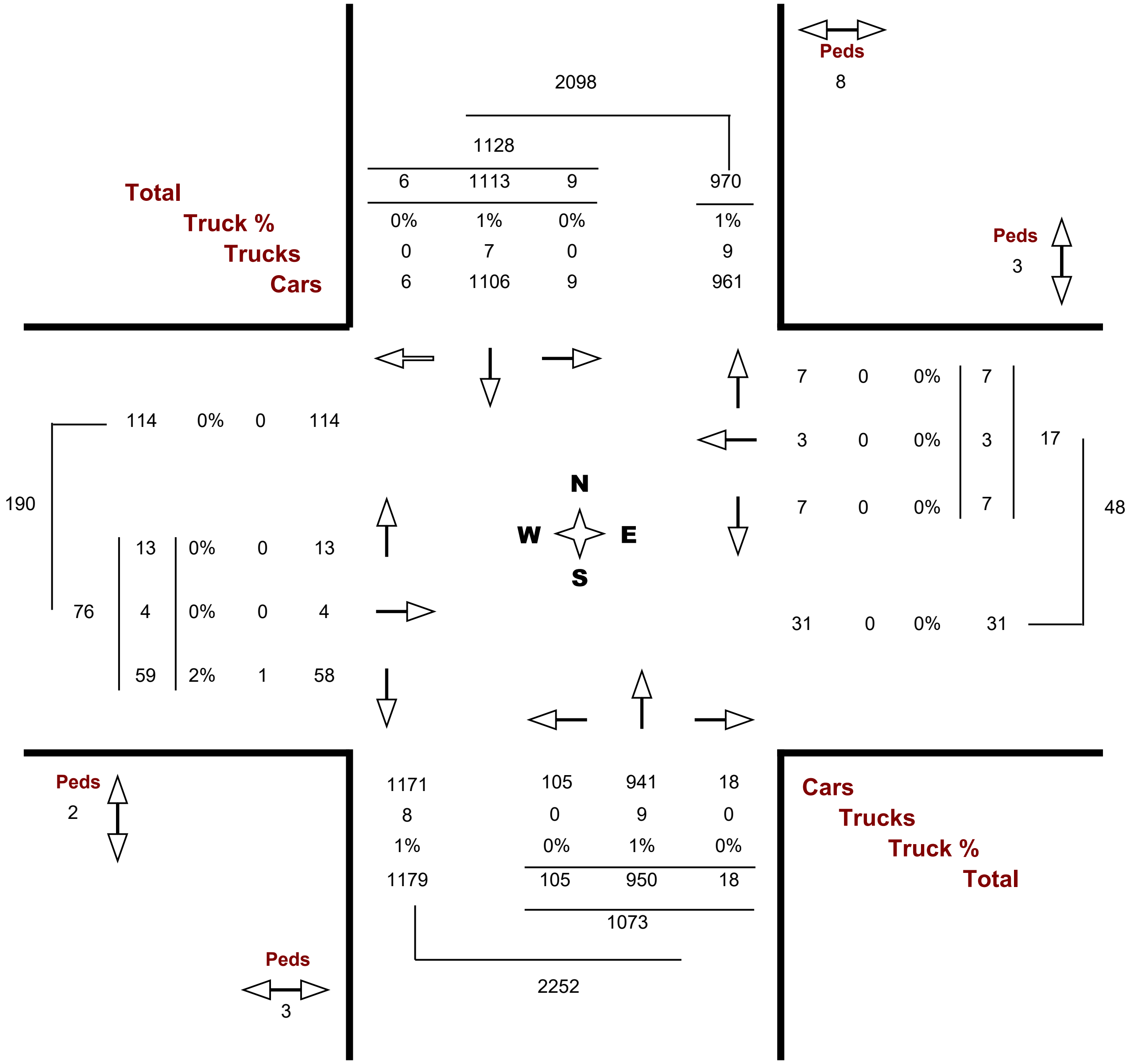
Turning Movements Report - PM Period

Location............. CREDITVIEW RD / KENNINGHALL BLVD @ KENNINGHALL CRES

Municipality....... Mississauga **GeoID.......** 345009

Count Date....... Wednesday, 27 March, 2024 **Peak Hour......** 04:45 PM — 05:45 PM

Road 1 KENNINGHALL CRES **Road 2** CREDITVIEW RD / KENNINGHALL BLVD



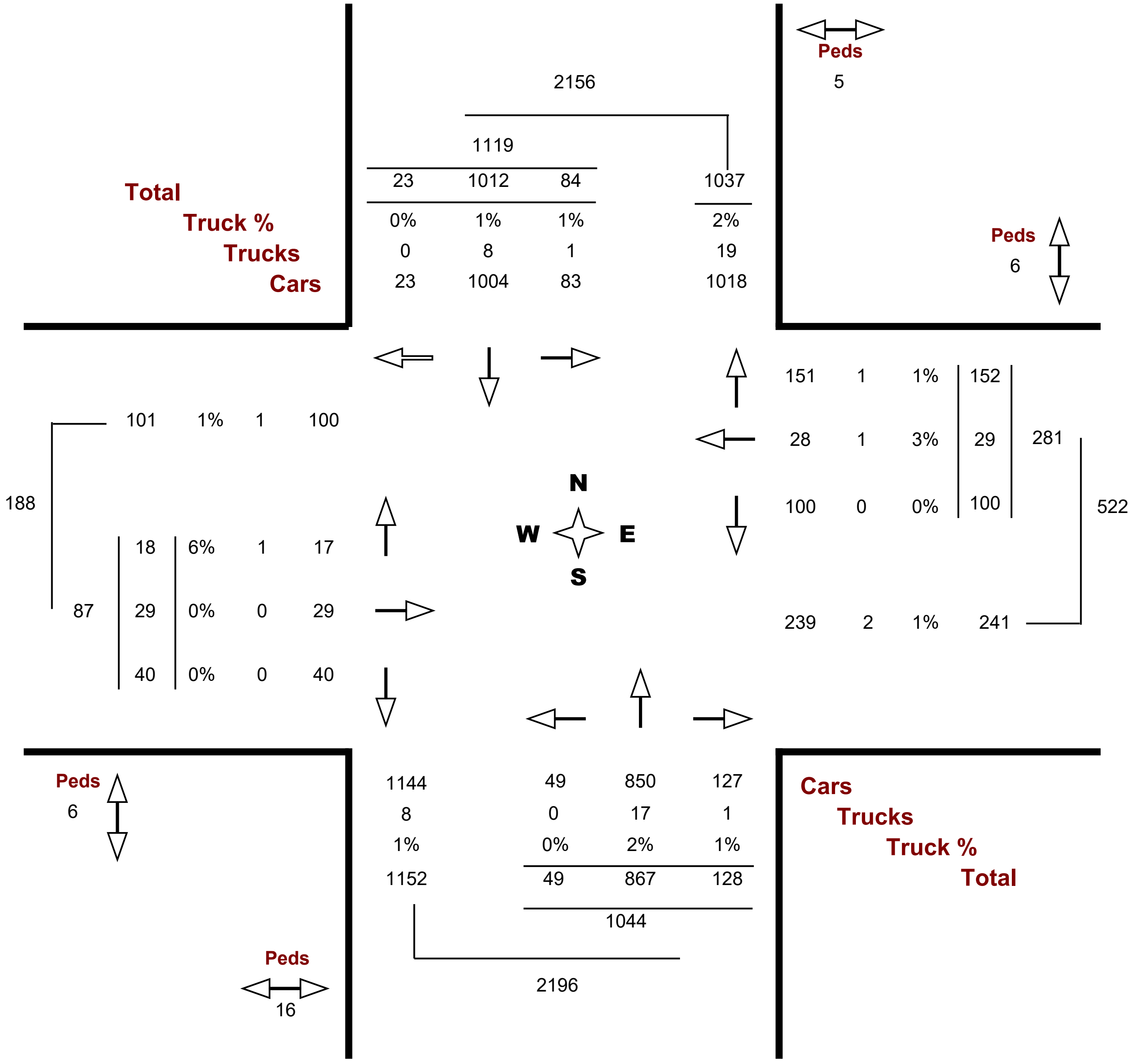
Turning Movements Report - PM Period

Location............. BANCROFT DR / SIR MONTY'S DR @ CREDITVIEW RD

Municipality....... Mississauga **GeoID.......** 345157

Count Date....... Thursday, 28 March, 2024 **Peak Hour......** 04:30 PM — 05:30 PM

Road 1 CREDITVIEW RD **Road 2** BANCROFT DR / SIR MONTY'S DR



Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String								
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	20	0	13	0	0	0	0
Min Green	Sec	7	10	0	10	0	0	0	0
Passage	Sec	2.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	50	25	0	20	0	0	0	0
Maximum 2	Sec	50	25	0	20	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.5	0.0	2.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	110	0	140	0	0	0	0	0
Offset	Sec	13	0	120	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive

Coordination - Pattern 1-32	Units	9	10	11	12	13	14	15	16
Cycle Time	Sec	130	0	140	0	0	0	0	0
Offset	Sec	38	0	5	0	0	0	0	0
Split	Split	9	10	11	12	13	14	15	16
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	standard

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	21	60	0	29	0	0	0	0
Split 1 - Coord	Enum	False	True	False	False	False	False	False	False
Split 1 - Coord Phase Options*	Bit		0: Reference Point						
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	False	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point						
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	25	76	0	39	0	0	0	0
Split 3 - Coord	Enum	False	True	False	False	False	False	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point						
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Time	Sec	58	57	0	15	0	0	0	0
Split 9 - Coord	Enum	False	True	False	False	False	False	False	False
Split 9 - Coord Phase Options*	Bit		0: Reference Point						
Split 10 - Mode	Enum	none	none	none	none	none	none	none	none
Split 10 - Time	Sec	0	0	0	0	0	0	0	0
Split 10 - Coord	Enum	False	False	False	False	False	False	False	False
Split 10 - Coord Phase Options*	Bit								
Split 11 - Mode	Enum	none	none	none	none	none	none	none	none
Split 11 - Time	Sec	65	60	0	15	0	0	0	0
Split 11 - Coord	Enum	False	True	False	False	False	False	False	False
Split 11 - Coord Phase Options*	Bit		0: Reference Point						

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------	-F----------	--M---------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	---W---	-M-----	-----F-	-M-----	-M-----
Day of Month	Bit	1234567890123456789012345678901	1234567890123456789012345678901	1234567890123456789012345678901	1------------------------------	------------------9------------	----------------------------9--	-------------------0-----------	1------------------------------
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	-----------D	-----------D	-----------D	--------S---	------------
Day of Week	Bit	-M-----	-M-----	-M-----	---W---	----T--	--T----	-M-----	SMTWTFS
Day of Month	Bit	----5--------------------------	-2-----------------------------	-------------4-----------------	------------------------5------	-------------------------6-----	-----------------------4-------	-----------------------------0-	-------------------------------
Day Plan	Number	3	3	3	3	3	3	3	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	7	9	15	18	3
Plan 1 Minute	Min	0	0	0	0	30	0
Plan 1 Action	Number	8	1	8	3	8	7
Plan 2 Hour	Hour	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String	"P.P. NBLT"	"NB/SB"		"EB/WB"				
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	18	0	20	0	0	0	0
Min Green	Sec	7	10	0	10	0	0	0	0
Passage	Sec	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	10	37	0	20	0	0	0	0
Maximum 2	Sec	10	37	0	20	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	3.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.0	0.0	3.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	110	0	140	0	0	0	0	0
Offset	Sec	55	0	15	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	phaseOmitted	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	74	0	36	0	0	0	0
Split 1 - Coord	Enum	False	True	False	False	False	False	False	False
Split 1 - Coord Phase Options*	Bit		0: Reference Point						
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	False	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point						
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	17	87	0	36	0	0	0	0
Split 3 - Coord	Enum	False	True	False	False	False	False	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point						

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------	-F----------	--M---------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	---W---	-M-----	-----F-	-M-----	-M-----
Day of Month	Bit	1234567890123456789012345678901	1234567890123456789012345678901	1234567890123456789012345678901	1------------------------------	------------------9------------	----------------------------9--	-------------------0-----------	1------------------------------
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	-----------D	-----------D	-----------D	--------S---	------------
Day of Week	Bit	-M-----	-M-----	-M-----	---W---	----T--	--T----	-M-----	SMTWTFS
Day of Month	Bit	----5--------------------------	-2-----------------------------	-------------4-----------------	------------------------5------	-------------------------6-----	-----------------------4-------	-----------------------------0-	-------------------------------
Day Plan	Number	3	3	3	3	3	3	3	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	7	9	15	18	3
Plan 1 Minute	Min	0	0	0	0	30	0
Plan 1 Action	Number	8	1	8	3	8	7
Plan 2 Hour	Hour	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

Intelight 4508 CREDITVIEW ROAD N @ Sir Monty

Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String								
Walk	Sec	0	10	0	10	0	10	0	10
Ped Clear	Sec	0	13	0	21	0	13	0	21
Min Green	Sec	0	10	0	10	0	10	0	10
Passage	Sec	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Maximum 1	Sec	0	20	0	20	0	20	0	20
Maximum 2	Sec	0	20	0	20	0	20	0	20
Yellow Change	Sec	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
Red Clearance	Sec	0.0	2.0	0.0	3.5	0.0	2.0	0.0	3.5
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	redClear	other	phaseNotOn
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase
[P2] Ring	Ring	0	1	0	1	0	2	0	2
[P2] Concurrency	Phase (,)	()	(6)	()	(8)	()	(2)	()	(4)

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	55	0	140	0	0	0	0	0
Offset	Sec	19	0	18	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	36	0	19	0	36	0	19
Split 1 - Coord	Enum	False	True	False	False	False	True	False	False
Split 1 - Coord Phase Options*	Bit								
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	True	False	False
Split 2 - Coord Phase Options*	Bit								
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	88	0	52	0	88	0	52
Split 3 - Coord	Enum	False	True	False	False	False	True	False	False
Split 3 - Coord Phase Options*	Bit								

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------	-F----------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	1234567890123456789012345678901	1234567890123456789012345678901	1234567890123456789012345678901	1------------------------------	------7------------------------	---------0---------------------	-----------------8-------------	1------------------------------
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	-----------D	-----------D	-----------D	------------	------------
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	--3----------------------------	------7------------------------	-----------2-------------------	------------------------5------	---------------------------8---	-----------------------4-------	-------------------------------	-------------------------------
Day Plan	Number	3	3	3	3	3	3	0	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	3	7	9	15	18
Plan 1 Minute	Min	0	0	0	0	0	30
Plan 1 Action	Number	8	7	1	8	3	8
Plan 2 Hour	Hour	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Existing Condition Calibrated SimTraffic Results

Appendix C

1: Creditview Road & Argentia Road Performance by lane

Lane	EB	EB	NB	NB	SB	SB	All
Movements Served	L	R	L	T	T	R	
Denied Delay (hr)							0.0
Total Delay (hr)	0.7	0.7	0.6	0.7	1.5	0.1	4.3
Travel Dist (km)	12.0	18.2	5.6	80.6	64.5	19.8	200.7
Travel Time (hr)	1.0	1.1	0.7	2.0	2.6	0.5	7.9
Avg Speed (kph)	12	17	7	40	25	43	25

2: Creditview Road & Falconer Drive Performance by lane

Lane	EB	EB	NB	NB	SB	All
Movements Served	L	R	L	T	TR	
Denied Delay (hr)						0.0
Total Delay (hr)	0.0	0.2	0.1	0.1	1.1	1.6
Travel Dist (km)	1.9	0.3	1.4	34.2	105.6	143.3
Travel Time (hr)	0.1	0.2	0.2	0.8	3.0	4.2
Avg Speed (kph)	24	1	7	45	36	34

3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent Performance by lane

Lane	EB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LTR	L	TR	L	TR	
Denied Delay (hr)							0.0
Total Delay (hr)	0.2	0.1	0.3	1.7	0.0	3.8	6.0
Travel Dist (km)	3.1	1.0	4.5	52.8	0.1	62.8	124.3
Travel Time (hr)	0.3	0.1	0.4	2.6	0.0	4.9	8.2
Avg Speed (kph)	12	12	12	20	5	13	15

4: Creditview Road & Sir Monty's Drive/Bancroft Drive Performance by lane

Lane	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	TR	L	TR	L	T	R	L	T	TR	
Denied Delay (hr)											0.3
Total Delay (hr)	0.0	0.1	0.3	0.4	0.1	2.1	0.2	0.8	0.8	0.8	5.7
Travel Dist (km)	0.1	2.0	1.2	5.2	0.5	38.3	6.8	1.6	17.0	14.0	86.8
Travel Time (hr)	0.0	0.2	0.4	0.6	0.1	2.8	0.3	0.9	1.1	1.1	7.6
Avg Speed (kph)	2	13	3	9	5	14	21	2	16	13	12

5: Creditview Road & Rivergate Place Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	LR	TR	L	T	
Denied Delay (hr)					0.1
Total Delay (hr)	0.0	0.2	0.0	1.1	1.4
Travel Dist (km)	0.1	60.4	0.0	42.4	102.9
Travel Time (hr)	0.0	1.8	0.0	1.8	3.7
Avg Speed (kph)	2	34	9	23	28

6: Creditview Road & Velebit Court Performance by lane

Lane	EB	NB	NB	SB	All
Movements Served	LR	L	T	TR	
Denied Delay (hr)					0.0
Total Delay (hr)	0.0	0.0	0.2	0.5	0.8
Travel Dist (km)	0.0	0.1	93.6	58.6	152.3
Travel Time (hr)	0.0	0.0	1.8	1.6	3.4
Avg Speed (kph)	13	9	52	38	45

Total Network Performance

Denied Delay (hr)	0.4
Total Delay (hr)	20.9
Travel Dist (km)	1113.8
Travel Time (hr)	41.7
Avg Speed (kph)	27

Intersection: 1: Creditview Road & Argentia Road

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	64.6	75.5	89.5	107.0	137.7	25.4
Average Queue (m)	42.1	43.1	41.3	53.1	99.0	14.1
95th Queue (m)	68.2	69.8	80.9	102.5	163.0	24.9
Link Distance (m)	233.5	233.5		356.5	321.4	321.4
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)			41.0			
Storage Blk Time (%)			12	10		
Queuing Penalty (veh)			85	25		

Intersection: 2: Creditview Road & Falconer Drive

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (m)	14.3	17.3	23.3	75.4
Average Queue (m)	1.8	9.4	13.9	19.4
95th Queue (m)	13.8	22.6	27.4	89.6
Link Distance (m)	193.4			356.5
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		30.0	46.0	
Storage Blk Time (%)		4		
Queuing Penalty (veh)		0		

Intersection: 3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (m)	26.7	15.2	57.0	159.5	7.1	219.2
Average Queue (m)	13.3	5.9	18.6	124.1	2.2	185.5
95th Queue (m)	25.2	15.7	31.1	181.8	8.3	267.3
Link Distance (m)	169.2	174.6		194.2		223.8
Upstream Blk Time (%)						8
Queuing Penalty (veh)						100
Storage Bay Dist (m)			74.0		36.0	
Storage Blk Time (%)				20		38
Queuing Penalty (veh)				23		4

Intersection: 4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	TR
Maximum Queue (m)	14.8	25.7	39.6	59.8	42.9	162.8	120.8	44.5	80.1	83.6
Average Queue (m)	5.0	10.8	24.8	33.9	14.3	130.2	41.3	29.5	65.2	70.5
95th Queue (m)	15.8	24.9	44.9	62.7	39.6	182.2	134.9	48.2	81.4	84.0
Link Distance (m)		95.3		80.6		158.9	158.9		106.3	106.3
Upstream Blk Time (%)				0		7	0			
Queuing Penalty (veh)				0		0	0			
Storage Bay Dist (m)	12.0		28.0		39.0			50.0		
Storage Blk Time (%)	3	10	12	18		32		4	16	
Queuing Penalty (veh)	2	2	22	19		17		24	14	

Intersection: 5: Creditview Road & Rivergate Place

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	9.7	18.7	7.0	82.4
Average Queue (m)	2.8	4.1	0.5	40.4
95th Queue (m)	10.7	20.9	4.0	126.6
Link Distance (m)	49.3	223.8		130.7
Upstream Blk Time (%)				2
Queuing Penalty (veh)				30
Storage Bay Dist (m)			13.0	
Storage Blk Time (%)			0	15
Queuing Penalty (veh)			0	1

Intersection: 6: Creditview Road & Velebit Court

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	3.6	5.2	7.5	33.9
Average Queue (m)	0.5	0.7	1.7	6.0
95th Queue (m)	4.0	4.7	11.7	30.2
Link Distance (m)	55.7		325.9	194.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		48.0		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 367

BURNSIDE

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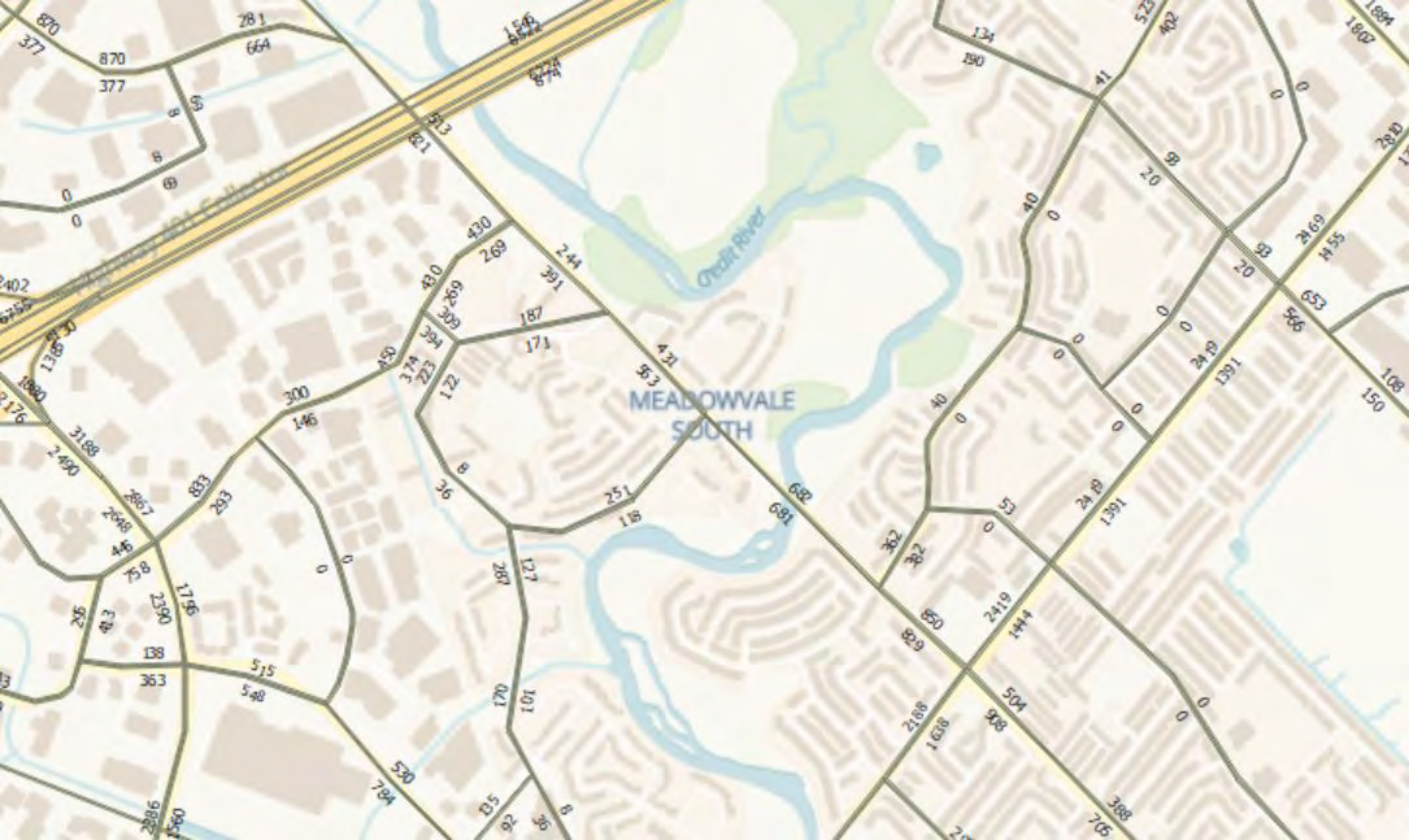
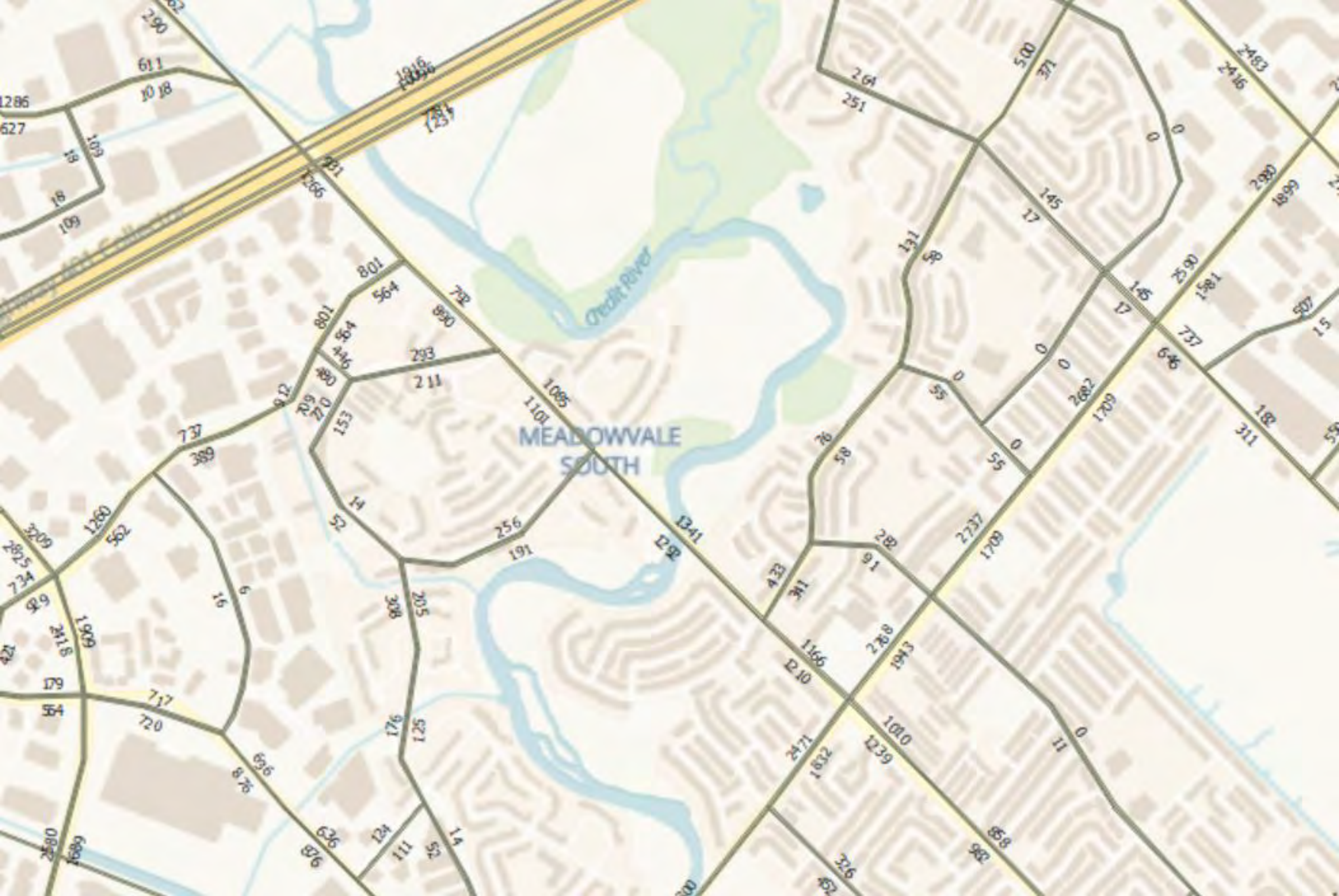
Appendix D

EMME Plots


Highway 401 Collector
Credit River
MEADOWVALE
SOUTH


MEADOWVALE SOUTH
Credit River
Highway 401 Collector
290
611
1018
1286
627
109
18
18
109
1916
1266
231
264
251
500
371
2483
2416
0
0
145
17
131
58
2980
1899
801
564
801
564
446
293
211
480
709
770
153
792
890
1085
1101
737
389
912
1260
562
3209
2825
734
929
2418
1909
179
564
717
720
16
6
14
52
256
191
308
205
176
125
696
876
636
876
124
111
25
14
2680
1689
1341
1292
433
341
76
58
282
91
2737
1709
55
0
55
0
0
2682
1209
0
146
17
2590
1581
737
646
507
15
182
311
2288
1943
1166
1210
1010
1239
2471
1632
858
983
326
0
11

BURNSIDE

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Appendix E

2041 Roundabout Intersection Operation Analysis-Synchro/SimTraffic Results

Intersection	
Intersection Delay, s/veh	84.1
Intersection LOS	F

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	1001	1706	1962
Demand Flow Rate, veh/h	1013	1740	1986
Vehicles Circulating, veh/h	1519	401	481
Vehicles Exiting, veh/h	948	2131	1660
Ped Vol Crossing Leg, #/h	1	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	182.2	30.4	80.7
Approach LOS	F	D	F

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.396	0.604	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.000	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	7.59e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	401	612	818	922	933	1053
Cap Entry Lane, veh/h	334	448	933	1010	867	943
Entry HV Adj Factor	1.000	0.980	0.980	0.981	0.988	0.988
Flow Entry, veh/h	401	600	802	904	922	1040
Cap Entry, veh/h	334	440	915	991	857	932
V/C Ratio	1.201	1.365	0.876	0.913	1.076	1.116
Control Delay, s/veh	149.9	203.9	28.7	31.9	74.5	86.2
LOS	F	F	D	D	F	F
95th %tile Queue, veh	17	28	12	14	23	28

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	68	1575	1829
Demand Flow Rate, veh/h	69	1590	1829
Vehicles Circulating, veh/h	1788	3	95
Vehicles Exiting, veh/h	136	1854	1498
Ped Vol Crossing Leg, #/h	6	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	15.9	9.0	13.3
Approach LOS	C	A	B

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.043	0.957	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	3	66	747	843	860	969
Cap Entry Lane, veh/h	261	311	1346	1417	1237	1310
Entry HV Adj Factor	1.000	0.985	0.991	0.990	1.000	1.000
Flow Entry, veh/h	3	65	740	835	860	969
Cap Entry, veh/h	261	306	1334	1403	1236	1310
V/C Ratio	0.012	0.213	0.555	0.595	0.695	0.740
Control Delay, s/veh	14.0	16.0	8.8	9.2	12.7	13.8
LOS	B	C	A	A	B	B
95th %tile Queue, veh	0	1	4	4	6	7

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	98	19	1691	1834
Demand Flow Rate, veh/h	100	19	1706	1852
Vehicles Circulating, veh/h	1852	1704	32	148
Vehicles Exiting, veh/h	148	34	1920	1575
Ped Vol Crossing Leg, #/h	2	3	3	8
Ped Cap Adj	1.000	1.000	0.997	0.992
Approach Delay, s/veh	20.5	11.7	10.5	16.1
Approach LOS	C	B	B	C

Lane	Left	Left	Left	Right	Left	Right
Designated Moves	LTR	LTR	LT	TR	LT	TR
Assumed Moves	LTR	LTR	LT	TR	LT	TR
RT Channelized						
Lane Util	1.000	1.000	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.328	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1420	1420	1350	1420	1350	1420
B (Slope)	8.501e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	100	19	802	904	870	982
Cap Entry Lane, veh/h	294	334	1311	1382	1178	1252
Entry HV Adj Factor	0.980	1.000	0.991	0.991	0.991	0.990
Flow Entry, veh/h	98	19	795	896	862	972
Cap Entry, veh/h	288	334	1294	1365	1158	1229
V/C Ratio	0.340	0.057	0.614	0.656	0.745	0.791
Control Delay, s/veh	20.5	11.7	10.2	10.8	15.3	16.9
LOS	C	B	B	B	C	C
95th %tile Queue, veh	1	0	4	5	7	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	18	29	40	116	34	176	49	1380	149	97	1647	23
Future Volume (vph)	18	29	40	116	34	176	49	1380	149	97	1647	23
Ideal Flow (vphpl)	1925	1900	1900	1925	1900	1900	1900	2100	2100	2000	1900	2000
Total Lost time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1737	1721		1815	1632		1825	3887		1902	3605	
Flt Permitted	0.46	1.00		0.70	1.00		0.06	1.00		0.09	1.00	
Satd. Flow (perm)	858	1721		1355	1632		132	3887		187	3605	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	31	43	123	36	187	52	1468	159	103	1752	24
RTOR Reduction (vph)	0	33	0	0	85	0	0	5	0	0	1	0
Lane Group Flow (vph)	19	41	0	123	138	0	52	1622	0	103	1775	0
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		86.5	86.5		86.5	86.5	
Effective Green, g (s)	31.0	31.0		31.0	31.0		86.5	86.5		86.5	86.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.67	0.67		0.67	0.67	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	204	410		323	389		87	2586		124	2398	
v/s Ratio Prot		0.02			0.08			0.42			0.49	
v/s Ratio Perm	0.02			c0.09			0.39			c0.55		
v/c Ratio	0.09	0.10		0.38	0.35		0.59	0.62		0.83	0.74	
Uniform Delay, d1	38.5	38.6		41.4	41.1		12.0	12.4		16.2	14.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.4		3.3	2.5		26.7	1.1		44.8	2.1	
Delay (s)	39.4	39.1		44.8	43.7		38.8	13.6		61.0	16.4	
Level of Service	D	D		D	D		D	B		E	B	
Approach Delay (s/veh)		39.1			44.1			14.4			18.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

5: Creditview Road & Rivergate Place

	↲	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↱			↑↑
Traffic Volume (veh/h)	0	6	1443	8	0	1705
Future Volume (Veh/h)	0	6	1443	8	0	1705
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	7	1568	9	0	1853
Pedestrians	3		3			8
Lane Width (m)	3.7		3.7			3.7
Walking Speed (m/s)	1.0		1.0			1.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2505	800			1580	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2505	800			1580	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	24	329			421	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	7	1045	532	927	927
Volume Left	0	0	0	0	0
Volume Right	7	0	9	0	0
cSH	329	1700	1700	1700	1700
Volume to Capacity	0.02	0.61	0.31	0.55	0.55
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0
Control Delay (s/veh)	16.2	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s/veh)	16.2	0.0		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		↰	↑↑	↑↱	
Traffic Volume (veh/h)	1	2	2	1572	1765	2
Future Volume (Veh/h)	1	2	2	1572	1765	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	2	2	1709	1918	2
Pedestrians	2			3	8	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.0			1.0	1.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2788	965	1922			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2788	965	1922			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	99	99			
cM capacity (veh/h)	15	254	311			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	3	2	855	855	1279	641
Volume Left	1	2	0	0	0	0
Volume Right	2	0	0	0	0	2
cSH	41	311	1700	1700	1700	1700
Volume to Capacity	0.07	0.01	0.50	0.50	0.75	0.38
Queue Length 95th (m)	1.7	0.1	0.0	0.0	0.0	0.0
Control Delay (s/veh)	100.4	16.7	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s/veh)	100.4	0.0			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

1: Creditview Road & Argentia Road Performance by lane

Lane	EB	EB	NB	NB	SB	SB	All
Movements Served	L	R	LT	T	T	TR	
Denied Del/Veh (s)							2.6
Total Del/Veh (s)	112.6	61.0	25.1	8.0	116.2	59.3	56.2
Avg Speed (kph)	6	10	27	36	8	12	14
Vehicles Entered	96	140	224	211	236	230	1137

2: Creditview Road & Falconer Drive Performance by lane

Lane	EB	EB	NB	NB	SB	SB	All
Movements Served	L	R	LT	T	T	TR	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)	8.9	6.1	6.3	6.3	8.1	8.0	7.2
Avg Speed (kph)	23	31	32	32	37	38	36
Vehicles Entered	1	17	203	204	147	306	877

3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent Performance by lane

Lane	EB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LTR	LT	TR	LT	TR	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)	14.2	13.3	9.8	9.8	7.9	6.4	8.7
Avg Speed (kph)	19	20	32	31	38	39	34
Vehicles Entered	23	4	219	215	172	234	865

4: Sir Monty's Drive/Bancroft Drive & Creditview Road Performance by lane

Lane	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	TR	L	TR	L	T	TR	L	T	TR	
Denied Del/Veh (s)											0.4
Total Del/Veh (s)	41.9	34.1	41.5	21.2	78.7	12.4	21.4	190.7	17.0	15.5	24.0
Avg Speed (kph)	2	9	3	11	6	27	17	1	37	38	24
Vehicles Entered	0	24	0	93	21	170	235	0	177	247	967

5: Creditview Road & Rivergate Place Performance by lane

Lane	WB	NB	NB	SB	SB	All
Movements Served	R	T	TR	T	T	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	16.6	2.4	2.3	0.7	0.7	1.5
Avg Speed (kph)	10	42	41	39	38	40
Vehicles Entered	1	188	218	176	232	815

6: Creditview Road & Velebit Court Performance by lane

Lane	EB	NB	NB	NB	SB	SB	All
Movements Served	LR	L	T	T	T	TR	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)	5.5	49.1	5.8	5.1	1.2	1.0	3.8
Avg Speed (kph)	14	48	48	46	43	42	45
Vehicles Entered	1	164	136	140	178	246	863

Total Network Performance

Denied Del/Veh (s)	2.4
Total Del/Veh (s)	71.3
Avg Speed (kph)	27
Vehicles Entered	1367

Intersection: 1: Creditview Road & Argentia Road

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	LT	T	T	TR
Maximum Queue (m)	140.2	153.6	89.3	70.3	307.2	314.5
Average Queue (m)	110.8	105.8	58.8	35.2	201.3	193.5
95th Queue (m)	202.8	203.5	97.2	82.3	351.3	335.8
Link Distance (m)	223.5	223.5	333.7	333.7	307.2	307.2
Upstream Blk Time (%)	8	8			16	11
Queuing Penalty (veh)	0	0			0	0
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Creditview Road & Falconer Drive

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	LT	T	T	TR
Maximum Queue (m)	5.2	14.1	6.5	3.0	18.7	3.2
Average Queue (m)	0.3	7.5	0.5	0.4	11.1	0.4
95th Queue (m)	2.7	16.7	3.7	4.6	21.3	4.8
Link Distance (m)	181.0	181.0	112.1	112.1	333.7	333.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (m)	21.8	10.1	39.4	53.8	25.6	17.9
Average Queue (m)	12.3	3.3	15.0	14.1	16.8	3.9
95th Queue (m)	21.8	10.7	45.1	56.1	28.9	18.5
Link Distance (m)	155.5	160.8	180.4	180.4	212.8	212.8
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: Sir Monty's Drive/Bancroft Drive & Creditview Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	14.1	25.3	44.3	59.7	26.9	107.7	146.9	68.9	114.4	107.7
Average Queue (m)	5.0	14.0	27.2	34.6	14.7	68.9	106.4	41.9	72.4	73.3
95th Queue (m)	14.2	27.7	49.3	65.8	32.0	110.4	155.3	89.4	112.7	109.8
Link Distance (m)		95.4		75.2	159.0	159.0	159.0		441.7	441.7
Upstream Blk Time (%)				2			0			
Queuing Penalty (veh)				0			0			
Storage Bay Dist (m)	12.0		28.0					50.0		
Storage Blk Time (%)	5	18	14	12				35	12	
Queuing Penalty (veh)	3	3	31	14				309	13	

Intersection: 5: Creditview Road & Rivergate Place

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (m)	4.8	24.7	15.8	8.0	12.8
Average Queue (m)	0.7	4.7	3.3	1.7	1.8
95th Queue (m)	4.4	22.5	16.3	8.2	10.4
Link Distance (m)	85.1	212.8	212.8	112.1	112.1
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Creditview Road & Velebit Court

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (m)	1.8	3.1	20.4	15.8	11.8	9.3
Average Queue (m)	0.5	0.4	5.7	5.1	2.3	2.7
95th Queue (m)	4.0	3.4	21.5	21.0	9.4	12.0
Link Distance (m)	65.7	441.7	441.7	441.7	180.4	180.4
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 375

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix F

2041 Roundabout Intersection Operation Analysis-Arcady Results

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Argentia_Creditview_2041 (4 Lanes).j10
Path: \\PCK-RDC-P-01\Shared Work Areas\058409 - Creditview Implementation Strategy\2041\06Feb2025
Report generation date: 2/13/2025 11:23:50 AM

Summary of junction performance

	PM				
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS
	Argentia Road / Creditview Road [Lane Simulation] - 2041				
Arm 1	4.9	14.0	10.63		B
Arm 2	24.6	69.8	49.57		E
Arm 3	12.9	32.3	47.66		E

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

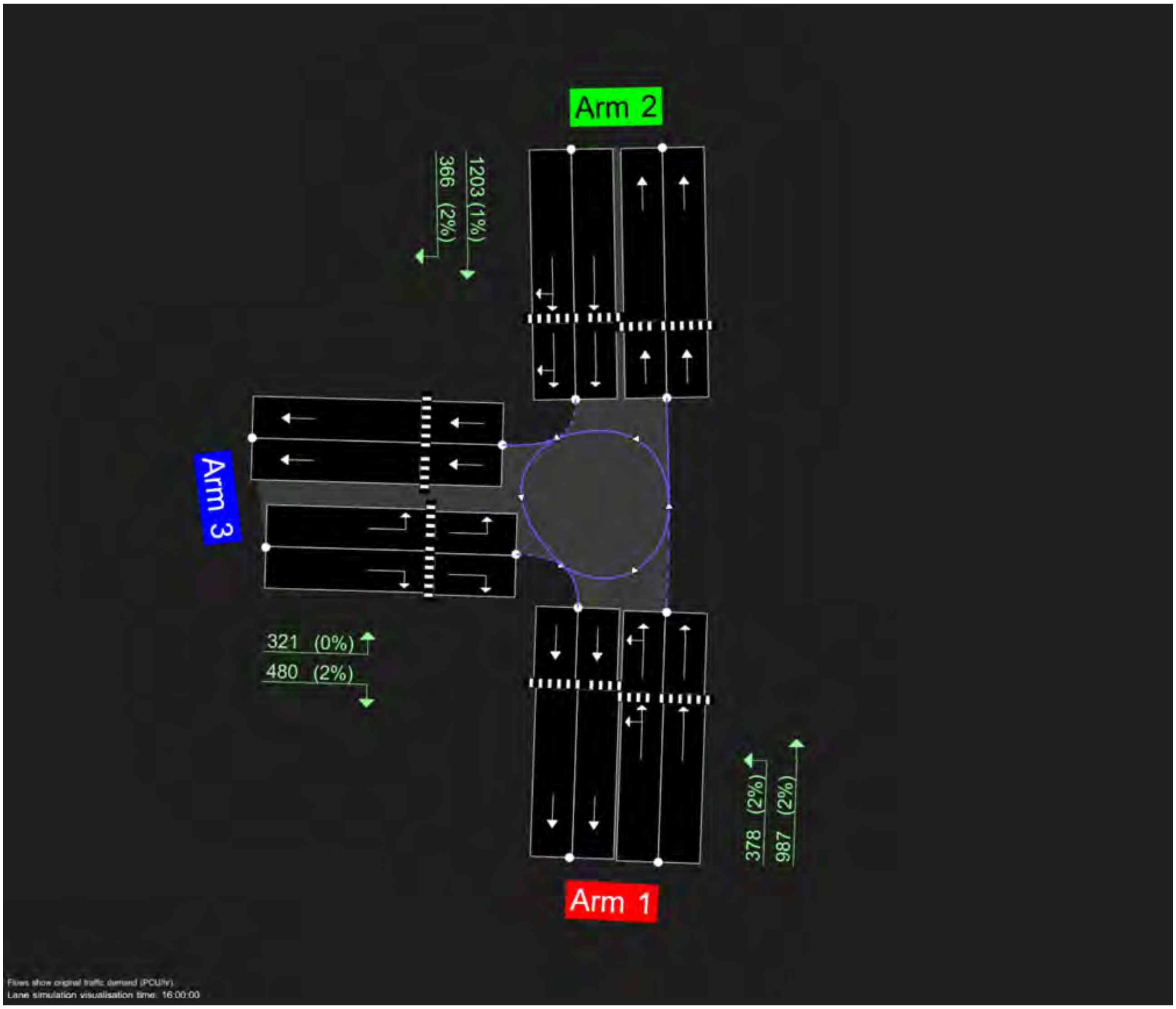
File summary

File Description

Title	
Location	
Site number	
Date	5/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	RJBURNSIDE\AJunctions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓		✓			0.85	36.00	20.00		500

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓		✓	771135924	161	63.20

Analysis Set Details

ID	Name	Use Lane Simulation	Description	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Argentia Road / Creditview Road	✓	4 Lanes	✓	100.000	100.000

Argentia Road / Creditview Road - 2041, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Crossings	Arm 1 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.7, but actual storage on lanes is 3.4.
Warning	Crossings	Arm 2 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.7, but actual storage on lanes is 3.2.
Warning	Crossings	Arm 3 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 2, but actual storage on lanes is 3.4.
Warning	Pedestrian Crossing	Arm 1 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.
Warning	Queue lengths in feet / metres	Analysis Options	When this option is switched on, it is necessary to specify all lanes for multiple lane arms so as to get correct queue lengths in feet / metres.
Info	Lane Simulation	A1 - Argentia Road / Creditview Road [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Argentia Rd / Creditview Rd	Standard Roundabout		1, 2, 3	34.94	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Right	Normal/unknown	34.94	D

Arms

Arms

Arm	Name	Description	No give-way line
1	Credtview Road (South Leg)		
2	Creditview Road (North Leg)		
3	Argentia Road (West Leg)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	7.00	8.00	30.0	23.0	47.0	38.0		
2	7.00	8.00	30.0	14.0	47.0	52.0		
3	8.00	8.00	0.0	14.0	47.0	64.0		

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	1.70	1.70	✓	Distance	9.50	6.79	9.50	6.79
2	1.70	1.70	✓	Distance	9.50	6.79	9.50	6.79
3	2.00	3.00	✓	Distance	9.50	6.79	9.50	6.79

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
1	Percentage		95.00
2	Percentage		95.00
3	Percentage		95.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.739	2226
2	0.681	2054
3	0.655	1983

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1	Apportion from lane geometry	10.00
2	Evenly split	10.00
3	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1	**Entry**	**1**	**1**	2	✓	1.70			0	99999	
			2	2, 3	✓	1.70			0	99999	
		2	**1**	(2)		Infinity			0	99999	
			2	(2, 3)		Infinity			0	99999	
	Exit	**1**	**1**		✓	1.70			0	99999	
			2		✓	1.70			0	99999	
		2	**1**			Infinity			0	99999	
			2			Infinity			0	99999	
2	**Entry**	**1**	**1**	1, 3	✓	1.60			0	99999	
			2	1	✓	1.60			0	99999	
		2	**1**	(1, 3)		Infinity			0	99999	
			2	(1)		Infinity			0	99999	
	Exit	**1**	**1**		✓	1.60			0	99999	
			2		✓	1.60			0	99999	
		2	**1**			Infinity			0	99999	
			2			Infinity			0	99999	
3	**Entry**	**1**	**1**	1	✓	1.70			0	99999	
			2	2	✓	1.70			0	99999	
		2	**1**	(1)		Infinity			0	99999	
			2	(2)		Infinity			0	99999	
	Exit	**1**	**1**		✓	1.70			0	99999	
			2		✓	1.70			0	99999	
		2	**1**			Infinity			0	99999	
			2			Infinity			0	99999	

Entry Lane Geometry

Arm	Side	Lane level	Lane	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Notes
1	**Entry**	**1**	**1**	3.00	3.00	0.0	3.0	13.0	0.0		
			2	3.00	3.00	0.0	3.0	13.0	0.0		

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1	**Entry**	**1**	**1**	0.369	1113
			2	0.369	1113
2	**Entry**	**1**	**1**	0.341	1027
			2	0.341	1027
3	**Entry**	**1**	**1**	0.327	991
			2	0.327	991

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm		
			1	2	3
1	1	1		✓	
		2		✓	✓
	2	1		✓	
		2		✓	✓
2	1	1	✓		✓
		2	✓		
	2	1	✓		✓
		2	✓		
3	1	1	✓		
		2		✓	
	2	1	✓		
		2		✓	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2041	PM	ONE HOUR	16:00	17:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1365	100.000
2		ONE HOUR	✓	1569	100.000
3		ONE HOUR	✓	801	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1	[ONEHOUR]	0.00
2	[ONEHOUR]	0.00
3	[ONEHOUR]	1.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	987	378
	2	1203	0	366
	3	480	321	0

Proportions

		To		
		1	2	3
From	1	0.00	0.72	0.28
	2	0.77	0.00	0.23
	3	0.60	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	2	2
	2	1	0	2
	3	2	0	0

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.020	1.020
	2	1.010	1.000	1.020
	3	1.020	1.000	1.000

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Falconer_Creditview_2041 (4 Lanes).j10
Path: \\PCK-RDC-P-01\Shared Work Areas\058409 - Creditview Implementation Strategy\2041\06Feb2025
Report generation date: 2/13/2025 11:26:25 AM

«Falconer Drive / Creditview Road - 2041, PM

Summary of junction performance

	PM				
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS
	Falconer Drive / Creditview Road [Lane Simulation] - 2041				
Arm 1	5.5	13.7	10.75		B
Arm 2	0.3	1.0	16.14		C
Arm 3	3.0	8.4	6.77		A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

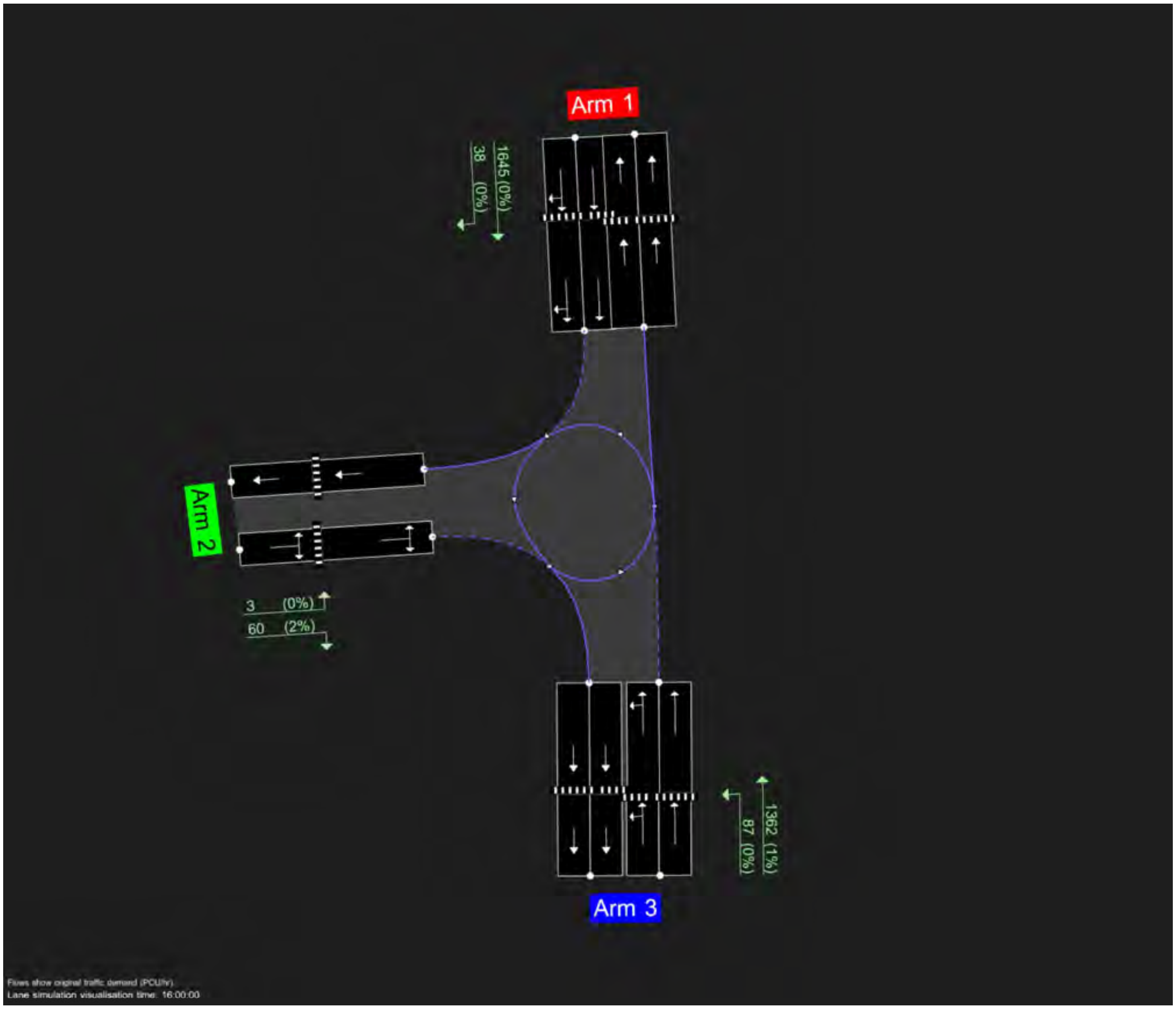
File summary

File Description

Title	
Location	
Site number	
Date	5/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	RJBURNSIDE\AJunctions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓					0.85	36.00	20.00		500

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓		✓	1152479460	86	23.34

Analysis Set Details

ID	Name	Use Lane Simulation	Description	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Falconer Drive / Creditview Road	✓	4 Lanes	✓	100.000	100.000

Falconer Drive / Creditview Road - 2041, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Crossings	Arm 1 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.7, but actual storage on lanes is 6.
Warning	Crossings	Arm 2 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.8, but actual storage on lanes is 3.
Warning	Crossings	Arm 3 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.7, but actual storage on lanes is 6.
Warning	Pedestrian Crossing	Arm 1 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.
Info	Lane Simulation	A2 - Falconer Drive / Creditview Road [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Falconer Drive / Creditview Road	Standard Roundabout		1, 2, 3	9.05	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Right	Normal/unknown	9.05	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Creditview Road (North Leg)		
2	Falconer Drive (West Leg)		
3	Creditview Road (South Leg)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	7.00	8.00	29.0	13.0	47.0	19.0		
2	4.50	4.50	0.0	12.0	47.0	46.0		
3	7.00	8.00	30.0	33.0	47.0	33.0		

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	1.70	1.70	✓	Distance	9.50	6.79	9.50	6.79
2	1.80	1.80	✓	Distance	5.00	3.57	5.00	3.57
3	1.70	1.70	✓	Distance	9.50	6.79	9.50	6.79

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)

1	Percentage		95.00
2	Percentage		95.00
3	Percentage		95.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.764	2301
2	0.507	1181
3	0.762	2295

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1	Evenly split	10.00
2	Evenly split	10.00
3	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1	**Entry**	**1**	**1**	2, 3	✓	3.00			0	99999	
			2	3	✓	3.00			0	99999	
		2	**1**	(2, 3)		Infinity			0	99999	
			2	(3)		Infinity			0	99999	
	Exit	**1**	**1**		✓	3.00			0	99999	
			2		✓	3.00			0	99999	
		2	**1**			Infinity			0	99999	
			2			Infinity			0	99999	
2	**Entry**	**1**	**1**	1, 3	✓	3.00			0	99999	
		2	**1**	(1, 3)		Infinity			0	99999	
	Exit	**1**	**1**		✓	3.00			0	99999	
		2	**2**			Infinity			0	99999	
3	**Entry**	**1**	**1**	1	✓	3.00			0	99999	
			2	1, 2	✓	3.00			0	99999	
		2	**1**	(1)		Infinity			0	99999	
			2	(1, 2)		Infinity			0	99999	
	Exit	**1**	**1**		✓	3.00			0	99999	
			2		✓	3.00			0	99999	
		2	**1**			Infinity			0	99999	
			2			Infinity			0	99999	

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1	**Entry**	**1**	**1**	0.382	1151
			2	0.382	1151
2	**Entry**	**1**	**1**	0.507	1181
3	**Entry**	**1**	**1**	0.381	1148
			2	0.381	1148

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm		
			1	**2**	**3**
1	**1**	**1**		✓	✓
		2			✓
	2	**1**		✓	✓
		2			✓
2	**1**	**1**	✓		✓
	2	**1**	✓		✓

3	1	1	✓		
		2	✓	✓	
	2	1	✓		
		2	✓	✓	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2041	PM	ONE HOUR	16:00	17:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1683	100.000
2		ONE HOUR	✓	63	100.000
3		ONE HOUR	✓	1449	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1	[ONEHOUR]	0.00
2	[ONEHOUR]	6.00
3	[ONEHOUR]	0.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	**2**	**3**
From	**1**	0	38	1645
	2	3	0	60
	3	1362	87	0

Proportions

		To		
		1	**2**	**3**
From	**1**	0.00	0.02	0.98
	2	0.05	0.00	0.95
	3	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	**2**	**3**
From	**1**	0	0	0
	2	0	0	2
	3	1	0	0

Average PCU Per Veh

		To		
		1	**2**	**3**
From	**1**	1.000	1.000	1.000
	2	1.000	1.000	1.020
	3	1.010	1.000	1.000

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Kenninghall_Creditview_2041 (4 Lanes).j10
Path: \\PCK-RDC-P-01\Shared Work Areas\058409 - Creditview Implementation Strategy\2041\06Feb2025
Report generation date: 2/13/2025 11:29:50 AM

Summary of junction performance

	PM				
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS
	Kenninghall Boulevard / Creditview Road [Lane Simulation] - 2041				
Arm 1	0.0	1.0	11.20		B
Arm 2	7.1	20.9	14.51		B
Arm 3	0.8	4.0	33.10		D
Arm 4	3.9	12.0	7.69		A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

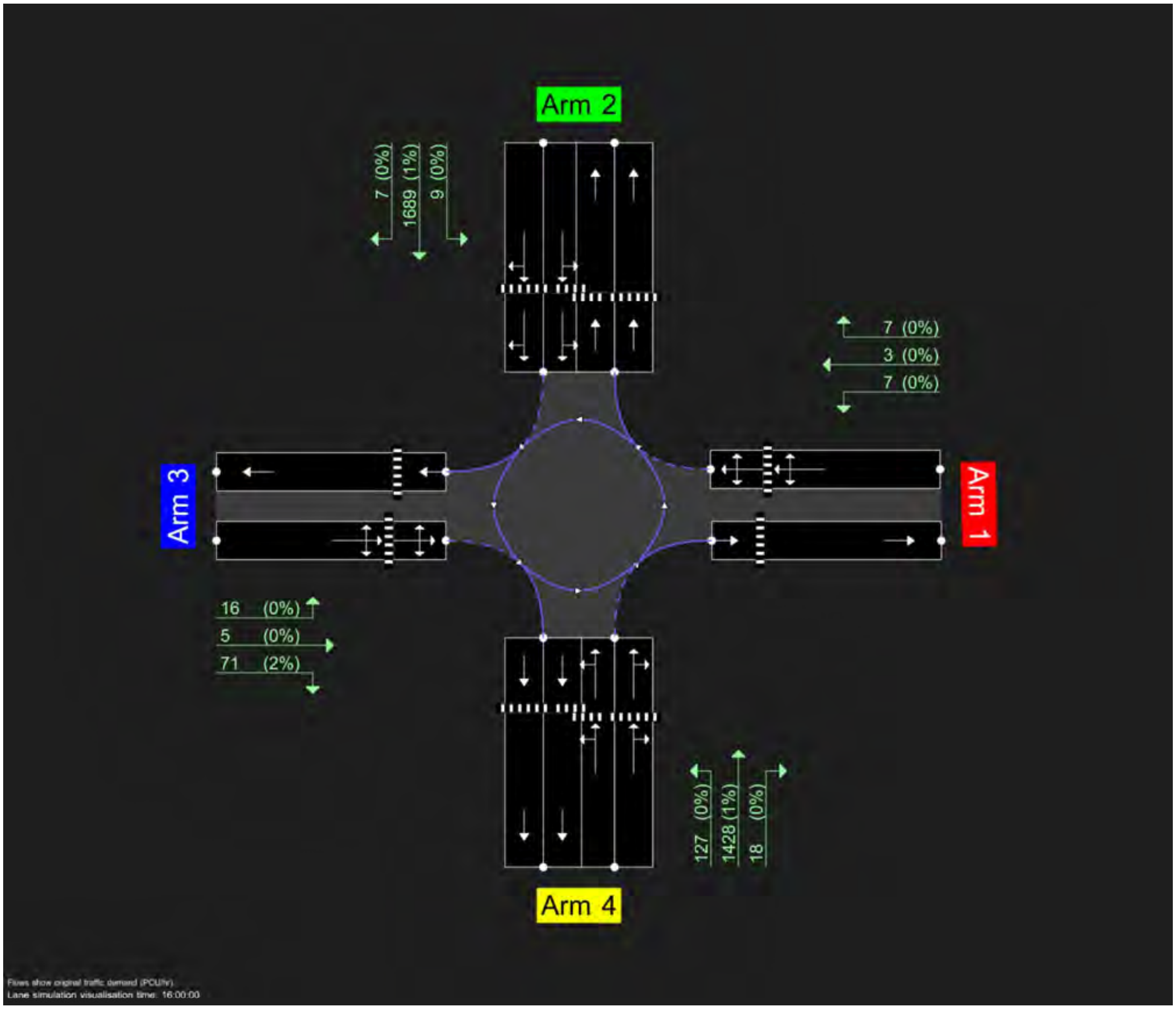
File summary

File Description

Title	
Location	
Site number	
Date	5/14/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	RJBURNSIDE\AJunctions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓					0.85	36.00	20.00		500

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓		✓	51458982	101	36.86

Analysis Set Details

ID	Name	Use Lane Simulation	Description	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A3	Kenninghall Boulevard / Creditview Road	✓	2041	✓	100.000	100.000

Kenninghall Boulevard / Creditview Road - 2041, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Crossings	Arm 2 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.8, but actual storage on lanes is 3.6.
Warning	Crossings	Arm 4 - Pedestrian crossing	Lane Simulation: Pedestrian crossing properties specify gap between crossing and junction entry as 1.7, but actual storage on lanes is 3.4.
Warning	Pedestrian Crossing	Arm 1 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 4 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.
Info	Lane Simulation	A3 - Kenninghall Boulevard / Creditview Road [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kenninghall Boulevard / Creditview Road	Standard Roundabout		1, 2, 3, 4	11.81	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Right	Normal/unknown	11.81	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Kenninghall Crescent		
2	Creditview Road (North Leg)		
3	Kenninghall Boulevard		
4	Creditview (South Leg)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	4.50	4.50	0.0	30.0	45.0	27.0		
2	7.00	8.00	30.0	13.0	45.0	15.0		
3	4.50	4.50	0.0	12.0	45.0	31.0		
4	7.00	8.00	30.0	27.0	45.0	24.0		

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	1.20	1.20	✓	Distance	5.00	3.57	5.00	3.57
2	1.80	1.80	✓	Distance	9.50	6.79	9.50	6.79
3	1.20	1.20	✓	Distance	5.00	3.57	5.00	3.57
4	1.70	1.70	✓	Distance	9.00	6.43	9.00	6.43

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
1	Percentage		95.00
2	Percentage		95.00
3	Percentage		95.00
4	Percentage		95.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.577	1330
2	0.783	2334
3	0.542	1249
4	0.789	2351

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1	Evenly split	10.00
2	Evenly split	10.00
3	Evenly split	10.00
4	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1	Entry	1	1	2, 3, 4	✓	1.20			0	99999	
		2	1	(2, 3, 4)		Infinity			0	99999	
	Exit	1	1		✓	1.20			0	99999	
		2	1			Infinity			0	99999	
2	Entry	1	1	3, 4	✓	1.80			0	99999	
			2	1, 4	✓	1.80			0	99999	
		2	1	(3, 4)		Infinity			0	99999	
			2	(1, 4)		Infinity			0	99999	
	Exit	1	1		✓	1.80			0	99999	
			2		✓	1.80			0	99999	
		2	1			Infinity			0	99999	
			2			Infinity			0	99999	
3	Entry	1	1	1, 2, 4	✓	1.20			0	99999	
		2	1	(1, 2, 4)		Infinity			0	99999	
	Exit	1	1		✓	1.20			0	99999	
		2	1			Infinity			0	99999	
4	Entry	1	1	1, 2	✓	1.70			0	99999	
			2	2, 3	✓	1.70			0	99999	
		2	1	(1, 2)		Infinity			0	99999	
			2	(2, 3)		Infinity			0	99999	
	Exit	1	1		✓	1.70			0	99999	
			2		✓	1.70			0	99999	
		2	1			Infinity			0	99999	
			2			Infinity			0	99999	

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1	Entry	1	1	0.577	1330
2	Entry	1	1	0.392	1167
			2	0.392	1167
3	Entry	1	1	0.542	1249
4	Entry	1	1	0.395	1176
			2	0.395	1176

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			1	2	3	4
1	1	1		✓	✓	✓
	2	1		✓	✓	✓
2	1	1			✓	✓
		2	✓			✓
	2	1			✓	✓
		2	✓			✓
3	1	1	✓	✓		✓
	2	1	✓	✓		✓
4	1	1	✓	✓		
		2		✓	✓	
	2	1	✓	✓		
		2		✓	✓	

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix G

2041 Intersection Operation Analysis (Four-Lane) - Synchro/SimT Results

	↗	↘	↖	↑	↓	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑↑	↑↱	
Traffic Volume (vph)	321	480	378	988	1204	366
Future Volume (vph)	321	480	378	988	1204	366
Ideal Flow (vphpl)	1900	1875	1875	1900	2000	1950
Total Lost time (s)	6.0	6.0	3.0	6.5	6.5	
Lane Util. Factor	1.00	*1.00	*1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	1580	1766	3579	3644	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1825	1580	102	3579	3644	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	338	505	398	1040	1267	385
RTOR Reduction (vph)	0	227	0	0	20	0
Lane Group Flow (vph)	338	278	398	1040	1632	0
Confl. Peds. (#/hr)			1			1
Heavy Vehicles (%)	0%	2%	2%	2%	1%	2%
Turn Type	Perm	Perm	pm+pt	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	6			
Actuated Green, G (s)	29.2	29.2	94.6	94.6	69.6	
Effective Green, g (s)	29.2	29.2	94.6	94.6	69.6	
Actuated g/C Ratio	0.21	0.21	0.69	0.69	0.51	
Clearance Time (s)	6.0	6.0	3.0	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	390	338	339	2484	1860	
v/s Ratio Prot			c0.19	0.29	0.45	
v/s Ratio Perm	c0.19	0.18	c0.62			
v/c Ratio	0.86	0.82	1.17	0.41	0.87	
Uniform Delay, d1	51.6	51.0	47.5	8.9	29.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	17.9	14.7	105.0	0.5	6.2	
Delay (s)	69.5	65.8	152.5	9.5	35.7	
Level of Service	E	E	F	A	D	
Approach Delay (s/veh)	67.3			49.1	35.7	
Approach LOS	E			D	D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	136.3	Sum of lost time (s)	15.5
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

2: Creditview Road & Falconer Drive

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑↑	↑↱	
Traffic Volume (vph)	3	60	87	1363	1646	38
Future Volume (vph)	3	60	87	1363	1646	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	1601	1824	3614	3635	
Flt Permitted	0.95	1.00	0.10	1.00	1.00	
Satd. Flow (perm)	1825	1601	199	3614	3635	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	65	95	1482	1789	41
RTOR Reduction (vph)	0	37	0	0	1	0
Lane Group Flow (vph)	3	28	95	1482	1829	0
Confl. Peds. (#/hr)			6			6
Heavy Vehicles (%)	0%	2%	0%	1%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.8	5.8	77.0	77.0	77.0	
Effective Green, g (s)	5.8	5.8	77.0	77.0	77.0	
Actuated g/C Ratio	0.06	0.06	0.84	0.84	0.84	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	115	101	166	3031	3048	
v/s Ratio Prot	0.00			0.41	c0.50	
v/s Ratio Perm		c0.02	0.48			
v/c Ratio	0.02	0.28	0.57	0.48	0.60	
Uniform Delay, d1	40.3	41.0	2.2	2.0	2.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.5	4.7	0.1	0.3	
Delay (s)	40.4	42.5	6.9	2.1	2.7	
Level of Service	D	D	A	A	A	
Approach Delay (s/veh)	42.4			2.4	2.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	3.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	91.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	16	5	71	7	3	7	127	1428	18	9	1689	7
Future Volume (vph)	16	5	71	7	3	7	127	1428	18	9	1689	7
Ideal Flow (vphpl)	1925	1925	1925	1900	1900	1900	1900	1875	1875	1900	1975	1975
Total Lost time (s)		6.0			6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.99			0.99		1.00	1.00		0.99	1.00	
Frt		0.89			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1677			1756		1825	3559		1824	3754	
Flt Permitted		0.95			0.90		0.05	1.00		0.13	1.00	
Satd. Flow (perm)		1618			1621		97	3559		251	3754	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	5	76	8	3	8	137	1535	19	10	1816	8
RTOR Reduction (vph)	0	59	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	39	0	0	13	0	137	1553	0	10	1824	0
Confl. Peds. (#/hr)	8		3	3		8	2		3	3		2
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		30.0			30.0		89.5	89.5		76.0	76.0	
Effective Green, g (s)		30.0			30.0		89.5	89.5		76.0	76.0	
Actuated g/C Ratio		0.23			0.23		0.68	0.68		0.58	0.58	
Clearance Time (s)		6.0			6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		369			369		203	2422		145	2169	
v/s Ratio Prot							c0.05	0.44			c0.49	
v/s Ratio Perm		c0.02			0.01		0.40			0.04		
v/c Ratio		0.10			0.03		0.67	0.64		0.06	0.84	
Uniform Delay, d1		40.1			39.4		35.0	11.9		12.1	22.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.1		8.5	1.3		0.9	4.1	
Delay (s)		40.7			39.6		43.6	13.2		13.1	26.9	
Level of Service		D			D		D	B		B	C	
Approach Delay (s/veh)		40.7			39.6			15.6			26.8	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	131.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (vph)	18	29	40	116	34	176	49	1380	149	97	1647	23
Future Volume (vph)	18	29	40	116	34	176	49	1380	149	97	1647	23
Ideal Flow (vphpl)	1925	1900	1900	1925	1900	1900	1900	2100	2100	2000	1900	2000
Total Lost time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1737	1721		1815	1632		1825	3887		1902	3605	
Flt Permitted	0.52	1.00		0.70	1.00		0.05	1.00		0.06	1.00	
Satd. Flow (perm)	960	1721		1355	1632		100	3887		138	3605	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	31	43	123	36	187	52	1468	159	103	1752	24
RTOR Reduction (vph)	0	30	0	0	72	0	0	5	0	0	1	0
Lane Group Flow (vph)	19	44	0	123	151	0	52	1622	0	103	1775	0
Confl. Peds. (#/hr)	5		16	16		5	6		6	6		6
Heavy Vehicles (%)	6%	0%	0%	0%	3%	1%	0%	2%	1%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.5	40.5		40.5	40.5		77.0	77.0		77.0	77.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5		77.0	77.0		77.0	77.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.59	0.59		0.59	0.59	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	299	536		422	508		59	2302		81	2135	
v/s Ratio Prot		0.03			c0.09			0.42			0.49	
v/s Ratio Perm	0.02			0.09			0.52			c0.74		
v/c Ratio	0.06	0.08		0.29	0.29		0.88	0.70		1.27	0.83	
Uniform Delay, d1	31.4	31.6		33.8	33.9		22.6	18.5		26.5	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.3		1.7	1.4		86.4	1.8		189.3	3.9	
Delay (s)	31.8	31.9		35.6	35.4		109.1	20.3		215.8	25.2	
Level of Service	C	C		D	D		F	C		F	C	
Approach Delay (s/veh)		31.9			35.5			23.1			35.6	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

5: Creditview Road & Rivergate Place

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↱		↰	↑↑
Traffic Volume (veh/h)	3	3	1447	4	4	1702
Future Volume (Veh/h)	3	3	1447	4	4	1702
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	3	1573	4	4	1850
Pedestrians	3		3			8
Lane Width (m)	3.7		3.7			3.7
Walking Speed (m/s)	1.0		1.0			1.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			240			145
pX, platoon unblocked	0.83	0.72			0.72	
vC, conflicting volume	2514	800			1580	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1315	0			1041	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			99	
cM capacity (veh/h)	124	782			488	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	6	1049	528	4	925	925
Volume Left	3	0	0	4	0	0
Volume Right	3	0	4	0	0	0
cSH	214	1700	1700	488	1700	1700
Volume to Capacity	0.03	0.62	0.31	0.01	0.54	0.54
Queue Length 95th (m)	0.7	0.0	0.0	0.2	0.0	0.0
Control Delay (s/veh)	22.3	0.0	0.0	12.4	0.0	0.0
Lane LOS	C			B		
Approach Delay (s/veh)	22.3	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		↰	↑↑	↑↱	
Traffic Volume (veh/h)	1	2	2	1572	1765	2
Future Volume (Veh/h)	1	2	2	1572	1765	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	2	2	1709	1918	2
Pedestrians	2			3	8	
Lane Width (m)	3.7			3.7	3.7	
Walking Speed (m/s)	1.0			1.0	1.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					210	
pX, platoon unblocked	0.56	0.56	0.56			
vC, conflicting volume	2788	965	1922			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2618	0	1061			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	100	99			
cM capacity (veh/h)	11	600	369			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	3	2	855	855	1279	641
Volume Left	1	2	0	0	0	0
Volume Right	2	0	0	0	0	2
cSH	32	369	1700	1700	1700	1700
Volume to Capacity	0.09	0.01	0.50	0.50	0.75	0.38
Queue Length 95th (m)	2.2	0.1	0.0	0.0	0.0	0.0
Control Delay (s/veh)	128.6	14.8	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s/veh)	128.6	0.0			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

1: Creditview Road & Argentia Road Performance by lane

Lane	EB	EB	NB	NB	NB	SB	SB	All
Movements Served	L	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.4
Total Del/Veh (s)	87.2	33.9	89.5	56.7	15.5	35.9	35.9	43.3
Avg Speed (kph)	8	16	3	22	35	21	19	17

2: Creditview Road & Falconer Drive Performance by lane

Lane	EB	EB	NB	NB	NB	SB	SB	All
Movements Served	L	R	L	T	T	T	TR	
Denied Del/Veh (s)								0.1
Total Del/Veh (s)	24.9	16.1	41.3	4.6	4.3	8.8	9.1	8.0
Avg Speed (kph)	36	4	5	37	36	42	40	37

3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent Performance by lane

Lane	EB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LTR	L	T	TR	L	T	TR	
Denied Del/Veh (s)									0.0
Total Del/Veh (s)	31.5	22.4	34.3	16.9	17.0	28.0	28.3	32.1	24.8
Avg Speed (kph)	12	14	12	25	25	7	19	18	20

4: Creditview Road & Sir Monty's Drive/Bancroft Drive Performance by lane

Lane	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	L	TR	L	TR	L	T	TR	L	T	TR	
Denied Del/Veh (s)											0.4
Total Del/Veh (s)	26.2	27.7	40.4	27.2	97.0	25.3	17.1	233.5	32.2	30.7	34.3
Avg Speed (kph)	2	11	3	9	1	17	20	1	11	11	11

5: Creditview Road & Rivergate Place Performance by lane

Lane	WB	NB	NB	SB	SB	SB	All
Movements Served	LR	T	TR	L	T	T	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)	63.8	2.9	3.0	16.7	2.8	3.2	3.1
Avg Speed (kph)	3	35	35	4	47	42	38

6: Creditview Road & Velebit Court Performance by lane

Lane	EB	NB	NB	NB	SB	SB	All
Movements Served	LR	L	T	T	T	TR	
Denied Del/Veh (s)							0.0
Total Del/Veh (s)		26.2	3.2	2.9	7.4	8.0	5.5
Avg Speed (kph)	5	7	51	52	38	34	44

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	89.4
Avg Speed (kph)	26

Intersection: 1: Creditview Road & Argentia Road

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (m)	133.7	115.3	105.8	192.8	175.9	157.6	170.3
Average Queue (m)	97.8	71.9	89.9	118.5	101.1	128.9	130.8
95th Queue (m)	158.0	137.0	121.8	243.7	208.5	165.1	177.8
Link Distance (m)	232.5	232.5		355.7	355.7	321.4	321.4
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			41.0				
Storage Blk Time (%)			65	13			
Queuing Penalty (veh)			335	53			

Intersection: 2: Creditview Road & Falconer Drive

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (m)	3.0	18.0	29.9	38.2	40.2	33.5	41.5
Average Queue (m)	0.8	9.4	18.3	19.8	22.3	20.0	24.1
95th Queue (m)	4.4	18.0	32.5	41.6	43.2	39.3	43.5
Link Distance (m)	189.7			131.0	131.0	355.7	355.7
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		30.0	46.0				
Storage Blk Time (%)		0		0			
Queuing Penalty (veh)		0		0			

Intersection: 3: Creditview Road & Kenninghall Boulevard/Kenninghall Crescent

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (m)	36.2	10.2	43.3	112.8	109.5	20.1	170.3	167.7
Average Queue (m)	21.1	3.0	24.5	83.0	83.6	3.8	133.0	135.7
95th Queue (m)	39.2	10.0	39.8	117.8	115.5	24.6	198.7	198.1
Link Distance (m)	165.5	170.9		194.1	194.1		224.1	224.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			74.0			36.0		
Storage Blk Time (%)				9			27	
Queuing Penalty (veh)				13			3	

Intersection: 4: Creditview Road & Sir Monty's Drive/Bancroft Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	B17	B17
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	T	T
Maximum Queue (m)	16.0	29.1	41.4	70.5	38.7	153.4	116.1	99.8	122.3	122.3	121.7	128.4
Average Queue (m)	4.3	15.0	27.0	37.7	17.5	110.3	86.6	73.1	120.1	119.6	53.2	58.6
95th Queue (m)	14.8	29.5	43.3	71.6	37.4	155.0	126.5	119.4	128.0	128.5	115.6	121.7
Link Distance (m)		95.3		78.8		158.9	158.9		105.9	105.9	326.0	326.0
Upstream Blk Time (%)				2		1			28	29		
Queuing Penalty (veh)				0		0			271	277		
Storage Bay Dist (m)	12.0		28.0		39.0			50.0				
Storage Blk Time (%)	4	14	16	18		28		63	29			
Queuing Penalty (veh)	3	3	36	22		15		556	30			

Intersection: 5: Creditview Road & Rivergate Place

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LR	T	TR	L	T	T
Maximum Queue (m)	6.9	23.3	28.2	3.5	9.8	17.8
Average Queue (m)	1.5	7.5	9.4	0.7	1.6	2.8
95th Queue (m)	6.6	26.2	32.5	4.7	8.5	14.8
Link Distance (m)	45.6	224.1	224.1		131.0	131.0
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)				13.0		
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 6: Creditview Road & Velebit Court

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (m)	3.6	1.8	19.7	23.0	25.6	34.0
Average Queue (m)	0.5	0.8	5.3	5.1	7.1	6.1
95th Queue (m)	4.0	4.8	20.8	21.4	30.6	29.9
Link Distance (m)	52.0		326.0	326.0	194.1	194.1
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		48.0				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 1617

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Appendix F

Left-turn Design Assignment

R.J. Burnside & Associates Limited 6990 Creditview Road, Unit 2 Mississauga ON L5N 8R9 CANADA
telephone (905) 821-1800 **fax** (519) 941-8120 **web** www.rjburnside.com

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Creditview Road SB LT Lane at Rivergate Place Memorandum

Date:	June 24, 2025	**Project No.:**	300058409.0000
Project Name:	Creditview Road Implementation Strategy		
Client Name:	City of Mississauga		
To:	Erik Nevland, P.Eng., RPP, PTP (City of Mississauga) Jeffrey Reid (City of Mississauga)		
From:	Wojciech Kaczorek, P.Eng. (R.J. Burnside & Associates Limited) Ray Bacquie, P.Eng., MBA (R.J. Burnside & Associates Limited)		

1.0 Background and Context

1.1 Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by the City of Mississauga (City) to complete the Design Assignment, which includes:

- Design review to confirm if a southbound left-turn lane can be accommodated at Rivergate Place.
  - Confirmation of impacts (i.e. any additional property, impacts to the proposed AT facilities, etc.)
  - Concerns/interference with the roundabout at Falconer
- AutoTurn analysis at Kenninghall Boulevard to confirm that delivery trucks can geometrically make a safe U-turn, if the intersection remains signalized with the widening of Creditview Road to 4-lanes.

1.2 2016 MCEA Study Long Term Solution

The 2016 MCEA study recommended long-term solution that proposed a 4-lane widening between Kenninghall Boulevard and Falconer Drive with Right-In and Right-Out only movements on Rivergate Place (See Figure 1). A multi-use trail (MUT) is situated on the west side of the roadway (See Figure 2).

Figure 1: Creditview EA Long-Term Solution (4-Lane Widening)

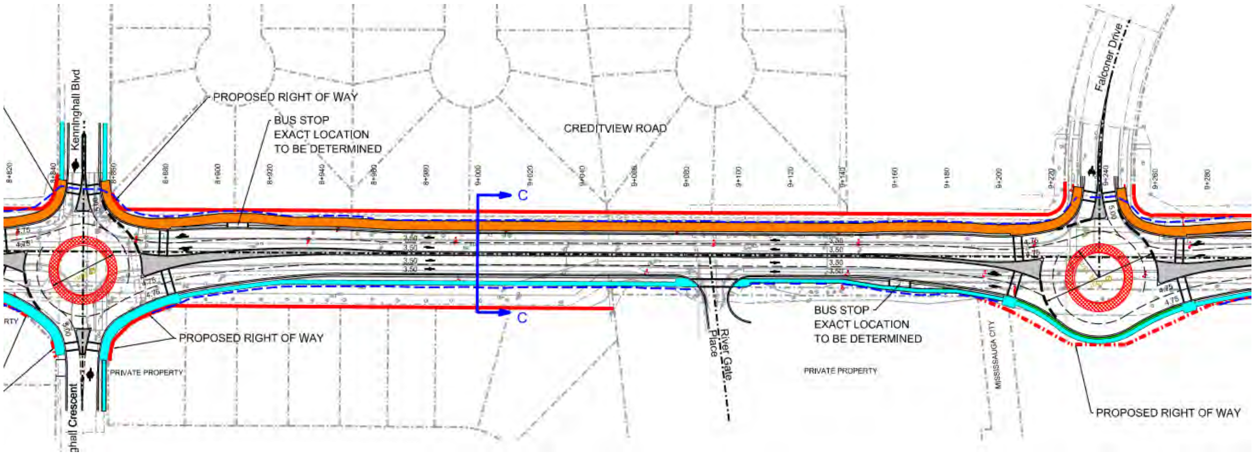
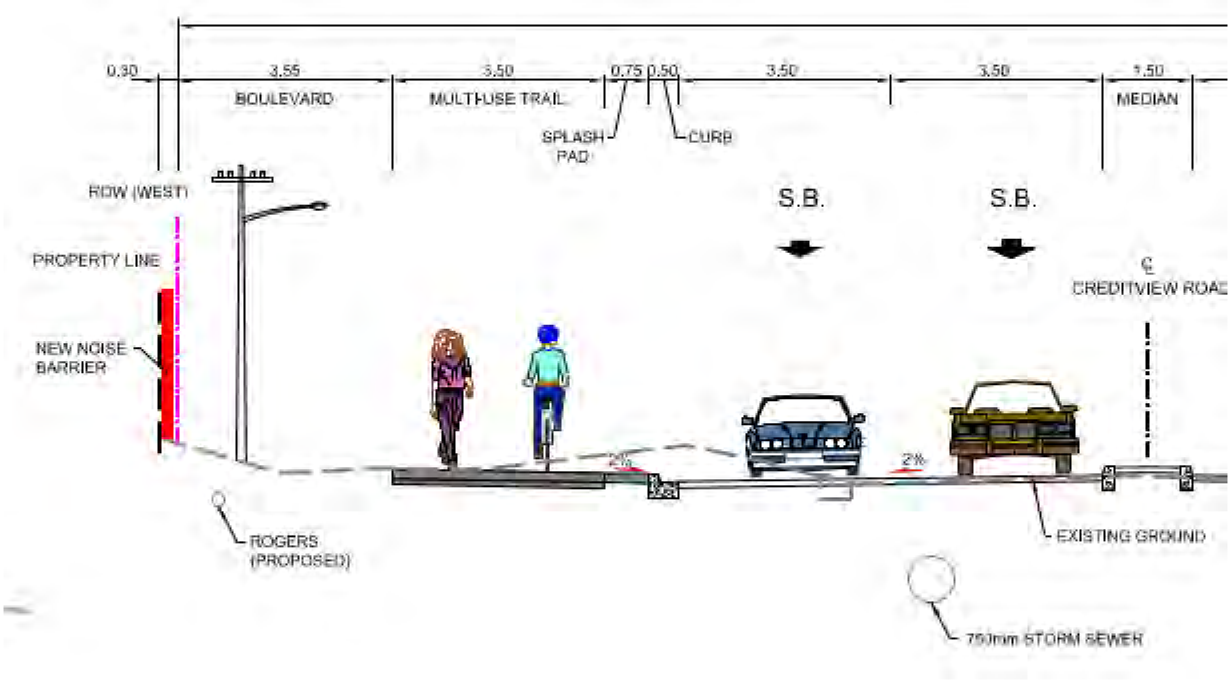


Figure 2: Approved EA Long-Term Solution (4-Lane Widening) – Typical Section (West Side)



2.0 Left Turn Lane Accommodation at Rivergate Place.

The City provided drawings included Creditview Long Term Solution (4-Lane widening), in PDF format only. Those drawings have been aligned with the provided MicroStation DGN files for the Interim Alternative, and the design was based on an aligned/scaled PDF file.

Burnside maintained the same design criteria as they were presented in the approved EA:

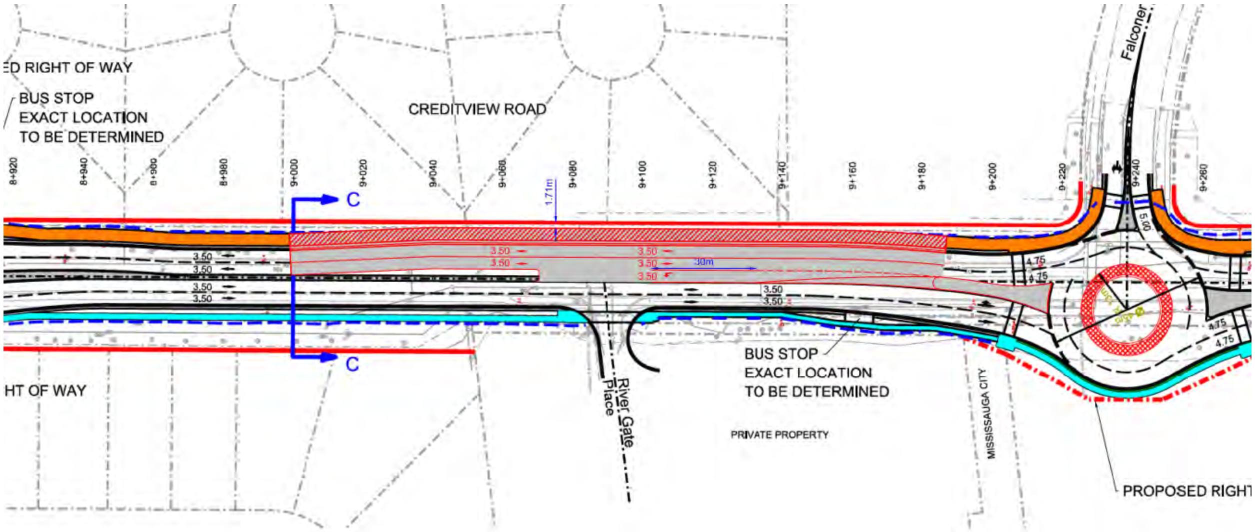
- Lane widths of 3.5 m incl. proposed left turn lane
- 0.75 m splash pad behind the curb
- 3.5 m Multi-Use Trail on the north side of Creditview Road
- The Left Turn Lane storage of 30 m matches the storage as shown on the EA Interim Alternative

The proposed widening (see Figure 3) for the left turn is exclusively to the west side, therefore, the geometry of the roundabout approach will not change, and all geometric criteria for the roundabout will be maintained. The immediate exit geometry from the roundabout was also not changed.

As a result of introducing a southbound left turn lane into Rivergate Place, the following parameters will change:

- The boulevard on the west side will be reduced from the current 3.85 m (including the Noise Barrier – see Figure 2) to approximately 1.7 meters (design is based on PDF drawing)
- Proposed Hydro / Illumination poles would have to be placed within the reduced boulevard width.
- Proposed other utilities (telecommunication etc.) would have to account for the narrow boulevard.

Figure 3: Southbound Left Turn Lane at Rivergate Place



3.0 AutoTurn Analysis at Kenninghall Boulevard

AutoTurn movements analysis was completed for the southbound movement to access Rivergate Place.

The following assumptions have been made:

- Creditview Road will be widened to four-lanes.
- Creditview Road and Kenningham Boulevard will be controlled by Traffic Signals.
- Lane widths of 3.5 m incl. proposed left turn lane.
- 1.5m center median for traffic signals.
- Kenningham Boulevard will be maintained as a two-lane road.
- LSU delivery truck has been used for analysis.

Based on the above criteria, it has been established that the LSU – Light Single Unit Truck will be able to make a U-Turn at Kenningham Boulevard. The wheelbase of the LSU vehicle is larger than the wheelbase for the passenger car (P), therefore the passenger car would be able to make a U-Turn as well. Please see Figure 4 for LSU vehicle, and Figure 5 for the passenger car.

Figure 4: Light Single Unit Truck (LSU)

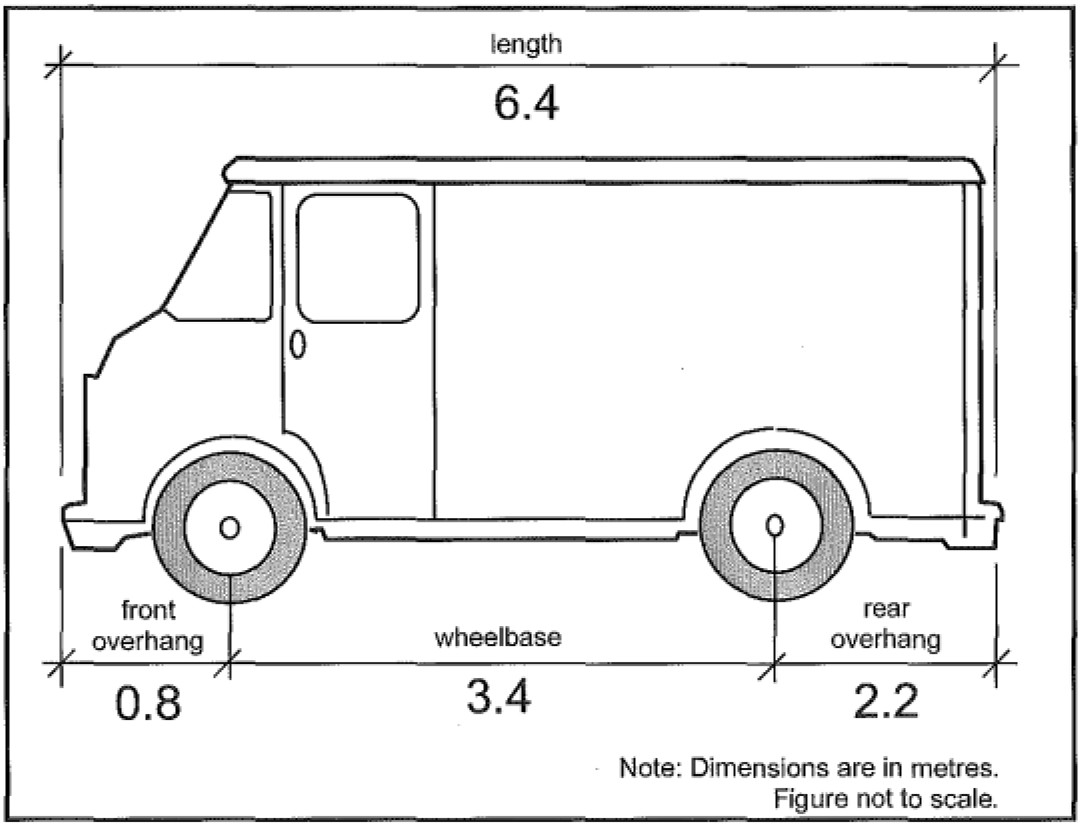
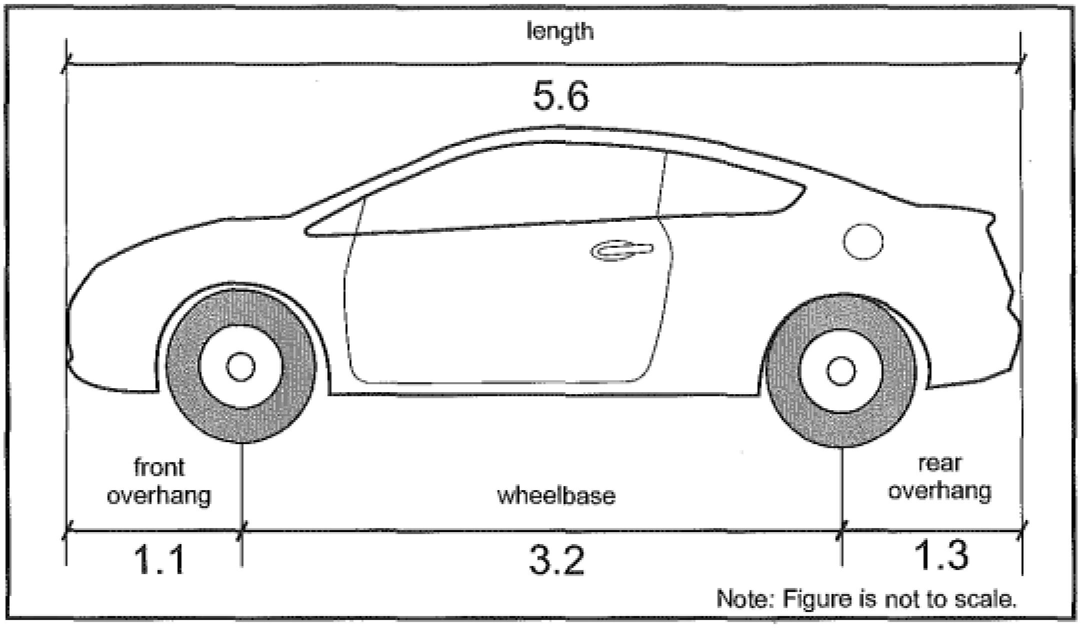
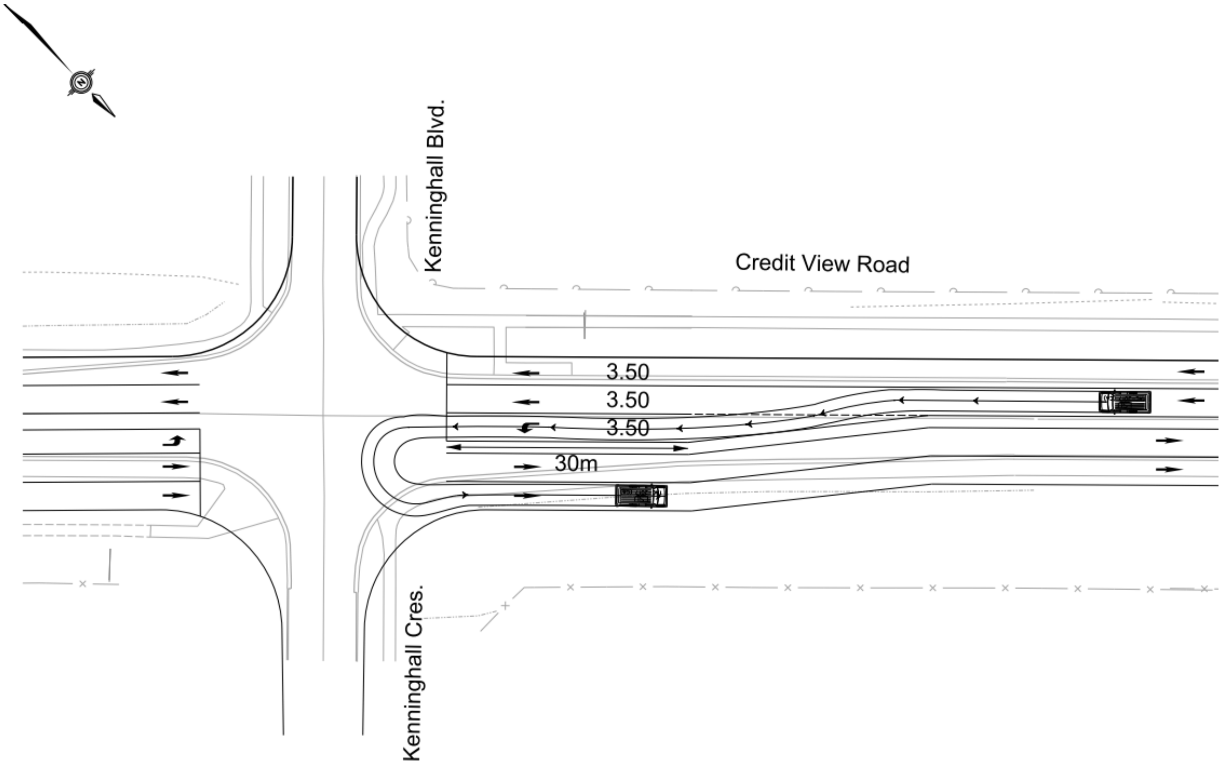


Figure 5: Passenger Car (P)



AutoTurn movements for Light Single Unit Truck are presented in Figure 6 below.

Figure 6: AutoTurn Movements for Light Single Unit



4.0 Conclusions

Based on a left turn lane design and assumed parameters, it is feasible to provide a southbound left turn lane at Rivergate Place without acquiring additional land. Falconer Drive Roundabout would not need additional geometry changes as long as the widening is made to the west exclusively.

AutoTurn analysis for the southbound movement at Kenninghall Boulevard confirmed that both types of vehicles (LSU and P) would make a U-Turn at a signalized intersection with four lanes of traffic along Creditview Road and two lanes of traffic on Kenninghall Boulevard.

R.J. Burnside & Associates Limited

W. Kaczorek

RB

Wojciech Kaczorek, P.Eng.
Transportation

Ray Bacquie, P.Eng., MBA
Senior Vice President, Transportation

WK/RB:cv

Enclosure(s) Appendix A: 58409_Design (4-Lane)_LSU AutoTurn on Kenninghall_Final
Appendix B: 58409_Design (4-Lane)_LT Lane Design_Final
DGN Files

058409 Creditview_LT Lane Memo_Final.docx
6/24/2025 11:09 AM

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Appendix G

Council Resolution 0147-2025

MISSISSAUGA

RESOLUTION NO.: 0147-2025 Page 1 of 2

Date: June 25, 2025

Moved by: Matt Mahoney

Seconded by: Chris Fonseca

WHEREAS the City of Mississauga initiated a Class Environmental Assessment ("Class EA") Study 'Schedule C' including preliminary design for the section of Creditview Road from Bancroft Drive to Old Creditview Road in 2013, during the previous Councillor's tenure, to investigate the need for additional north-south capacity and traffic management improvements along this section of Creditview Road;

AND WHEREAS Public Information Sessions were organized with the community in February 2014 and June 2015 as part of the Class EA Study process, during the previous Councillor's tenure, to provide residents with more information and obtain feedback on the Class EA Study for this section of Creditview Road;

AND WHEREAS the Class EA study for this section Creditview Road was completed and approved in 2016, during the previous Councillor's tenure, and recommended a phased implementation plan, including an interim preferred alternative and a long-term solution, indicating that community consultation will take place prior to the implementation of the long-term solution;

AND WHEREAS the interim preferred alternative includes a 1-lane roundabout at the intersection of Creditview Road and Kenninghall Boulevard/Crescent, and the long-term solution includes a 2-lane roundabout at the aforementioned intersection;

AND WHEREAS City Staff are currently recommending early implementation of the long-term solution for this section of Creditview Road;

AND WHEREAS the current Councillor held two (2) comprehensive community meetings with area residents in June 2024 and November 2024 to advise that City Staff are recommending early implementation of the long-term solution for this section of Creditview Road and obtain feedback from the community;

AND WHEREAS at both well-attended community meetings, numerous area residents expressed significant concerns with and strong opposition to the implementation of a roundabout at the intersection of Creditview Road and Kenninghall Boulevard/Crescent, primarily indicating concerns with pedestrian safety and crossing at the roundabout due to high traffic volumes; the large volume of local school buses being able to access the roundabout; and local residents being able to access the roundabout due to high traffic volumes;

AND WHEREAS numerous area residents have also contacted the current Councillor directly, via phone calls and e-mails, further expressing significant concerns with and strong opposition to the implementation of a roundabout at the intersection of Creditview Road and Kenninghall Boulevard/Crescent for the aforementioned reasons;

MISSISSAUGA

RESOLUTION NO.: 0147-2025 **Page** 2 **of** 2

Date: June 25, 2025

Moved by: Matt Mahoney

Seconded by: Chris Fonseca

AND WHEREAS the intersection of Creditview Road and Kenninghall Boulevard/ Crescent has a long history of signalization;

AND WHEREAS an Addendum to the approved Class EA can be prepared to provide for a signalized intersection as the long-term solution for the intersection of Creditview Road and Kenninghall Boulevard/Crescent;

AND WHEREAS an Addendum to the Class EA would need to be prepared by the City, posted for public review and comment, and approved by the Ministry of the Environment, Conservation and Parks in accordance with the requirements of the Environmental Assessment Act prior to City Staff undertaking the detailed design phase for this section of Creditview Road;

THEREFORE BE IT RESOLVED THAT:

1. City Staff be directed to take all necessary steps to prepare and submit an Addendum to the Class EA for the purpose of establishing a signalized intersection as the long-term solution for the intersection of Creditview Road and Kenninghall Boulevard/Crescent, and adding an exclusive southbound left-turn lane at the intersection of Creditview Road and Rivergate Place.

Recorded Vote	YES	NO	ABSENT	ABSTAIN
Mayor C. Parrish	✓			
Councillor S. Dasko	✓			
Councillor A. Tedjo	✓			
Councillor C. Fonseca	✓			
Councillor J. Kovac				
Councillor N. Hart			✓	
Councillor J. Horneck	✓			
Councillor D. Damerla	✓			
Councillor M. Mahoney	✓			
Councillor M. Reid	✓			
Councillor S. McFadden			✓	
Councillor B. Butt	✓			

Carried

Mayor

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Appendix H

Updated Noise Memo

City of Mississauga

Memorandum

Date: 2025/11/28

To: Class Environmental Assessment (Class EA) Addendum
Creditview Road from Bancroft Drive / Sir Monty's Drive to Old Creditview Road

From: Naveda Dukhan, C.E.T., Transportation Infrastructure Coordinator
Sonya Bubas, MCIP, RPP, Project Leader, Transportation

Subject: Updated Noise Wall Recommendations

1.0 INTRODUCTION

The purpose of this memorandum is to document the conditions that necessitated an update to the noise wall recommendations in the 2016 Class EA Study for Creditview Road between Bancroft Drive / Sir Monty's Drive and Old Creditview Road. The updated recommendations as documented in this memorandum will be included in an Addendum to the Class EA Study.

1.1 Class EA Addendum

In 2016, the City completed a Class EA Study for improvements to Creditview Road from Bancroft Drive / Sir Monty's Drive to Old Creditview Road. The Class EA Study recommended both an interim and long-term solution, including 4-lane road widening, intersection improvements, and active transportation upgrades within the Study limits, which were documented in an Environmental Study Report (ESR). The recommendations were cleared for implementation following successful completion of the public review period for the ESR in June 2016.

Improvements to Creditview Road between Argentia Road and Old Creditview Road were constructed by the Ministry of Transportation Ontario (MTO) on behalf of the City in 2023. The road construction was completed in coordination with the MTO's replacement of the Creditview Road bridge over Highway 401 to accommodate widening of the Provincial highway. Within this section, Creditview Road was widened to four lanes with an exclusive eastbound right-turn lane at Old Creditview Road, a muti-use trail on the west side of the road, and a sidewalk on the east side.

In 2025, the City initiated an Addendum to the ESR due to significant changes to the design of Creditview Road between Bancroft Drive / Sir Monty's Drive and Argentia Road. The scope of the Addendum included:

1. A change in recommended traffic control from a roundabout to traffic signal at Creditview Road and Kenninghall Boulevard/Crescent;
2. A new southbound left-turn lane at Rivergate Place;
3. A change in posted speed limit from 60km/h to 50km/h;
4. Opportunities for separated pedestrian and cyclist facilities (west side);
5. A change in recommended construction staging from a two-stage (interim and long-term) to a one-stage (long-term) construction; and

6. A change in recommended noise wall upgrades as documented within this memorandum.

2.0 NOISE ASSESSMENT

To mitigate the potential impact of future road traffic noise, the 2016 ESR identified several private fences along Creditview Road as candidates for noise wall upgrades (see **Attachment 1**). In 2025, the City reviewed the candidate noise wall upgrades based on the City's current noise wall policy and the updated traffic conditions within the Study area.

2.1 Noise Wall Policy

The City's Noise Wall Policy (09-03-03) establishes criteria for noise attenuation measures along the City's major collector and arterial roads. The City offers two noise wall programs under this policy:

Noise Wall Replacement Program
The replacement program aims to replace privately owned noise walls located along the City's major collector and arterial roads. Replacement projects are prioritized according to:

- Condition of the existing wall;
- Coordination with other infrastructure projects; and
- Feasibility of relocation from private property to the City's property line.

Noise Wall Upgrade Program
The City offers an upgrade program that converts privately owned fences into noise walls where feasible. The upgrade must meet the following criteria:

- The backyard is adjacent to a City-owned major collector or arterial road;
- The backyard is exposed to noise levels over 60 decibels (dBA); and
- The upgrade is feasible (e.g., the noise wall can be installed on a completed block and is effective based on a review of grade elevations/line of sight).

When an existing noise wall or fence is replaced with a noise wall under either of the City's programs, it is relocated from private property to City property and becomes a City asset. From that point forward, the City assumes responsibility for all maintenance and repairs of the replacement noise wall (City asset). Until the replacement occurs, homeowners remain responsible for maintaining their existing noise wall or fence, on private property.

The City reviewed the candidate noise wall upgrades in the 2016 ESR with its noise wall policy. Two of the candidate locations for a noise wall upgrade were found to be inconsistent with key criteria in the policy:

- 59 Kenninghall Boulevard - The construction of a noise wall at 59 Kenninghall Boulevard is not feasible due to the elevations of the backyards adjacent to Creditview Road at the respective townhouse complex. A noise wall would not obstruct the line of sight between the Outdoor Living Area (OLA) and Creditview Road, making the noise wall ineffective. As a result, the existing private fence will remain at this location.

- 6650 Falconer Road - The construction of a noise wall at 6650 Falconer Road is not consistent with key criteria in the noise wall policy. The backyard and OLA are recessed and not directly adjacent to Creditview Road. Therefore, a noise wall at this location is not recommended.

2.2 Traffic Conditions

The noise wall recommendations in the 2016 Class EA Study were preliminary and to be reviewed during the detailed design phase, particularly if the traffic volumes or speeds were modified. During detailed design, the noise assessment was updated to consider the following:

- Traffic volume projections to 2041 versus 2031;
- Lower posted speed limit from 60km/h to 50km/h on Creditview Road between Bancroft Drive / Sir Monty's Drive and Argentia Road; and
- Heavy truck restriction on Creditview Road from Bancroft Drive / Sir Monty's Drive to Old Creditview Road.

The above changes required updates to the parameters used in the initial noise assessment as summarized in **Table 1**.

Table 1: Updated Noise Assessment Criteria

Noise Assessment Criteria	2016 Noise Assessment	2025 Updated Conditions
Truck percentage	7%	2%
Truck percentage split (Medium:Heavy)	4:3	2:0
Truck Restrictions	Not included	Included
Posted Speed	60 km/h	50 km/h
Horizon Year	2031	2041

Using the updated traffic parameters in **Table 1**, the City updated the acoustic modelling in STAMSON. As per the MTO / Ministry of the Environment and Climate Change (MOECC) Noise Protocol, and other MTO and MOECC noise guidelines, OLA locations were modelled using Point of Receptors (PORs) located 3m from the building façade, and the outdoor PORs were modelled at a height of 1.5m above ground level.

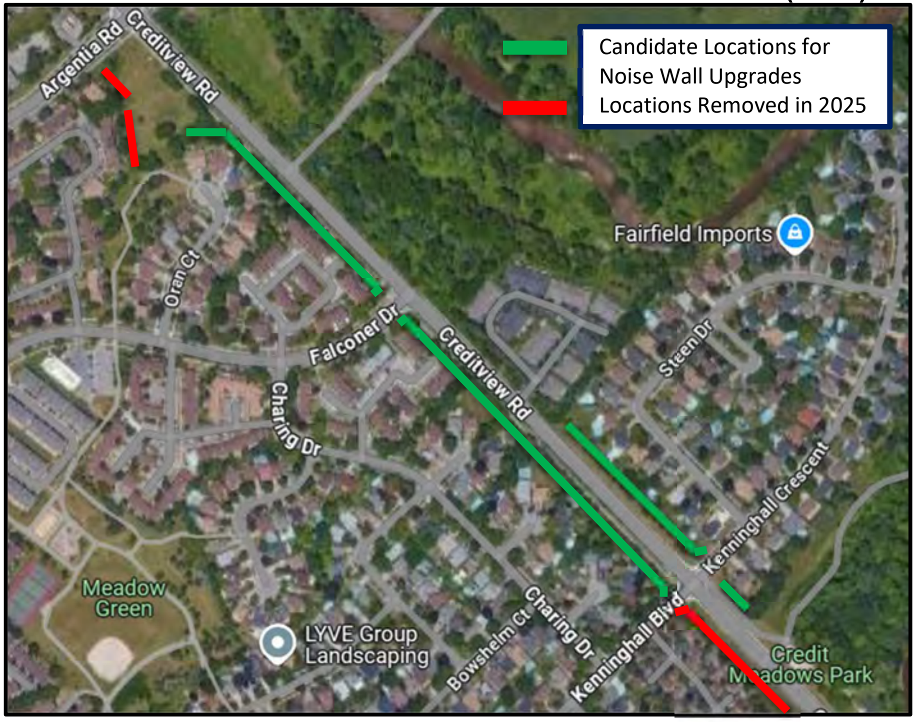
Based on the updated acoustic modelling, a 2.2 metre noise wall was found to provide adequate mitigation to reduce noise levels within the OLAs below 60 dBA (if required), which is consistent with the City's noise wall policy. The 2.2 metre noise wall is recommended on the City's property line at the locations shown in **Attachment 2**. The locations shown are recommended due to the effectiveness of the noise wall in mitigating noise and/or given the proximity of the OLAs to the noise source (i.e., road traffic on Creditview Road).

3.0 RECOMMENDATIONS

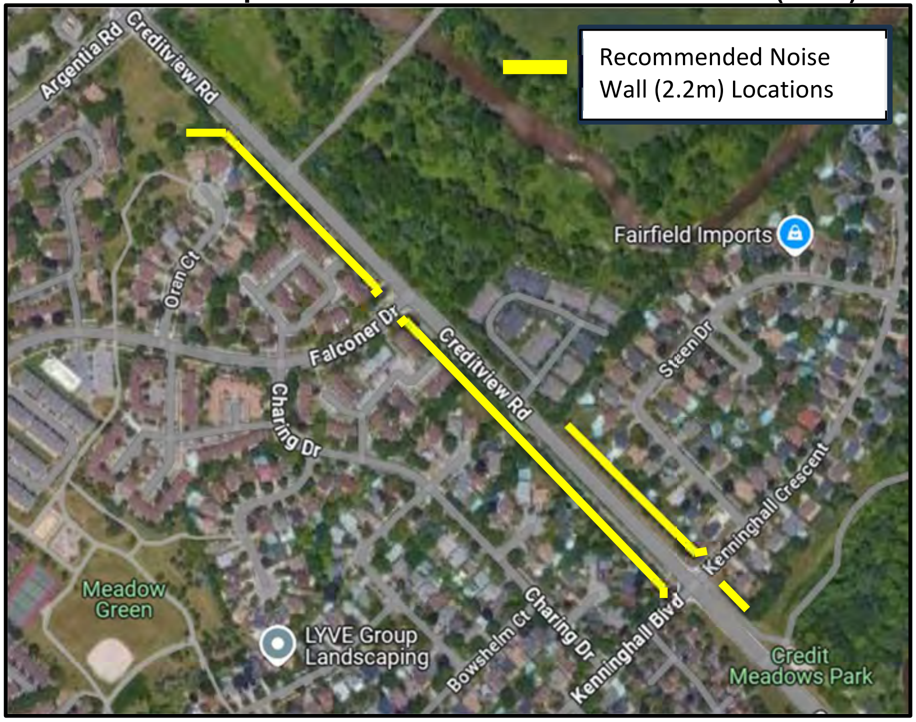
The noise wall recommendations in the 2016 Class EA Study were updated based on a review of noise wall policy requirements and updated traffic conditions within the study limits. The review determined that 2.2m is a sufficient height for the new noise wall locations proposed in **Attachment 2**. The candidate noise wall at 59 Kenninghall Boulevard was removed from the proposed locations due to the grade elevation and line of sight, which do not meet the conditions for effective noise attenuation. The candidate noise wall at 6650 Falconer Drive was also removed from the proposed locations as it is not situated adjacent to the Creditview Road right-of-way and is therefore not consistent with key criteria in the City’s noise wall policy.

ATTACHMENTS

Attachment 1 – Class EA Noise Wall Recommendations (2016)



Attachment 2 – Updated Noise Wall Recommendations (2025)



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix I

Updated Preferred Solution and Design Concept

Appendix I

LEGEND

- - - - -	EXISTING RIGHT OF WAY
— — — —	EXISTING PROPERTY LINE
-·-·-·-·-	PROPOSED RIGHT OF WAY AS PER APPROVED 2016 EA STUDY
— — — —	GRADING
——	EXISTING NOISE BARRIER
——	PROPOSED NOISE BARRIER
——	REMOVED NOISE BARRIER
🟦	PROPOSED SIDEWALK
🟧	PROPOSED CYCLE TRACK
🟦	PROPOSED MULTI-USE TRAIL
⬜	PROPOSED MEDIAN

MISSISSAUGA

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CREDITVIEW ROAD
KENNINGHALL BLVD. TO FALCONER DR.
STA 8+780 TO STA 9+300

SCALE 1:500	AREA X-XX	PROJECT No. XXX-XXXX
C.A.D.D. BY C.L.	CHECKED BY W.K.	PLAN No.
DATE MONTH YEAR	SHEET 1 OF 2	C-XXXXX

R.J. Burnside & Associates Limited