Garner Road (Wilson Street to Highway 403 Ramp) Municipal Class Environmental Assessment Phases 3 and 4

Transportation Assessment

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Prepared for:

City of Hamilton

Prepared by:

Stantec Consulting Ltd.

GARNER ROAD (WILSON STREET TO HIGHWAY 403 RAMP) MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PHASES 3 AND 4 TRANSPORTATION ASSESSMENT

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1.0 Introduction

Stantec was retained by the City of Hamilton ("the City") to perform a Municipal Class Environmental Assessment ("MCEA") Phases 3 and 4 for the segment of Garner Road between Wilson Street and Highway 403 Ramp to undertake a multi-model transportation assessment to confirm the current and future needs of Garner Road.

Garner Road between Wilson Street and the Highway 403 ramp currently operates with high vehicle traffic volumes (especially during peak hours) and there is a lack or discontinuity of active transportation (i.e., walking and cycling) and public transit provision along this road segment which limits the accessibility for such sustainable transportation modes in this area. Multiple previous studies have identified road improvement requirements along the study area, as discussed in **Section 2** of this report.

1.1 Study Objectives and Scope of Work

The objective of this transportation assessment is to review the existing and future transportation operations, needs and requirements for all transportation modes (i.e., pedestrians, bicycles, public transit, trucks and automobiles) along the study corridor.

This report documents the data and methodology used in this transportation assessment along with the study results and recommendations. The scope of work for this transportation assessment includes:

- Reviewing study area and existing traffic operation conditions along the study corridor, presented in **Section 1.0**.
- Reviewing the background documents and data collection method, presented in **Section 2.0**.
- Assessing and documenting the existing traffic operations at the study area intersections and segments using Multi-Modal Level of Service ("MMLOS") assessment methodologies to identify pedestrian, cyclist, transit, truck, and automobile levels of service, presented in **Section 3.0**.
- Assessing and documenting the operations at the study area intersections and segments under a Future Do Nothing scenario in 2031, presented in **Section 4.0**.
- Assessing and documenting the operations at the study area intersections and segments under three alternative future scenarios in 2031, presented in **Section 5.0**.
- The transportation assessment is concluded, and recommendations are provided in **Section 6.0**.

1.2 Study Area

The study area and the selected study area intersections are presented in **Figure 1.1**.

The study area intersections are listed under **Table 1.1**.

Table 1.1 - Study Area Intersections

Intersection No.	Intersection Location
101	Garner Road West/ Mason Drive & Wilson Street West (Signalized)
102	Garner Road West & McClure Road (Unsignalized)
103	Garner Road West &The SmartCentres Access Road (Unsignalized)
104	Garner Road West & Shaver Road (Signalized)
105	Garner Road West & Hamilton Drive (Unsignalized)
106	Garner Road West & Panabaker Drive (Signalized)
107	Garner Road West & Braithwaite Avenue (Unsignalized)
108	Garner Road West & Fiddlers Green Road (Signalized)
109	Garner Road East & Anson Drive (Unsignalized)
110	Garner Road East & Miller Drive (Unsignalized)
111	Garner Road East & Woodmount Avenue (Unsignalized)
112	Garner Road East & Highway 403 eastbound Off-ramp (Unsignalized)
113	Garner Road East & Highway 403 eastbound On-ramp (Unsignalized)



Figure 1.1 – Study Area

2.0 Background Documents Review and Data Collection

2.1 Background Documents Review

The following studies and documentation were reviewed to identify the overall transportation policies relevant to this study, the proposed or recommended developments and plans on and adjacent to the study area, and their impacts on Garner Road within the study area:

- Provincial Policy Statement (2020)
- Ancaster Transportation Master Plan (2011)
- Hamilton Airport Employment Growth District (2016)
- City-Wide Transportation Master Plan (2018)
  - Cycling Master Plan
  - Complete-Livable-Better Streets
- Hamilton Recreational Trails Master Plan (2016)
- Truck Routes Master Plan (2010)
- Rapid Ready (2013)
- Pedestrian Mobility Plan (2012)
- Urban Hamilton Official Plan (2013) / Rural Hamilton Official Plan (2012)
- Garner Road/Rymal Road and Garth Street Class EA (2014)

2.1.1 Provincial Policy Statement (2020)

The Provincial Policy Statement 2020 (PPS 2020) is issued under the Planning Act, R.S.O. 1990, c.P.13 and supports the planning of land uses across the province. The PPS 2020 provides policy direction for the use and management of land, as well as infrastructure, while protecting the environment and resources and ensuring opportunities for employment and residential development.

Part 3 (Policies) of the PPS 2020 relates to the planning of transportation infrastructure. Specifically, Part 3, Section 1.6.7 outlines the policies for infrastructure and public service facilities under transportation systems. The policies state that, “Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.” A multimodal transportation system is to provide connectivity within and amongst the transportation systems. Improving connections across jurisdictional boundaries should be considered where possible. Land use patterns should be planned to minimize the length and number of vehicle trips, as well as to support existing and future active transportation and transit services.

Through the PPS 2020, the province seeks to ensure that its resources are managed in a sustainable manner to protect essential ecological processes and public health and safety, minimizing environmental and social impacts to meet long terms needs.

As stated in Part 3, Section 1.6.8.6 of the PPS 2020, when planning for corridors and rights-of-way for significant transportation, electricity transmission, and infrastructure facilities, considerations will be given

to the significant resources such as natural heritage, water, agriculture, minerals and petroleum, mineral aggregate resources, and cultural heritage and archaeology.

2.1.2 Ancaster Transportation Master Plan (2011)

The Ancaster Transportation Master Plan 2011 (ATMP 2011) was established to identify improvements to the existing transportation system that would support the mobility needs of Ancaster's residents, businesses, and visitors to 2031, and result in a more livable community. The ATMP builds off the recommendations of the City of Hamilton City-Wide Transportation Master Plan, which identified a number of capacity improvements to the existing transportation network in Ancaster. Growing at a rapid rate, Ancaster has experienced significant strain on the community's transportation network, and the ATMP identifies improvements that address the needs of transit, pedestrians, cycling, as well as automobiles for the short (2016), medium (2021) and long term (2031). The ATMP encourages pedestrian environments supported by transit where access to transit facilities should be provided via sidewalks, walkways, and direct links to other neighbouring areas. To support active transportation, it is also important that Enhanced Transit stops, which may include additional amenities such as enhanced signage, well-lit passenger shelters, bicycle racks, etc., are oriented around transit to provide convenient access for employees and residents. The ATMP emphasizes improving public transit to reduce single-occupant vehicle traffic and achieve a 12% transit mode split target by 2031, by enhancing transit supportive development around major nodes and corridors, implementing transit priority infrastructure, and providing facilities for transit riders near major transit terminals. Any efforts to improve land use mix and increase density within 400 m of the Wilson Street corridor would support future transit improvements.

In the ATMP, Garner Road is recognized as a Major Arterial Road and a Full Time Truck Route. The ATMP identified improvements along Garner Road (see **Figure 2.1**) including the following:

- Three lane cross-sections including a centre two-way left turn lane, where feasible depending on the right-of-way, between Highway 2/Wilson Street and 50 m west of Shaver Road (Schedule 'B').
- Widening Garner Road to four lanes between 50 m west of Shaver Road and 50 m east of Miller Drive (Schedule 'C').

Additionally, the ATMP notes the potential for operational intersection improvements (i.e., traffic signal or a roundabout) may be required at the existing, unsignalized intersection of Garner Road and Hamilton Drive due to poor side street level-of-service (LOS).

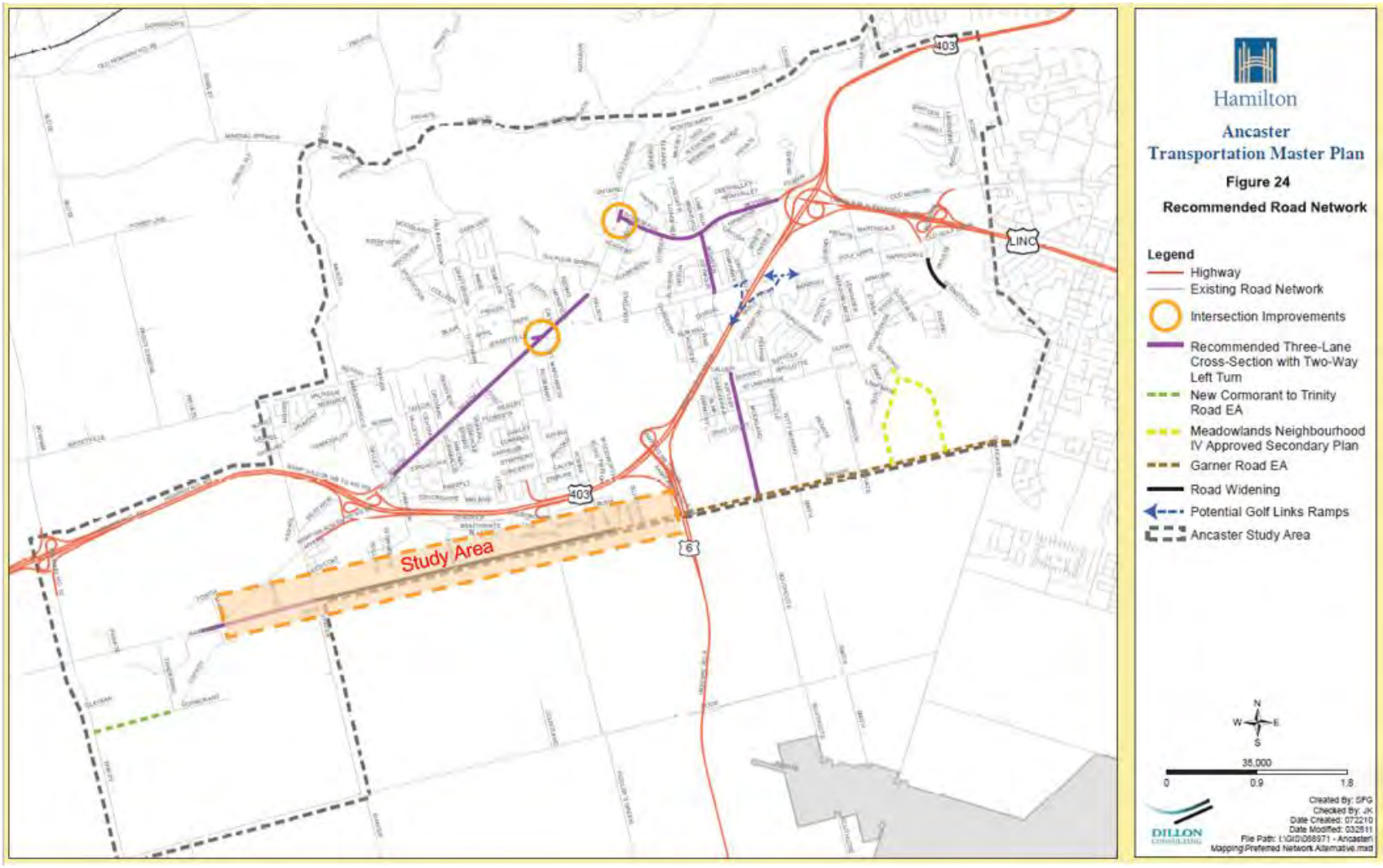


Figure 2.1 – Ancaster Transportation Master Plan Recommended Road Network

2.1.3 Airport Employment Growth District Transportation Master Plan (2016)

Hamilton Airport Employment Growth District (AEGD) is located in the southwest of the City of Hamilton Urban Area (see **Figure 2.2**). An AEGD Transportation Master Plan (TMP) was undertaken to prepare a transportation strategy that would suitably accommodate the employment projections, over 28,000 employees by 2031. The AEGD identifies a long-term vision for a strong, healthy, sustainable future shared by local government, citizens, business, groups, and organizations. A major goal of the Vision is to attract technologically advanced industries into the AEGD, such as industries with a long-term vision in the carbon neutral and energy sectors. To achieve this goal, the AEGD emphasizes the economic value added from modern transportation connections to preserve and establish a distinct character for the area.

The AEGD is bounded by Garner Road and Twenty Road West in the north, Upper James Street in the east, White Church Road and Carluke Road in the south, and Fiddler's Green Road in the west. Industrial lands are located east of Southcote, between Garner Road and Dickenson Road. Permitted uses on light industrial lands include manufacturing, warehousing and communication and high technology activities. Garner Road/Rymal Road is the primary east-west connection within the study area, which connects Centennial Parkway with the AEGD. The AEGD supports the recommendations of the TMP to:

- Widen Garner Road from Fiddler's Green Road to Glancaster Road.
- Implement rapid transit, specifically the S-Line (a Centennial Parkway/Rymal Route).
- Provide cycling infrastructure along Garner Road with Bike Lanes.
- Encourage Transportation Demand Management (TDM) strategies.

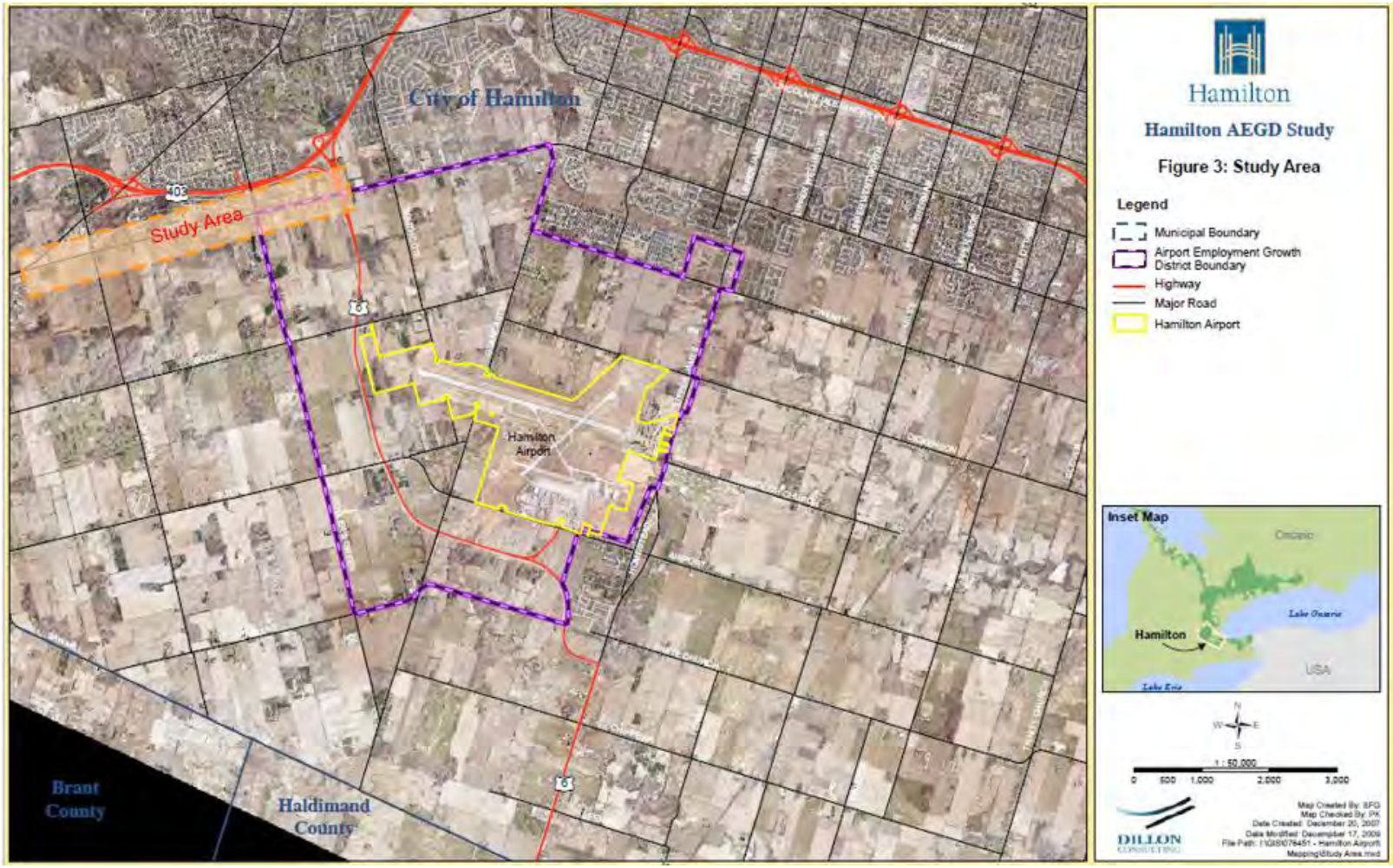


Figure 2.2 – Hamilton Airport Employment Growth District Study Area in relation to Garner Road

2.1.4 City-Wide Transportation Master Plan (2018)

The City of Hamilton's Transportation Master Plan (TMP 2018) provides the framework which guides future transportation-related studies, projects, initiatives, and decisions. The TMP considers population and employment growth with current and projected transportation trends for the 2031 planning horizon and beyond. The key objective of the TMP is to provide a comprehensive and attainable transportation blueprint for Hamilton, that balances all modes of transportation to become a healthier city. Three desired outcomes were established, to form the foundation and framework of the TMP:

1. Sustainable and Balanced Transportation System; a balanced system characterized by connectivity, accessibility, choice and equitable accommodates for all modes of transportation, and for users regardless of age, ability, or income.
2. Healthy and Safe Communities; a transportation system that encourages active lifestyles, provides safe movement of people, and reduces dependence on single occupancy vehicles, to achieve a safe and supported, healthy city with a high quality of life.
3. Economic Prosperity and Growth; providing efficient access for industries and businesses to markets, employees, suppliers, and customers. Provide high quality multi-modal choices, enabling households to reduce overall transportation costs.

Transit has been identified as a major cornerstone of the transportation system to contribute to system efficiency by reducing the need for expensive road expansion. System optimization is needed through the addition of infrastructure, such as queue jump lanes for transit, or centre two-way left turn lanes to facilitate active transportation and balance road safety and operations.

Land use designations (see **Figure 2.3**) surrounding the corridor identify Neighbourhoods north of Garner Road, and Employment Areas and Rural Areas south of Garner Road. Road Network Improvements identify road widening on Garner Road, specifically from Fiddlers Green to Glancaster Road, as a Schedule 'C' project to look at options to widen the road from two to four lanes.

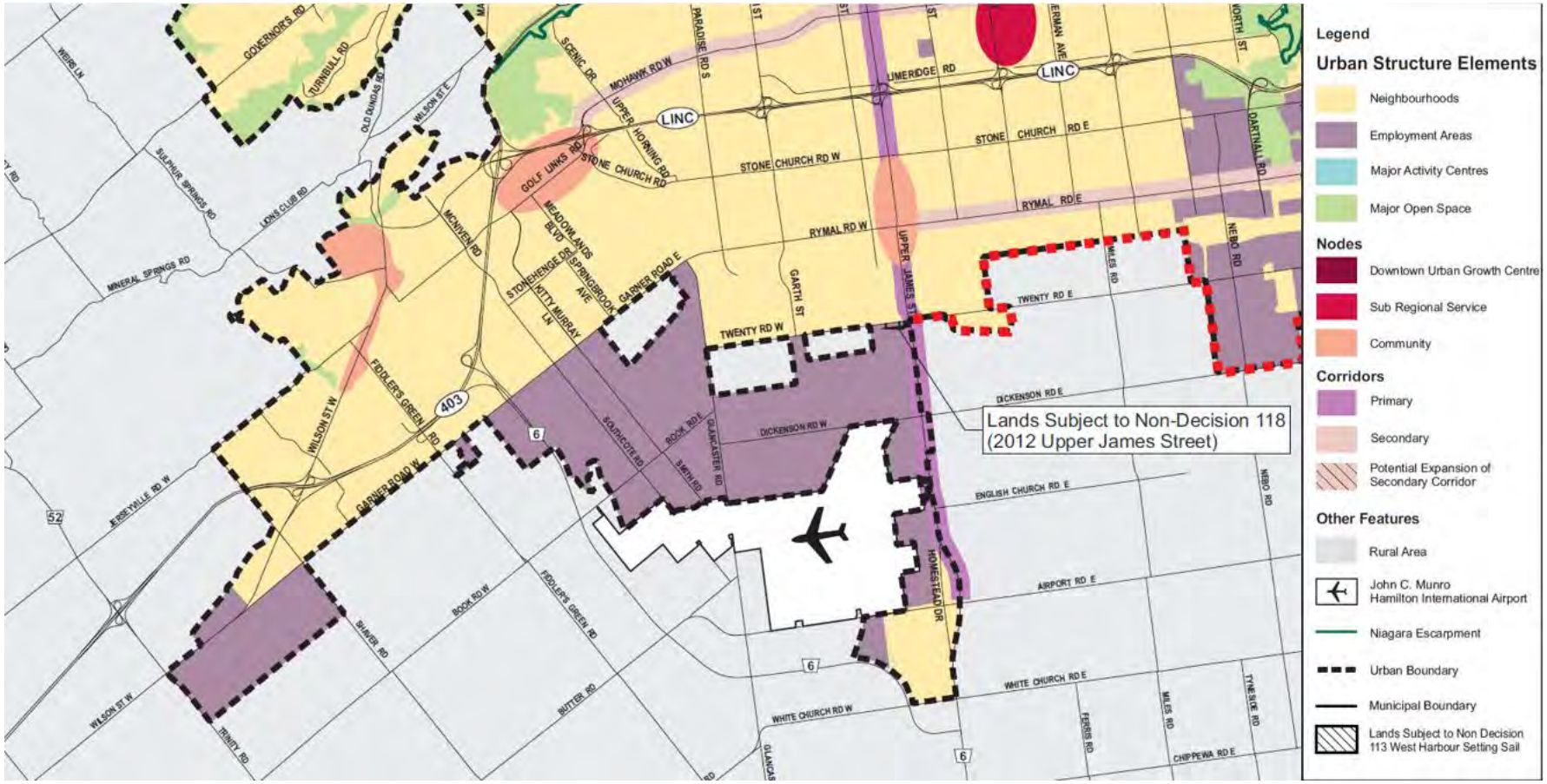


Figure 2.3 – Hamilton Transportation Master Plan - Urban Structure Elements

2.1.4.1 Cycling Master Plan

The Cycling Master Plan: *Shifting Gears* (CMP 2009), as a component of the City-Wide Transportation Master Plan (TMP), highlights improvements to the cycling network supported by the TMP, to implement a multi-modal shift in how Hamiltonians move through the City. The CMP outlines a transportation network that provides a connected, balanced, and sustainable system, focused on moving people through active transportation and transit, to reduce the use of single-occupancy vehicles. The City of Hamilton strives to provide the safest roadways for all users, to create a healthy lifestyle for the community. Per the TMP, Planned Bike Lanes are proposed along the Garner Road corridor (see **Figure 2.4**). The CMP further identifies the need for widening of Garner Road to include Bike Lanes.

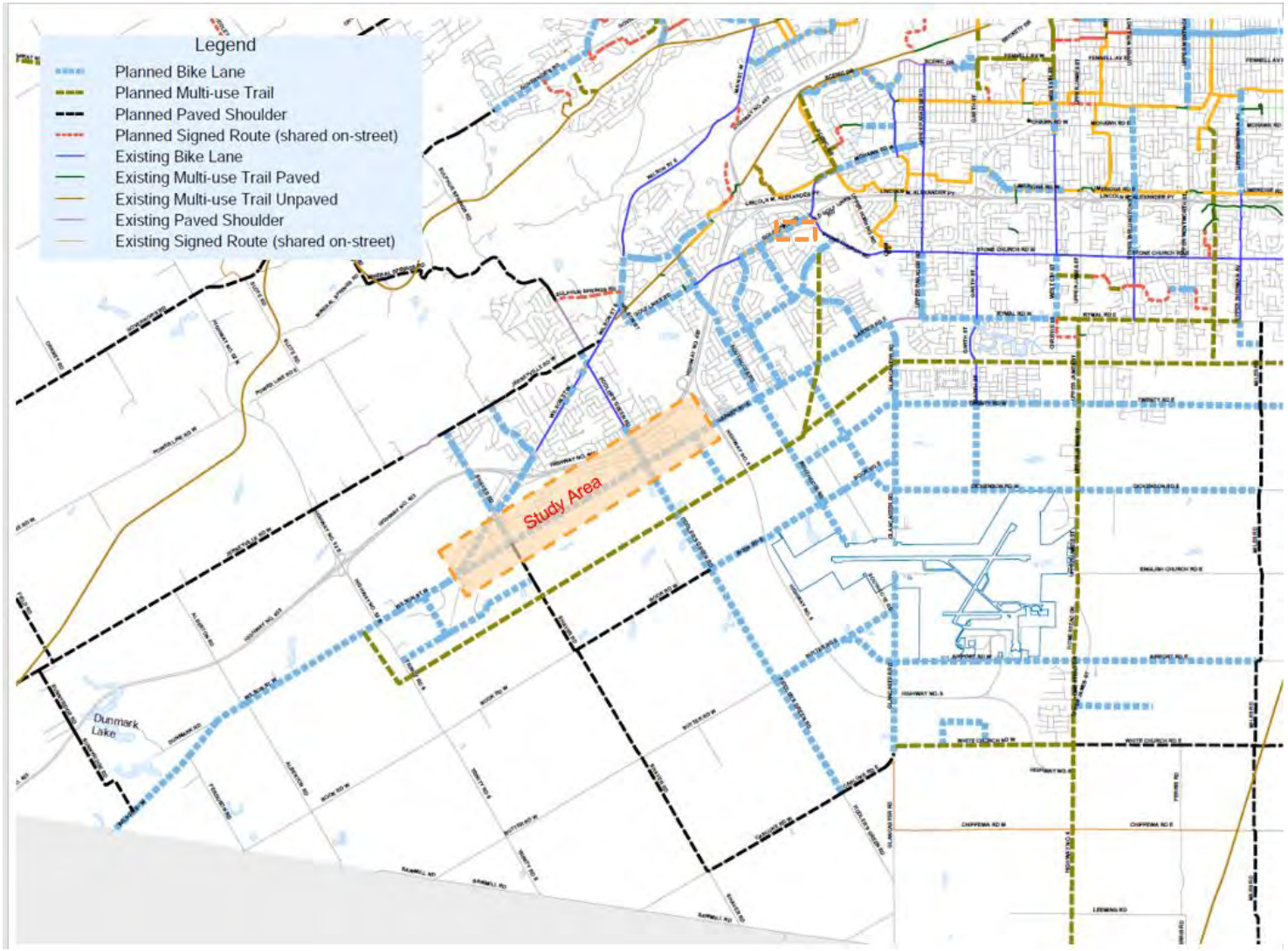


Figure 2.4 – Hamilton Cycling Master Plan - Planned Cycling Network

2.1.4.2 Complete-Livable-Better Streets

The City of Hamilton is developing a Complete, Livable, Better (CLB) Streets Design Manual which is currently at a draft stage and pending approval. CLB is an approach to right-of-way design that balances the needs of all users regardless of age, ability, or mode of transportation in an equitable manner. It represents a shift from traditional street design approaches with their primary focus on moving vehicular traffic. The CLB Street's approach recognizes that no one-size-fits-all solution is appropriate for the right-of-way, and provides a range of design solutions, and a toolkit of options to be applied in various ways to meet the needs of all users.

The CLB Streets Design Manual includes a series of categories (known as typologies) that identify different types of streets and identify the design elements that are best suited to CLB Streets in each category. Based on the different typologies, Garner Road is best categorized as a Connector Road, as it is located adjacent to a residential area, and links residential neighbourhoods to each other and to other areas of the City. It also accommodates a higher vehicle capacity and goods movement. Since Garner Road passes through residential areas, the roadway should support active transportation with wide sidewalks and multi-use paths, or dedicated cycling facilities. The maximum right-of-way width for a Connector corridor in a rural area is 36 metres. Additional details for improvements to a Connector corridor can be found in the CLB Street report.

2.1.5 Hamilton Recreational Trails Master Plan (2016)

The Hamilton Recreational Trails Master Plan (HRTM 2016) addresses trails and trail infrastructure recommendations for new connections throughout the City, for both active transportation and recreation purposes. The HRTM seeks to establish a connected, diverse, and inspiring trail network, which is accessible and safe for all users. A number of potential benefits to communities can be realized through trails and trail-related activities, as they bring support for active living, social benefits, environmental benefits, and economic benefits. No existing or proposed recreational trails are identified along or adjacent to Garner Road. However, an on-road bike route is proposed along Garner Road, including along the entirety of the study area. In general, where trail connections have not been proposed, the City is committed to providing connections to nearby trails through accommodating cyclists with on-road and multi-use paths.

2.1.6 Truck Routes Master Plan (2010)

The City of Hamilton Truck Route Master Plan (TRMP 2010) provides comprehensive recommendations for future action, policies for truck route signage, and a methodology for dealing with truck route network issues in the future. Traffic by-law requires a vehicle weighing more than 4500 kg to follow the City's designated truck route system, only deviating when making a delivery or pick-up. Hamilton recognizes the importance of a local truck route system, as the City is a major transportation centre and port for distribution. Garner Road is classified as a Major Arterial roadway and is a designated Full Time Truck Route (see **Figure 2.5**).

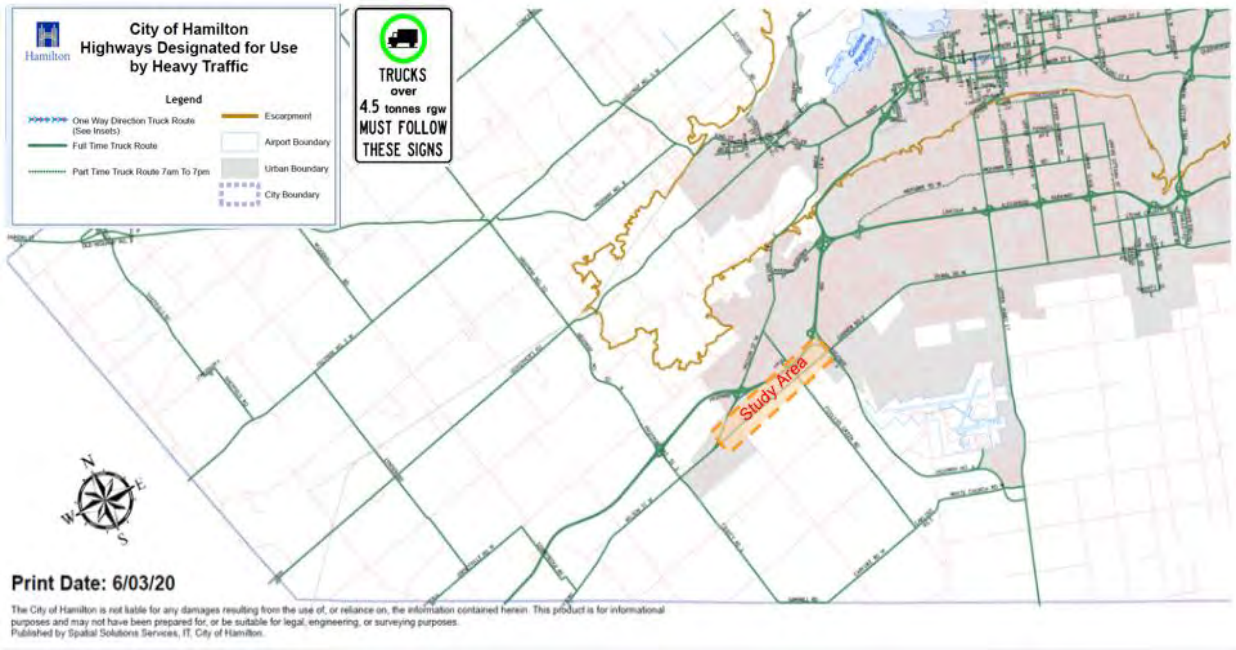


Figure 2.5 – Strategic Goods Movement Network

2.1.7 Rapid Ready (2013)

The City of Hamilton is evolving their multi-modal transportation network and preparing the implementation of rapid transit. In partnership with Metrolinx, the development of the Rapid Ready (2013) plan outlines the foundation, sets targets, and identifies action items to successfully implement BLAST rapid transit infrastructure in Hamilton as presented in **Figure 2.6**. Not only will rapid transit move people from place to place, but it will also provide a high quality, safe, sustainable, and affordable transportation option, encouraging inter-regional connections and stimulating economic development. It is recognized as a strategic priority for community wellbeing and is considered a priority to achieve a complete, compact, dynamic and efficient economy, and a healthy natural environment. Rapid Transit planning strives to improve the quality of life within the City of Hamilton community and the surrounding environment. Rapid Ready identifies the importance of improving the existing transit services and network in anticipation of rapid transit, and the need to promote the shift of travel from car to transit and other modes. The existing transit network must be enhanced to build ridership within the proposed rapid transit corridors. Additionally, transportation is a key element in the visitor experience; an efficient public transportation system can significantly enhance a city's reputation among travelers.

To prepare for rapid transit, the Rapid Ready plan identifies the key elements necessary to support rapid transit investment: building an integrated transit network and growing ridership, creating supportive land uses and communities, and developing a seamless multi-modal transportation system. The three key elements include:

- ***Improving Transit***

In anticipation of future Rapid Transit, the City of Hamilton must invest in improving existing transit services and reconfiguring the transit network. Early investments will increase ridership, elevate the role of public transit in Hamilton, and prepare residents for rapid transit implementation. A strategy to prepare for Rapid Ready identifies the importance of growing the market of transit riders that would be eventual rapid transit users, which can be done through providing additional hours of service, reconfiguring the network to prepare for rapid transit, and by changing the perception of public transit in Hamilton to be a stronger mobility choice through enhanced marketing and branding initiatives.

- ***Supportive Community Planning***

Citywide discussions need to continue regarding how the City should grow around transit and rapid transit. These discussions should be based in the City's Official Plan, zoning by-laws, corridor studies, secondary plans, and urban design guidelines. Not only should these discussions occur with City of Hamilton staff, but also with stakeholders who may provide community support and buy-in with the Rapid Transit vision. It is also important to engage property owners and developers, to better understand the level of risk and barriers for development.

- ***Multi-Modal Integration***

A rapid transit network should be supported by a multi-modal transportation system, connecting transit to other modes, including park and ride, walking, cycling, and local and inter-regional transit. This requires the involvement and buy-in from City departments, to collaborate on projects to address long-term multi-modal integration issues.

Before considering rapid transit, improvements to pedestrian environments are essential. This means creating a barrier-free and accessible pedestrian environment, and safe cycling facilities with secure bike parking to encourage cycling to transit. It will be important to create seamless connections between local, rapid, and interregional transportation, by providing a safe and efficient multi-modal corridor for all users.

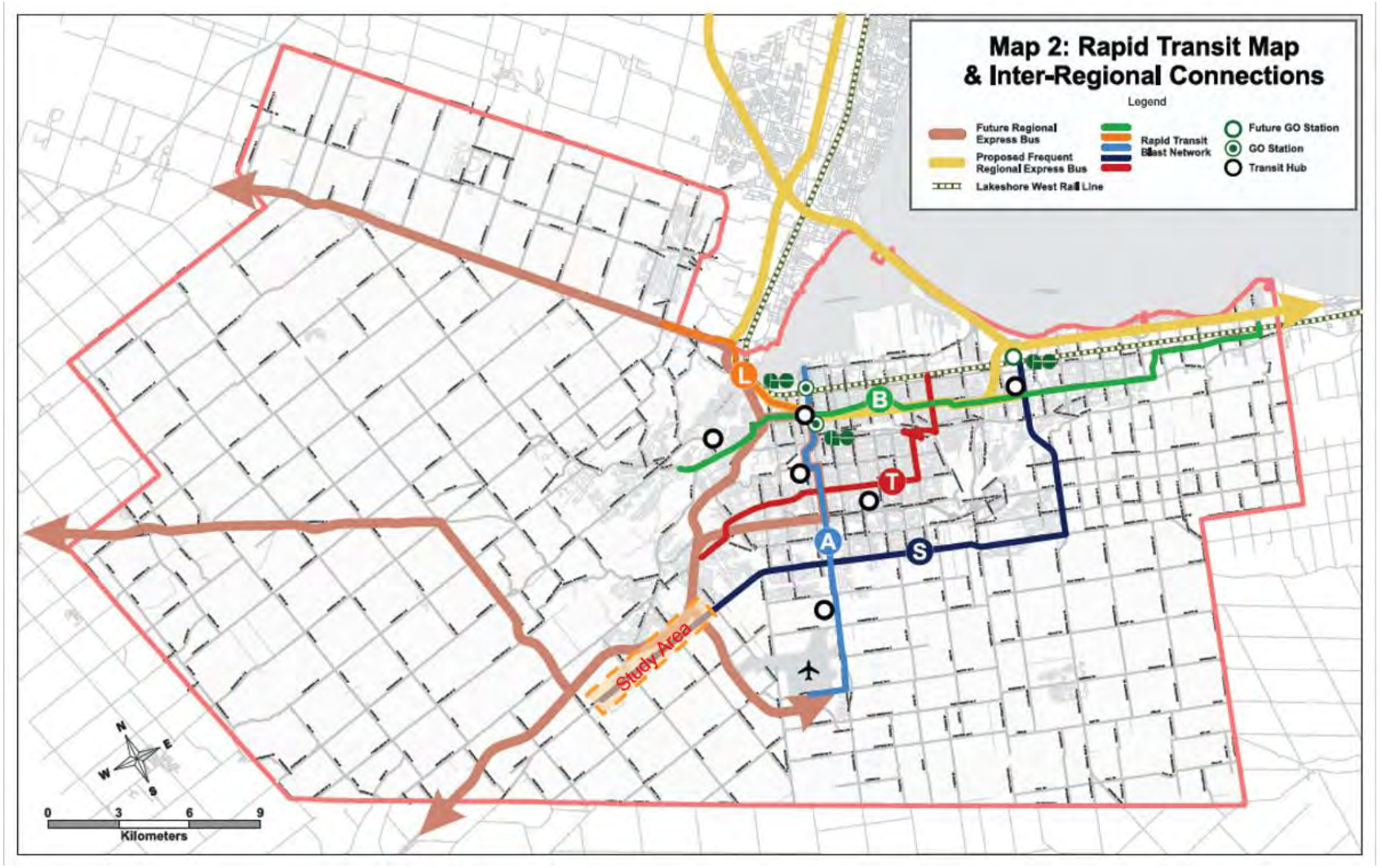


Figure 2.6 – Rapid Transit Map & Inter-Regional Connections

2.1.8 Pedestrian Mobility Plan (2012)

The Pedestrian Mobility Plan (PMP 2012) demonstrates the City's commitment to accommodate the pedestrian mobility issues and active transportation within Hamilton. The plan focuses on rebalancing pedestrian and vehicular mobility on Hamilton's streets, by providing for pedestrian needs, while accommodating vehicular traffic within the streetscape. The focus of the plan is to increase inclusive mobility, provide well designed spaces for people, improve the integration of the transportation network, reduce road danger, promote a culture of walking, and support land use and spatial planning. In addition, this will promote a healthy, efficient, and sustainable community, where people will choose to walk. The PMP recommends adhering to the Routine Accommodation Toolbox Solutions for improving pedestrian streetscapes during reconstruction, ongoing maintenance, streetscape enhancements or other capital projects. This involves a systematic approach to determining the suitability of an area to a particular streetscape and various design alternatives. Where feasible, options for sidewalks and multi-use paths should be explored.

Employing the recommendations set out in the PMP 2012 is considered to be valuable in ensuring all bus stops and Major Transit Station Areas can be accessed by all transit customers, including those who make use of personal mobility devices.

2.1.9 Hamilton Official Plan (2012)

The City of Hamilton has two Official Plans: The Urban Hamilton Official Plan (2013) and the Rural Hamilton Official Plan (2012). The Official Plan is a guiding document which outlines goals and policies to move the City towards achieving its visions for the future. The Official Plan provides a long-term vision for the physical development of the City to achieve social, economic and environmental objections. The Plan is one of the key implementation mechanisms for the City's Growth-Related Integrated Development Strategy (GRIDS) and other corporate initiatives including Master Plans, and the Social Development Strategy. The framework of the Official Plan focuses on creating a compact and healthy urban community with a balanced transportation network that offers choice so people can walk, cycle, take transit or drive, and recognizes the importance of goods movement to the local economy. GRIDS focuses on integrated growth management for land use and community services to achieve the City's Vision through the long-term development of land uses and services based on environmental priorities, social issues, economic opportunities, and population studies.

Garner Road, within the study area, is classified as a Major Urban Arterial road under the Urban Hamilton Official Plan (2013) Schedule C. It has a rural cross-section with no cycling facilities, and a discontinuous sidewalk on one side of the road. It divides Urban Hamilton from Rural Hamilton. Within the study area, the Official Plan identifies the Garner Neighbourhood Secondary Plan (Land Use Plan Map B.2.3-1). This Secondary Plan is bounded by Fiddlers Green to the west, Garner Road to the south, Southcote Road to the east, and extends to the Highway 403 corridor north (see **Figure 2.7**). Within this area, majority of the lands have been designated as low density residential. Additionally, there is designated lands for medium density residential, natural open space, neighbourhood parks, and some institutional.



Figure 2.7 – Garner Neighbourhood Secondary Plan – Hamilton Official Plan (2012)

Additionally, the Official Plan identifies the Shaver Neighbourhood Secondary Plan (Land Use Plan, Map B-2.2-1), which falls into the Garner Road EA study area. This secondary plan is bounded by Shaver Road to the west, Garner Road to the south, Fiddler's Green Road to the west, and extends to the Highway 403 corridor (see **Figure 2.8**). Within this area, the majority of lands have been designated as low density residential. Medium density residential, natural open space, neighbourhood park, high density residential, and institutional lands are also present within this area.

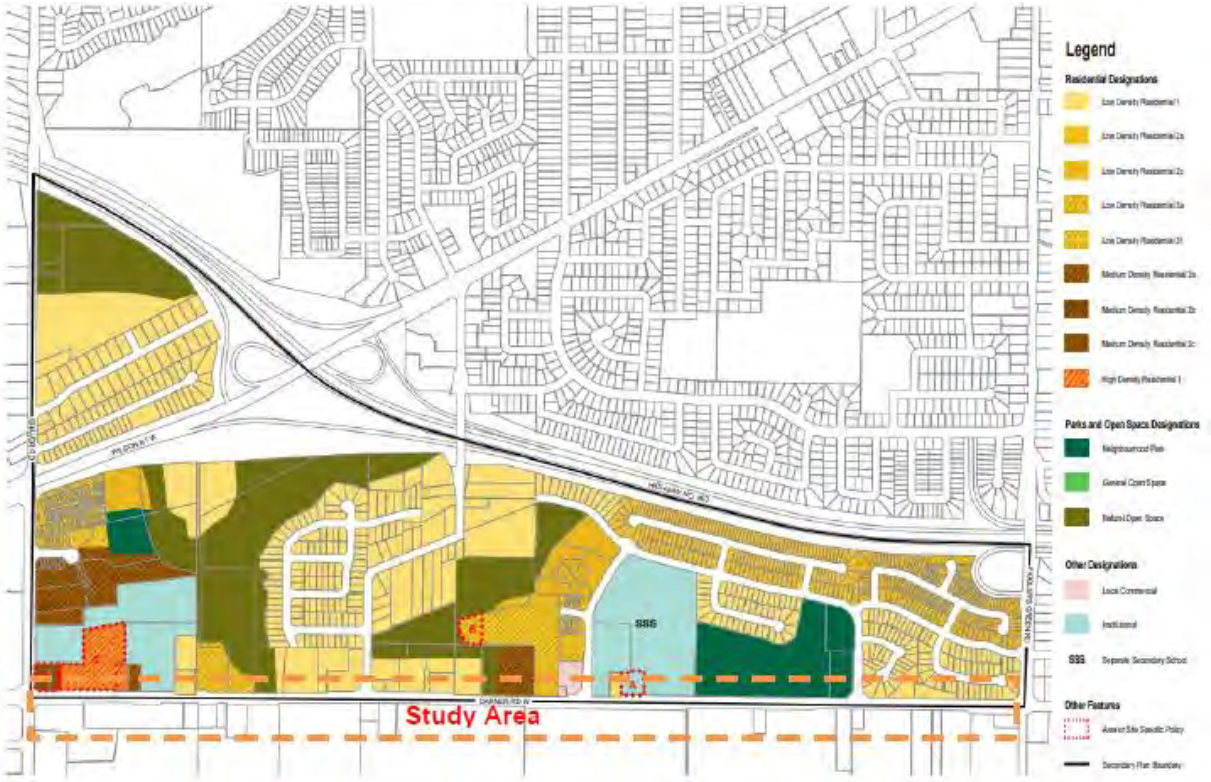


Figure 2.8 – Shaver Neighbourhood Secondary Plan – Hamilton Official Plan (2012)

2.1.10 Garner Road/Rymal Road and Garth Street Class Environmental Assessment (2014)

The Garner Road/Rymal Road and Garth Street Class EA (2014) is a Class EA from the City of Hamilton, which is assessing transportation improvement needed for the Garner Road East/Rymal Road West corridor between Highway 6 South and the West 5th Street, as well as in the Garth Street corridor from Rymal Road to Stone Church Road. Recommendations from this EA should be taken into consideration to ensure consistent transition between road segments. The study area of this EA is shown in **Figure 2.9**.

The recommended improvements from this EA were developed for the reconstruction/widening of Garner Road East/Rymal Road West from Highway 6 to West 5th Street and Garth Street from Rymal Road to Stone Church Road. Alternative transportation facilities, including transit, bike lanes and sidewalks, are accommodated in all of design options assessed. The recommended alternative is Alternative 1 (see **Figure 2.10**) (widen to four lanes with two-way left-turn lane), which has been identified as the technically preferred design concept for both the Garner Road/Rymal Road and Garth Street corridors.

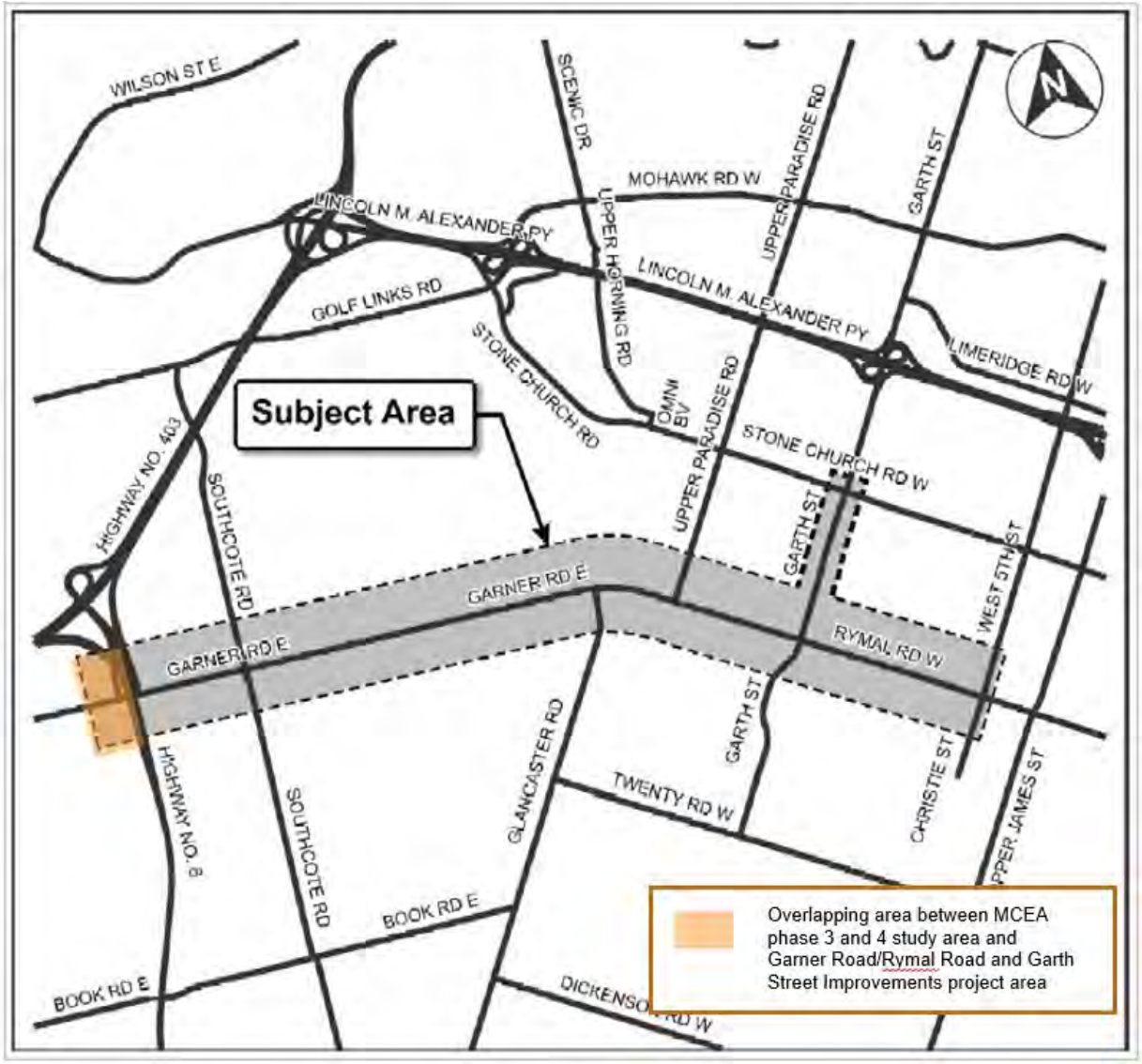


Figure 2.9 – Garner Road Recommended Alternative - Garner Road/Rymal Road and Garth Street Class Environmental Assessment (2014)

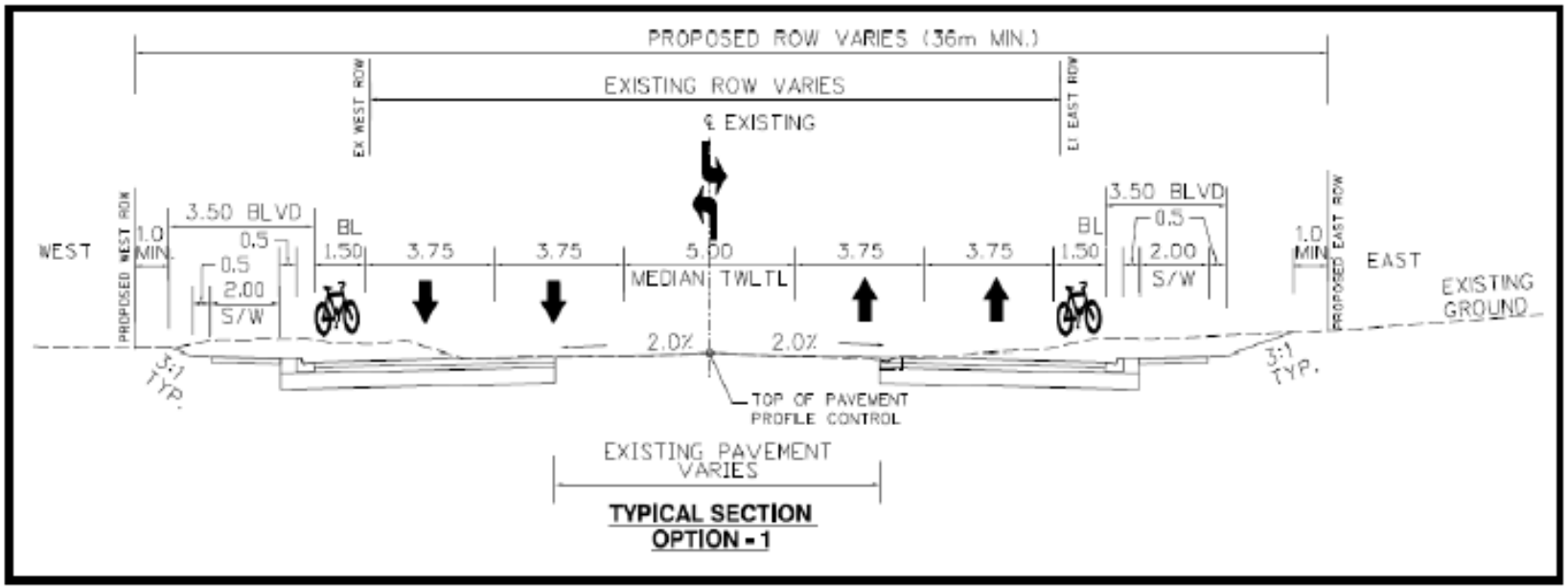


Figure 2.10 – Garner Road Recommended Alternative - Garner Road/Rymal Road and Garth Street Class Environmental Assessment (2014)DATA COLLECTION

Through coordination with the City staff, the available background information and transportation-related data were identified and collected. A summary of the data collected and reviewed is provided in this section.

2.1.11 Turing Movement Counts

Two sets of Turning Movement Counts (TMCs) were collected at the study area intersections. The first set was the historical TMC data provided by the City of Hamilton and MTO. As the traffic counts provided by the City and MTO did not include five of the study area intersections, a second set of TMCs were collected in October 2021 by Accu-Traffic Inc. on behalf of Stantec. In addition to the five intersections without historic TMC data, 2021 TMCs were also collected at several intersections where older data was available, to conduct a review of the COVID-19 impacts and to calculate the traffic growth rates in the study area. **Table 2.1** shows the data collection year and the sources of the counts for each intersection. **Figure 2.11** shows the intersection locations and final data used in the study.

The available TMCs have been included in **Appendix A**.

Table 2.1 – TMC Data Collection

Intersection No.	Intersection Location	Latest Available Data			
		Historical Count Year	Source	2021 TMC	Source
101	Garner Road West/ Mason Drive & Wilson Street West &	2019	City	2021	Accu-Traffic Inc.
102	Garner Road West & McClure Road	2015	City		
103	Garner Road West &The SmartCentres Access Road	-	-	2021	Accu-Traffic Inc.
104	Garner Road West & Shaver Road	2019	City	2021	Accu-Traffic Inc.
105	Garner Road West & Hamilton Drive	2018	City	-	-
106	Garner Road West & Panabaker Drive	2010	City	-	-
107	Garner Road West & Braithwaite Avenue	-	-	2021	Accu-Traffic Inc.
108	Garner Road West & Fiddlers Green Road	2018	City	2021	Accu-Traffic Inc.
109	Garner Road East & Anson Drive	-	-	2021	Accu-Traffic Inc.
110	Garner Road East & Miller Drive	-	-	2021	Accu-Traffic Inc.
111	Garner Road East & Woodmount Avenue	-	-	2021	Accu-Traffic Inc.
112	Garner Road East & Highway 403 eastbound Off-ramp	2018	MTO	2021	Accu-Traffic Inc.
113	Garner Road East & Highway 403 eastbound On-ramp	2016	MTO	2021	Accu-Traffic Inc.



Figure 2.11 – TMC Collected at Study Area Intersections

2.1.12 Traffic Signal Timing Plans

The latest traffic signal timing plans for all signalized study area intersections were provided by the City (see **Appendix B**).

2.1.13 Collision Data

The detailed traffic collision reports from 2015 to 2019 for all study area intersections were provided by the City (see **Appendix C**).

2.2 review of the Study Area turning movement counts

According to the consultation with the City, Stantec collected traffic counts at several intersections where traffic counts were available to assess the impacts from COVID-19 on traffic volumes in the study area. Stantec collected the traffic counts in October, 2021.

A comparison was conducted for the intersections where two sets of TMCs were available. The comparison was conducted based on the projected 2021 traffic volumes using an annual 2% growth rate and the actual traffic volumes collected in 2021. The results showed that traffic volumes collected in 2021 are generally higher than the projected traffic volumes based on applying a 2% annual growth rate to the data collected in prior years. The results are shown in **Table 2.2**. As shown in this table, the annual growth rate calculated varies from -4% to +29%. Based on this observation, an average annual growth rate of 5% was estimated and applied to the traffic volumes collected prior to 2021 to project the TMCs to the year 2021.

Table 2.2 – Study Area Traffic Annual Growth Review

Intersection		Historical Intersection Total Volume				2021 TMC Intersection Total Volume		Traffic Volume Difference		Annual Growth Rate	
		Collected Total Volume		2021 Projected Total Volume (based on 2% annual growth rate)							
Intersection	**Year**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Wilson St. W& Garner Rd. West/ Mason Dr.	2019	1,205	1,484	1,265	1,551	1,107	1,378	-158	-173	-4.15%	-3.64%
Garner Rd. W & Shaver Rd.		928	1,266	965	1,317	1,145	1,546	180	229	11.08%	10.51%
Garner Rd. W. & Fiddlers Green Rd	2018	955	1,430	994	1,488	2,061	1,958	1,067	470	29.23%	11.04%
Garner Rd. & HWY 403 Eastbound off-ramp		1,800	1,421	1,873	1,478	1,673	1,653	-200	175	-2.41%	5.17%
Garnier Rd. & HWY 403 Eastbound on-ramp	2016	1,257	1,626	1,308	1,692	1,791	1,693	483	1	7.34%	0.81%

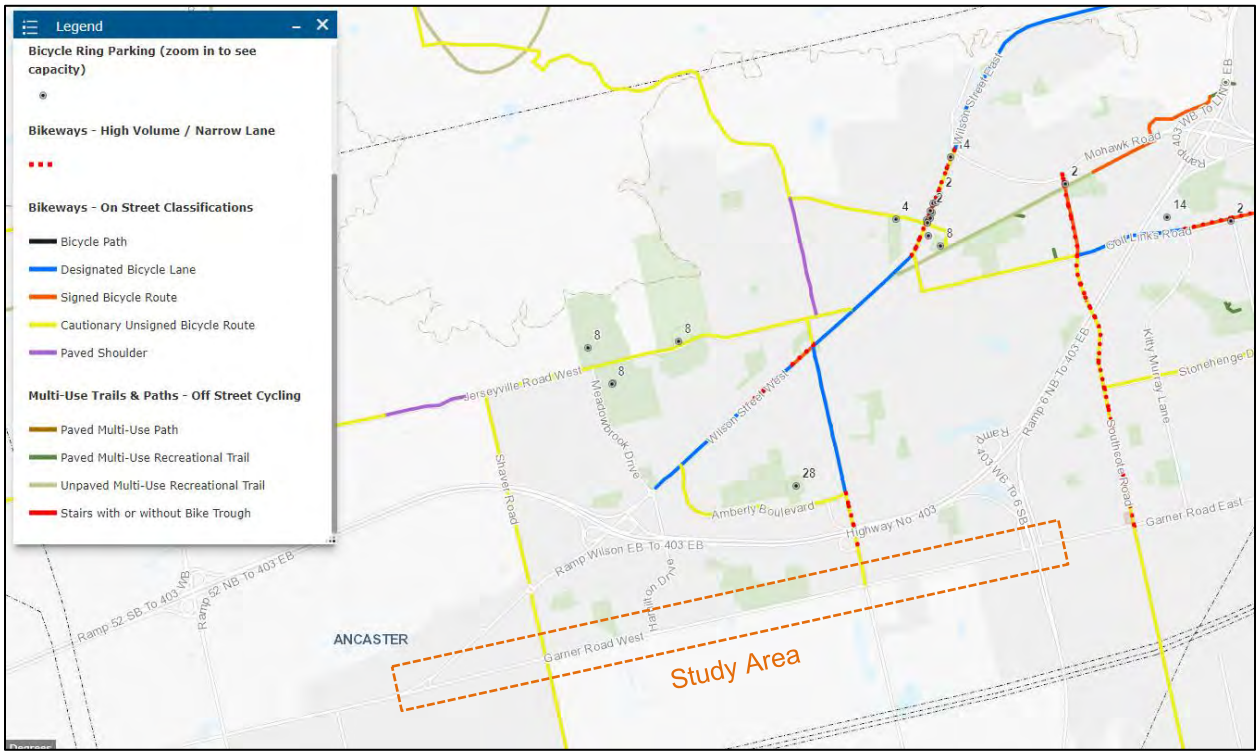
3.0 Existing Traffic Conditions

The existing multi-modal transportation system within the study area was assessed in this study with a high-level inventory of the existing network and its characteristics, including roadways, active transportation, and transit infrastructure.

3.1 Multi-model network inventory

3.1.1 Existing Active Transportation Facilities

As noted in **Figure 3.1**, there are no cycling facilities provided on Garner Road in the study area. A cautionary unsigned bike route is installed along Shaver Road. On Fiddlers Green Road, a cautionary unsigned bike route starts northerly from Garner Road approximately 260 meters, then northerly connected to a designed bicycle lane.



Source: www.hamilton.ca/home-neighbourhood/getting-around/biking-cyclists/cycling-routes-map [Accessed February 2023]

Figure 3.1 – Existing Cycling Network

As noted from a site inspection and Google Earth imagery (see **Figure 3.2**), there are two existing segments of sidewalk which serve the residential areas on the north side of Garner Road. One section is from approximately 100 meters west of Braithwaite Avenue to Fiddlers Green Road. The other section is from approximately 100 meters west of Miller Drive to Woodmount Avenue, as shown in red in **Figure 3.2**.

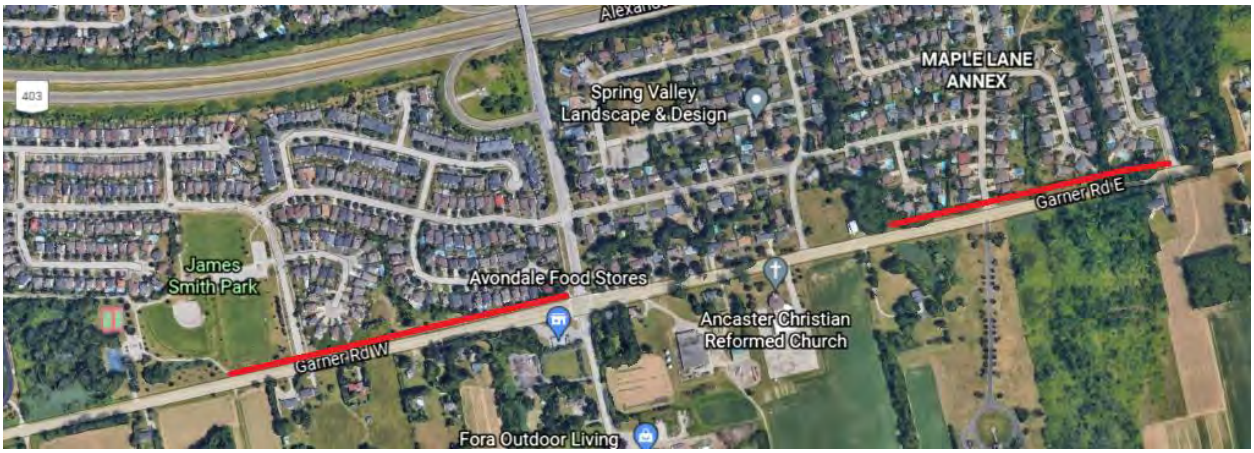


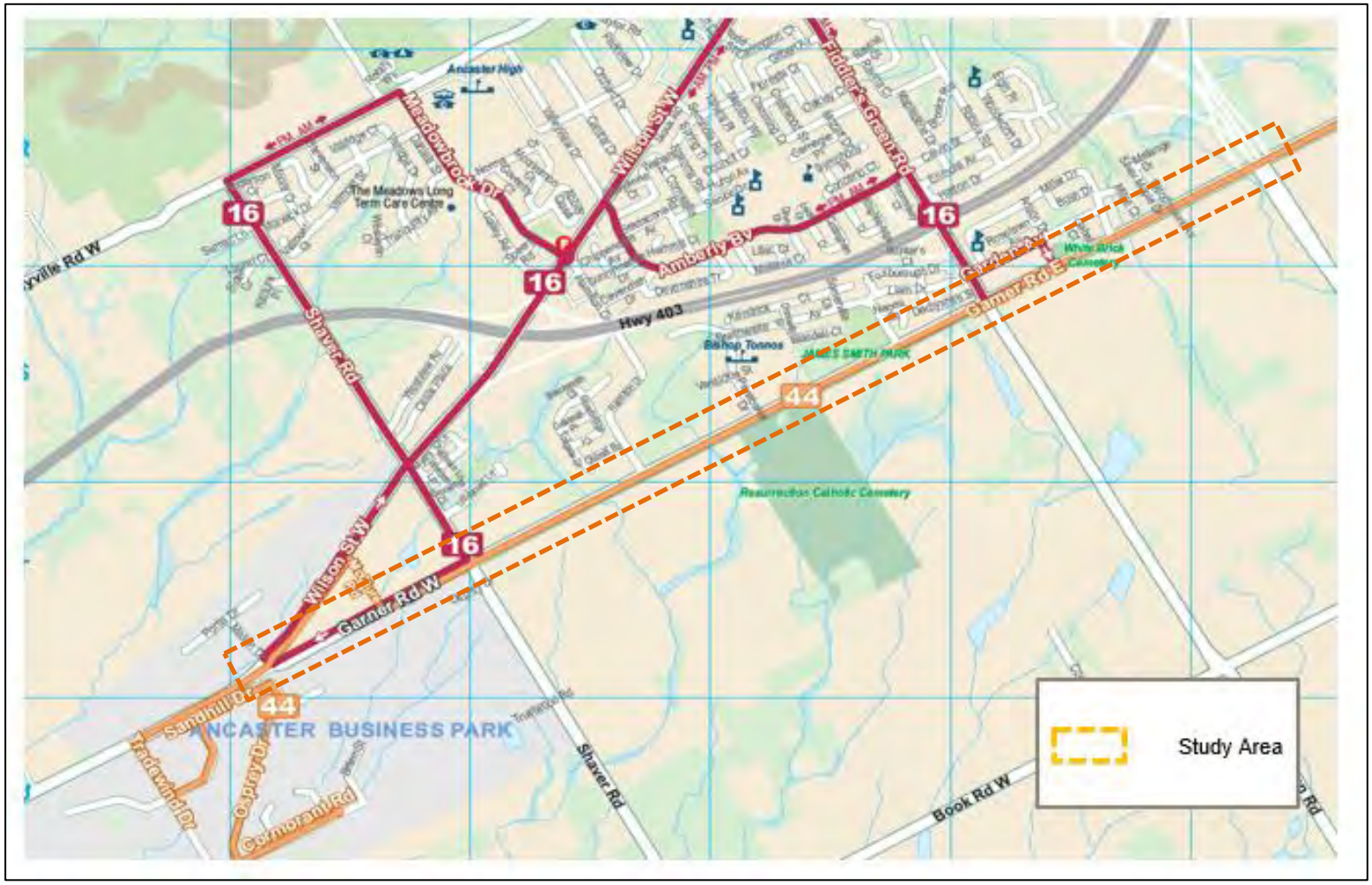
Figure 3.2 – Existing Sidewalk in Study Area

3.1.2 Existing Transit Services

Hamilton's transit agency (HSR: Hamilton Street Railway) currently operates two bus routes along Garner Road. Route 44 operates the entire length of Garner and Route 16 operates along two portions of Garner Road (See **Figure 3.3**). Further information is provided as follows:

Route 44: Provides an east-west service along Garner Road and Rymal Road, connecting Upper Centennial Parkway with Redeemer University and Wilson Street. This route connects with the B-Line in the BLAST rapid transit system at Eastgate Terminal on Centennial Parkway. It will provide local route support to the future S-Line of the BLAST rapid transit system (see **Section 2.1.4.1**). The route provides service to the developed portion of the Ancaster Business Park. On Weekdays the route operates at 15-minute intervals in peak periods and 30-minute intervals in off-peak periods. On Weekends, within the study area, the route operates at 60-minute intervals.

Route 16: Provides a service primarily along Wilson Street between Duff's Corner and Meadowlands. There is also a morning eastbound and afternoon westbound routing that connects Wilson Street to Garner Road, along Fiddler's Green and Amberly Boulevard. From Monday to Friday between 5:00 AM and 09:30 PM, service is interlined with Route 43 Stone Church, eliminating transfers for passengers with trip ends across Hamilton's South Mountain. On Saturdays, service is provided between 8:30 AM and 10:00 PM. There is no Sunday service. During weekdays, buses generally run at 30-minute frequencies during peak periods and one-hour frequencies during off-peak times. On Saturdays, service is provided at one-hour frequencies.

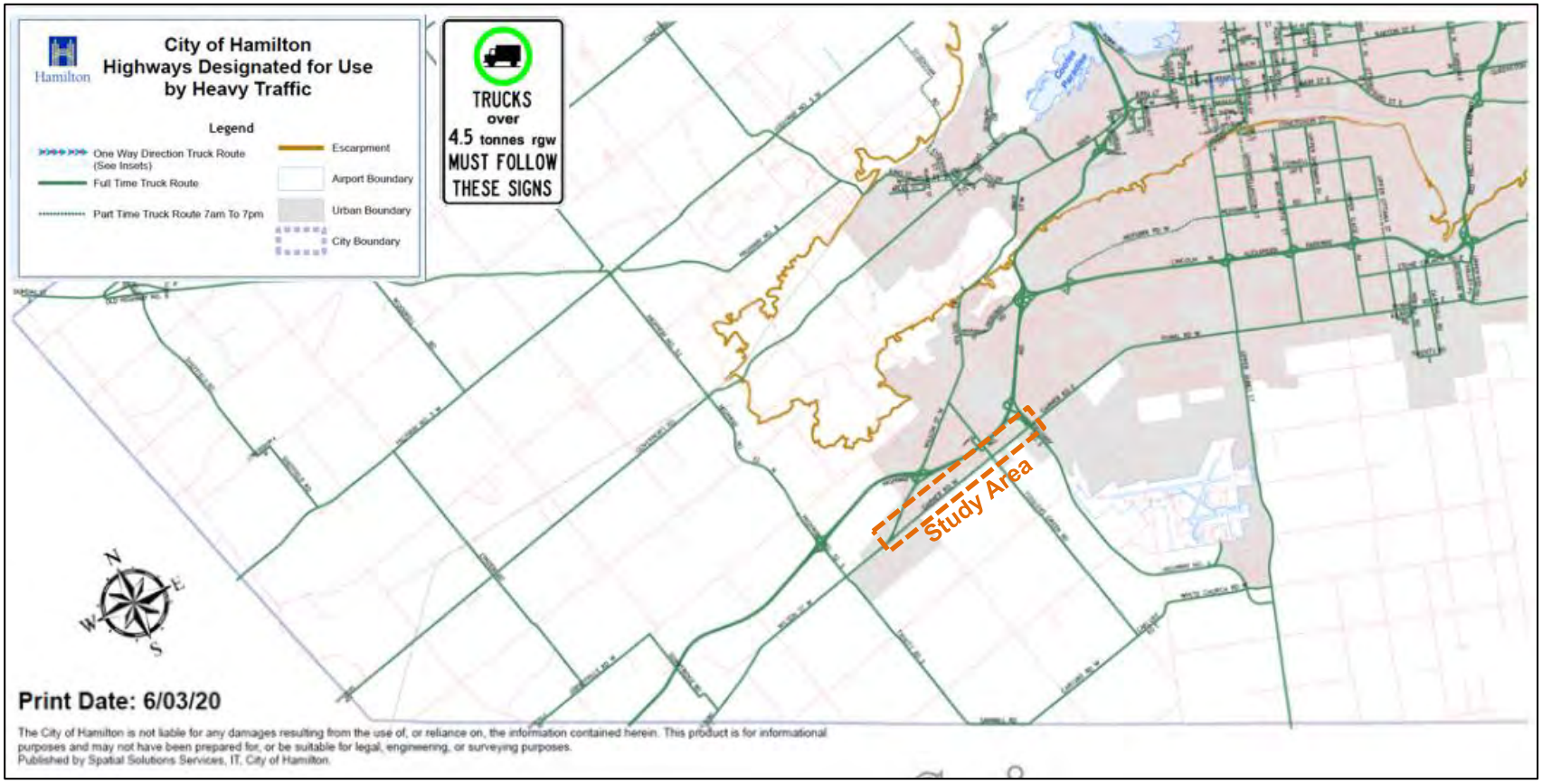


Source: *hsr-system-map-dec2019.pdf (hamilton.ca)*

Figure 3.3 – Existing Transit Services in the Study Area

3.1.3 Existing Truck routes

The truck routes in the study area are illustrated in **Figure 3.4**. There are full-time truck routes along Garner Road and Wilson Street. The north side of Fiddlers Green Road is a full-time truck route, and the south side only serves specified users.



Source: [Truck Routes Overall and Urban.pdf (hamilton.ca)]

Figure 3.4 – Truck Routes

3.2 Existing Vehicle Network

The existing roadway network in the study area includes:

Garner Road is an east-west two-lane major arterial road under the jurisdiction of the City with a posted speed limit of 60 km/h across the study area. At the intersection with Wilson Street/Mason Drive, two channelized right turn lanes provide access between Garner Road and Wilson Street eastbound and provide extra capacity at this intersection. At all signalized intersections, dedicated left-turning lanes are provided.

Shaver Road is a north-south two-lane collector under the jurisdiction of the City with a posted speed limit of 60 km/h. At the intersection with Garner Road, the dedicated left-turning lanes are installed at the north and south approaches.

Fiddler's Green Road is a north-south two-lane minor arterial road under the jurisdiction of the City with a posted speed limit of 50 km/h. At the intersection with Garner Road, the dedicated left-turning lanes are installed at the north and south approaches.

Wilson Street is an east-west major arterial road under the jurisdiction of the City with posted speed limits in the range of 60 km/h. At the intersection with Garner Road, dedicated left-turning lanes are installed at the east and west approaches. A channelized right turn lane is provided to Wilson Street eastbound from Garner Road. The vehicles that exit from Wilson Street westbound, merge onto Garner Road through the connecting ramp.

Highway 403 is a provincial highway in Ontario under the jurisdiction of MTO with a posted speed limit of 100 km/h. It connects to Garner Road with an off-ramp and an on-ramp. The intersection of Highway 403 off-ramp and Garner Road is controlled by a stop sign. A dedicated left-turning lane is provided at the intersection of Garner Road and Highway 403 on-ramp for the eastbound left-turning traffic.

Panabaker Drive is a two-lane local roadway under the jurisdiction of the City with a regulatory speed limit of 40 km/h. At the intersection with Garner Road, there is a dedicated left-turning lane at the north approach.

McClure Road is a two-lane local roadway under the jurisdiction of the City with a regulatory speed limit of 50 km/h. It is southerly connected to Garner Road without any dedicated turning lane.

SmartCentres Access Road is the private entrance to SmartCentres with a two-lane cross-section with a posted speed limit of 15 km/h.

Hamilton Drive is a local roadway with a two-lane cross-section under the jurisdiction of the City with a posted speed limit of 40 km/h.

Braithwaite Avenue is a local roadway with a two-lane cross-section under the jurisdiction of the City with a posted speed limit of 40 km/h.



Anson Drive is a local roadway with a two-lane cross-section under the jurisdiction of the City with a posted speed limit of 40 km/h.

Miller Drive is a local roadway under the jurisdiction of the City with a two-lane cross-section with a posted speed limit of 40 km/h.

Woodmount Avenue/Sliver Maple Drive is a local roadway with a two-lane cross-section under the jurisdiction of the City with a posted speed limit of 40 km/h.

3.3 Existing Roadway Safety Evaluation

3.3.1 Existing Safety Review

Historical collision data were obtained from the City along the study area corridor for a five-year period from 2015 to 2019. The data included collisions at intersections and mid-block locations along Garner Road from its intersection with Wilson Street to its intersection with Highway 403 on-ramp.

The collision data identifies the total number of collisions, accident locations, characteristics related to the initial impact types, types of collisions (i.e., 'Property Damage Only' (PDO), 'Injury', or 'Fatal'), and environmental conditions. A total of 140 collisions were recorded within the study area during the five-year period, which included 29 collisions happened at intersections, 34 collisions happened at mid-block locations, and 77 accidents have no records about accident location.

The details of collision data for the study area intersections are presented in **Appendix C**.

3.3.2 Collisions at Intersections

The major findings of the intersections' collision analysis are as follows:

- Within the five-year period, 29 (21%) out of the total 140 collisions were reported at intersections. All of these collisions (100%) happened under 'Clear' weather conditions.

- All collisions reported at intersections involved motorized vehicles and none involved pedestrians or cyclists.

- The general trend in collisions at intersections was increasing although the change in the total number of collisions per year varies between 3 to 8 as shown in **Figure 3.5**.

- The primary impact types were 'Angle' (41%) and 'rear-end' (34%) as illustrated in **Figure 3.6**. Approximately 31% of the collisions were non-reportable and about 34% of the collisions resulted in Property Damage Only (PDO) and in 'Injury' (i.e., non-fatal), as presented in **Table 3.7**. No 'fatal' collisions were reported within the study area in the last five years.

- Besides the 'unknown' occupied majority (38%), disobeyed traffic control (17%), failed to yield right of way and improper turn (14%), following too close (10%) and speed too fast for condition and lost control (3%) were the initial driver actions that were most often recorded in collisions as demonstrated in **Figure 3.8**.

- 31% of collisions occurred at the intersection of Garner Road and Fiddles Green Road, following by Garner Road and Shaver Road with 17%. 10% of incidents happened at the intersections of Garner Road and Hamilton. The intersection of Anson Drive and Wilson Street at Garner Road have the lowest collision percentage of 3%. 7% of collisions occurred at to the other five intersections.

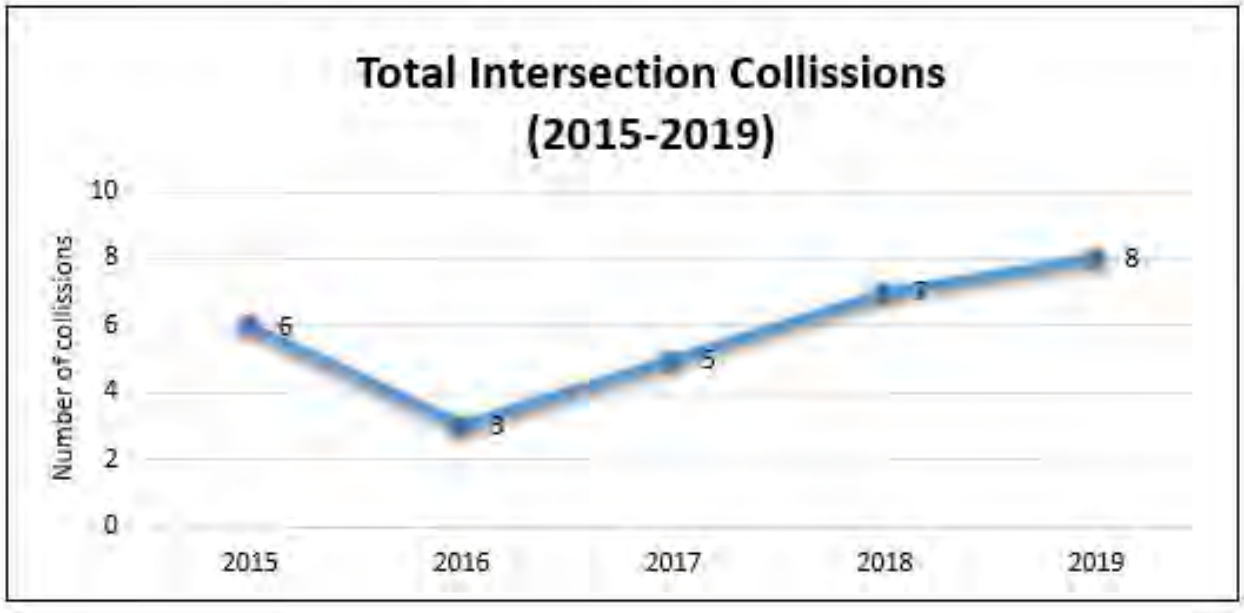


Figure 3.5 – Total Collisions per Year at Intersections

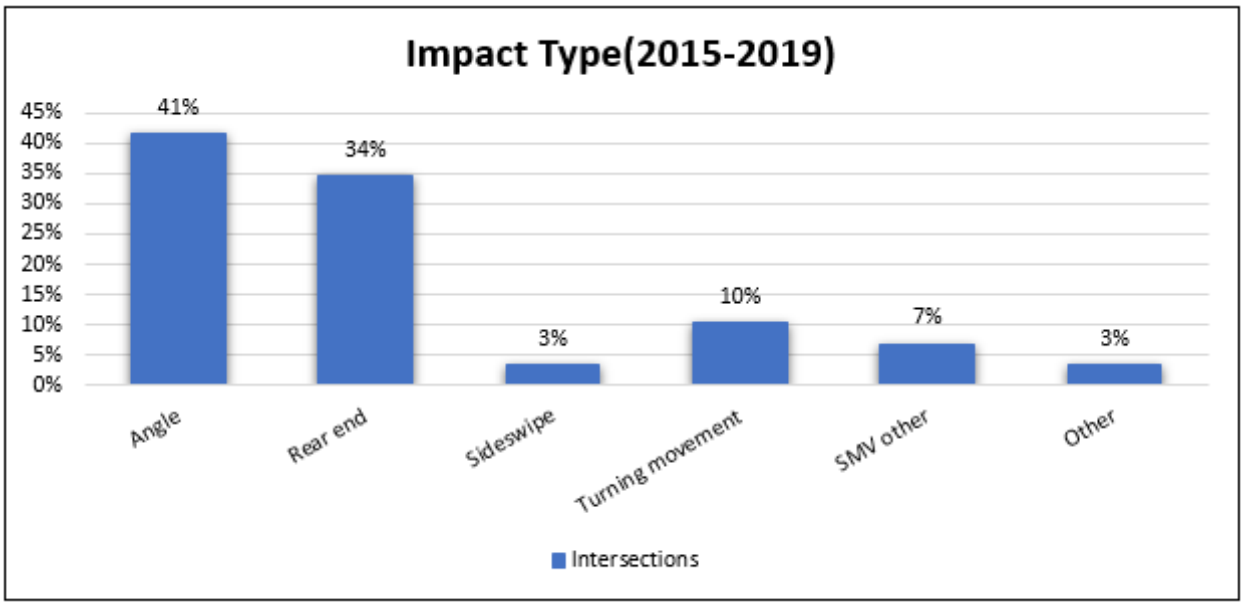


Figure 3.6 – Collisions Impact Types (Intersections)

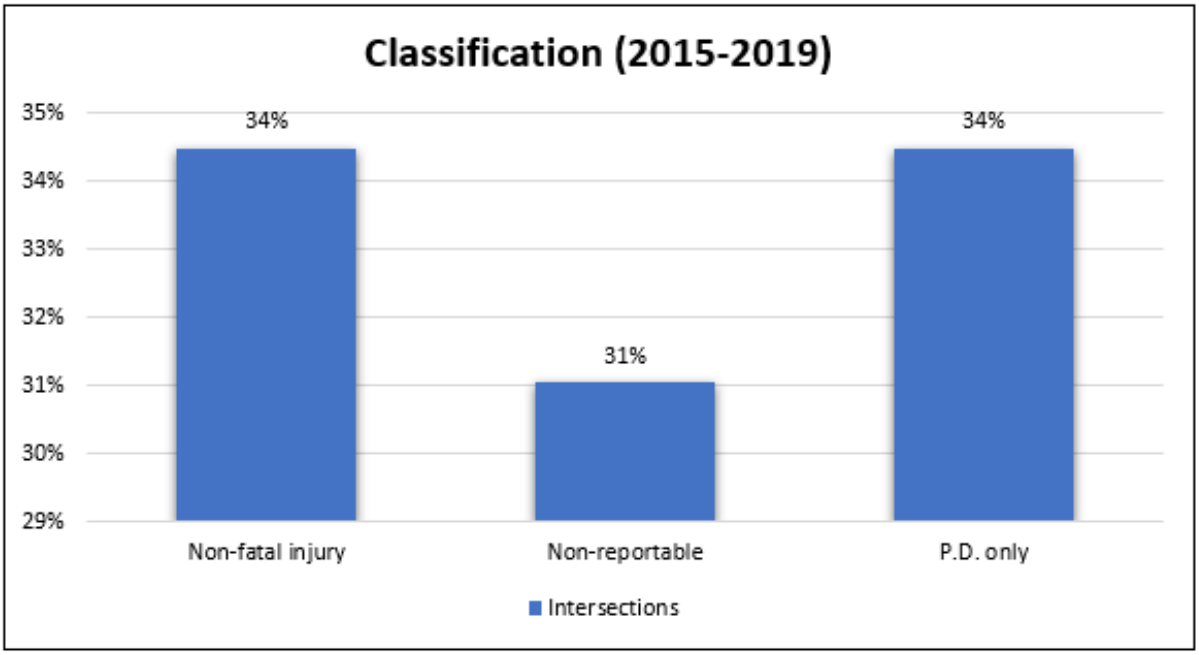


Figure 3.7 – Collision Classification (Intersections)

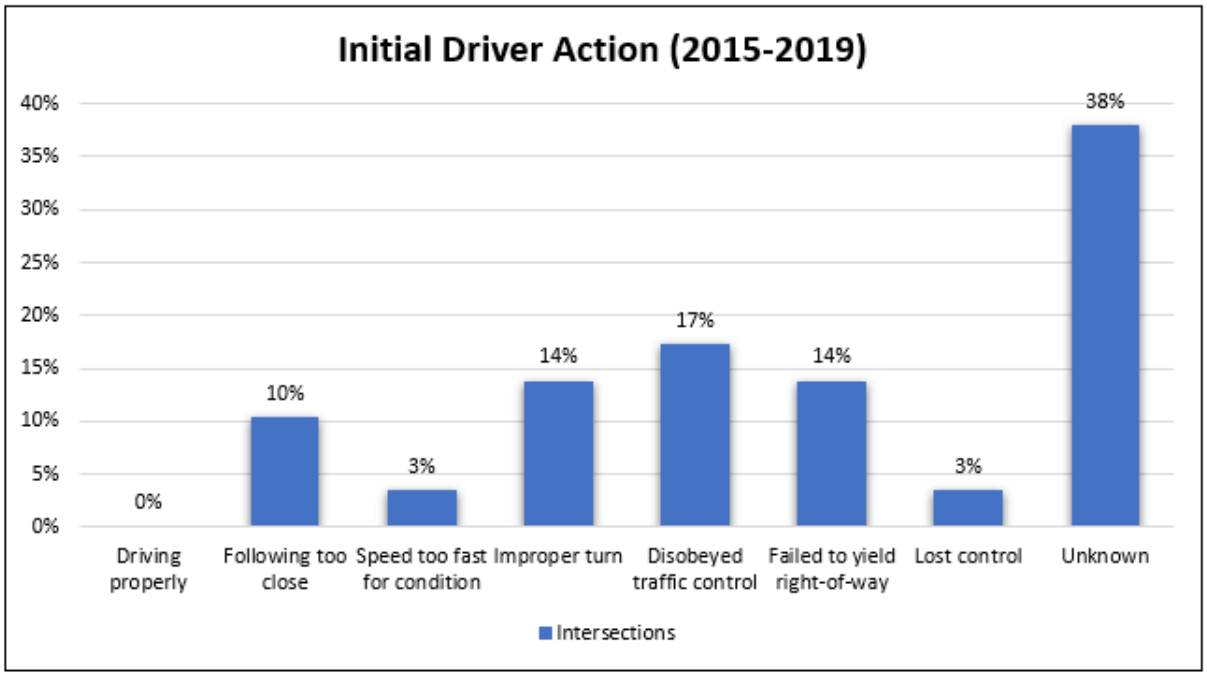


Figure 3.8 – Initial Driver Action (Intersections)

Table 3.1 presents the collision rates calculated for the study area intersections. The collision rates at study area intersections were calculated based on the following formula:

$$R = \frac{1{,}000{,}000 \times C}{365 \times V \times N}$$

Where:

R = Collision rate for the intersection expressed as accidents per million entering vehicles

C = Total number of collisions in the study period

N = Number of years of data

V = Traffic volumes entering the intersection daily

Table 3.1 – Collision Rate at Intersections

Intersection	Collisions (C)	Volume (V)	Data Period (N)	Collision Rate (R)
RAMP WILSON EB TO GARNER EB @ GARNER RD W	2	22,114	5	0.05
WILSON ST W @ RAMP WILSON EB TO GARNER EB	1	16,583	5	0.03
GARNER RD W @ MCCLURE RD	2	14,743	5	0.07
GARNER RD W @ SHAVER RD	5	22,551	5	0.12
GARNER RD W @ HAMILTON DR	3	27,171	5	0.06
GARNER RD W @ PANABAKER DR	2	27,289	5	0.04
FIDDLER'S GREEN RD @ GARNER RD W	9	30,761	5	0.16
ANSON DR @ GARNER RD E	1	22,551	5	0.02
GARNER RD E @ MILLER DR	2	23,517	5	0.05
GARNER RD E @ RAMP 403 WB TO GARNER	2	77,478	5	0.01

The highest collision rate was observed at the intersection of Garner Road and Fiddlers Green Road. The second highest collision rate was observed at the intersection of Garner Road and Shaver Road. It should be noted that the collision rates are generally low at the study area intersections.

3.3.3 Collisions at Mid-Blocks

The major findings of the collision analysis at mid-block locations are as follows:

- Within the five-year period, 34 (24%) out of the total 140 collisions were reported at mid-block locations. More than half of these collisions (56%) happened under ‘Clear’ weather conditions.

- All collisions reported at mid-block locations involved motorized vehicles and none involved pedestrians or cyclists.

- From 2015 to 2018, the number of collisions which happened at mid-block locations increased from 2 to 11 collisions per year, while the number of collisions in the year 2019 decreased to 7, as demonstrated in **Figure** 3.9.

- The primary impact type was ‘rear-end’ (32%), ‘followed by ‘slow moving vehicles (SWV) other’ (26%) and ‘angle’ (24%), as illustrated in **Figure 3.10**. Approximately 50% of the collisions were non-reportable, and about 29% and 18% of the collisions resulted PDO and in ‘Injury’ (i.e., non-fatal), respectively, as shown in **Figure 3.10**.

- Besides the ‘unknown’ occupied majority (62%), following too close (15%), losing control (12%), failing to yield right of way (9%) and driving properly (3%) were the initial driver actions that were recorded in collisions at mid-block locations, as demonstrated in **Figure 3.11**.

- It was reported that out of the 34 collisions at mid-block locations, 14 (41%) incidents occurred from the east ramp of Garner Road to Shaver Road during these 5 years, 8 (24%) incidents occurred at the segment of Garner Road from Hamilton Drive to Fiddlers Green Road, and 12 (35%) collision occurred at the mid-block location from Fiddlers Green Road to Woodmount Avenue.

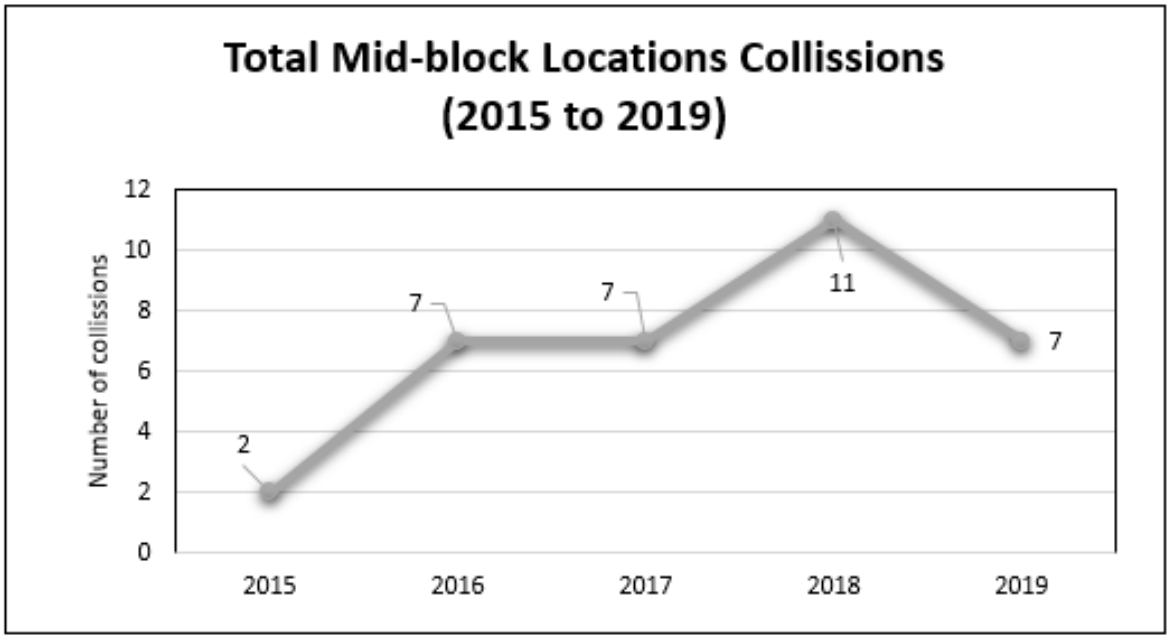


Figure 3.9 – Total Collisions at Mid-blocks

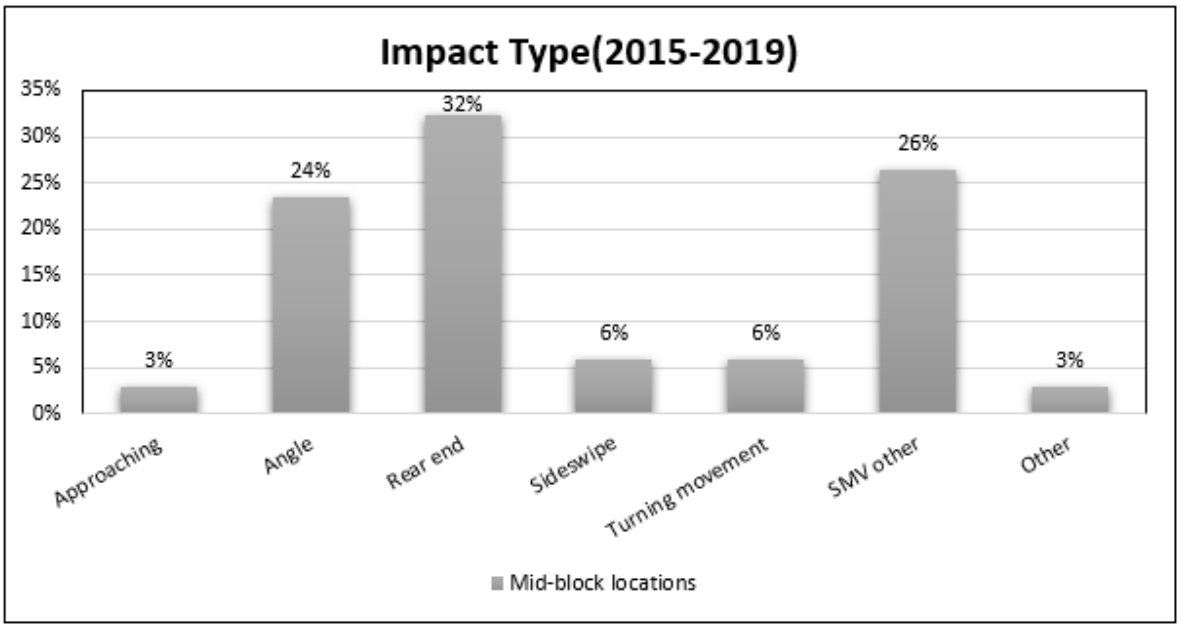


Figure 3.10 – Impact Type (Mid-blocks)

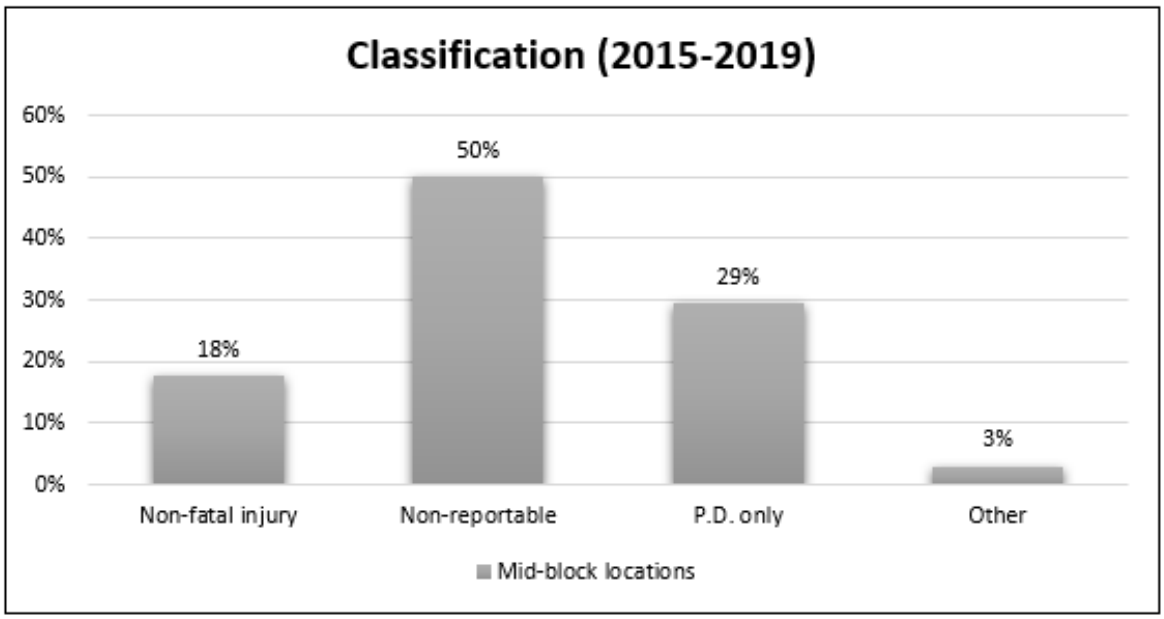


Figure 3.11 – Collision Classification (Mid-blocks)

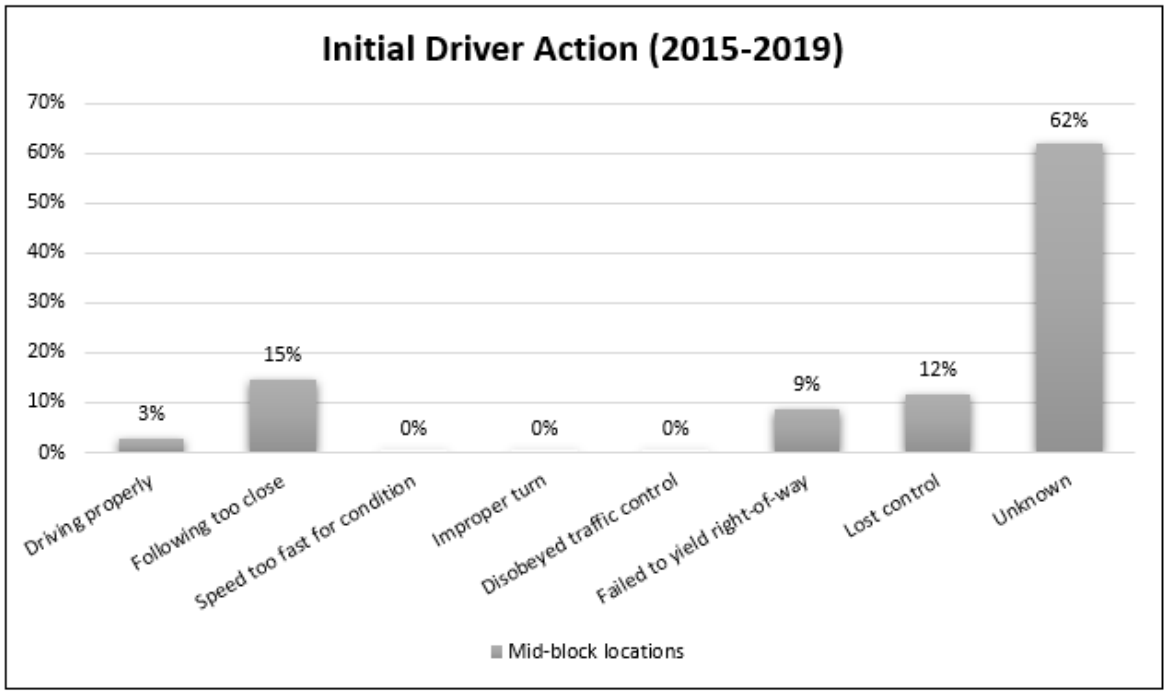


Figure 3.12 – Initial Driver Action (Mid-blocks)

Table 3.2 presents the collision rates calculated for the mid-block locations in the study area. The collision rates at study area mid-block segments were calculated based on the following formula:

$$R = \frac{1{,}000{,}000 \times C}{365 \times V \times N \times L}$$

Where:

R = Collision rate for the road segment expressed as accidents per million vehicles per length

C = Total number of collisions in the study period

N = Number of years of data

V = Traffic volumes daily

L = Road segment length in kilometer

Table 3.2 – Collision Rate at Mid-blocks

Mid-block	Collisions(C)	Volume (V)	Data Period(N)	Segment Length (L)	Collision Rate (R)
GARNER RD W - BRAITHWAITE & FIDDLER'S GREEN	7	20,302	5	0.414	0.46
GARNER RD W -BRAITHWAITE & PANABAKER	4	18,988	5	0.67	0.17
GARNER RD W - HAMILTON & PANABAKER	3	17,531	5	0.55	0.17
GARNER RD W - MCCLURE & PRIVATE	2	14,656	5	0.65	0.12
GARNER RD W - MCCLURE & RAMP GARNER WB TO WILSON EB	2	15,223	5	0.47	0.15
GARNER RD W - PRIVATE & SHAVER	5	15,546	5	0.24	0.73
GARNER RD W - RAMP GARNER WB TO WILSON EB & RAMP WILSON EB TO GARNER EB	3	20,632	5	0.23	0.35
GARNER RD E - ANSON & FIDDLER'S GREEN	5	23,164	5	0.33	0.36
GARNER RD E - ANSON & MILLER	1	23,113	5	0.27	0.09
GARNER RD E - MILLER & WOODMOUNT	2	23,581	5	0.27	0.17

3.4 Existing Traffic Volumes

Due to the absence of 2021 traffic counts at the Garner Road intersections with McClure Road, Hamilton Drive and Panabaker Drive, traffic volumes at these intersections were established by applying the estimated annual traffic growth rate of 5.0% to the historical TMCs to project 2021 traffic volumes.

The balanced existing traffic volumes for the AM and PM peak hours are illustrated in **Figure 3.13** and **Figure 3.14**, respectively.

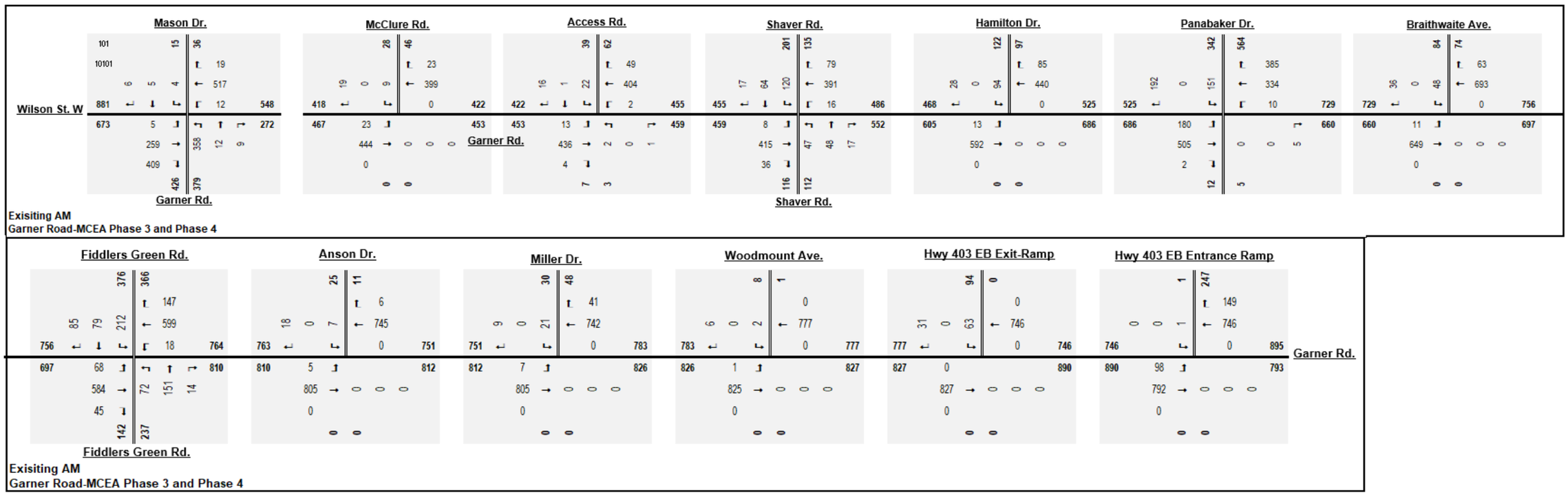


Figure 3.13 – Existing Traffic Volumes (2021) – AM Peak Hour

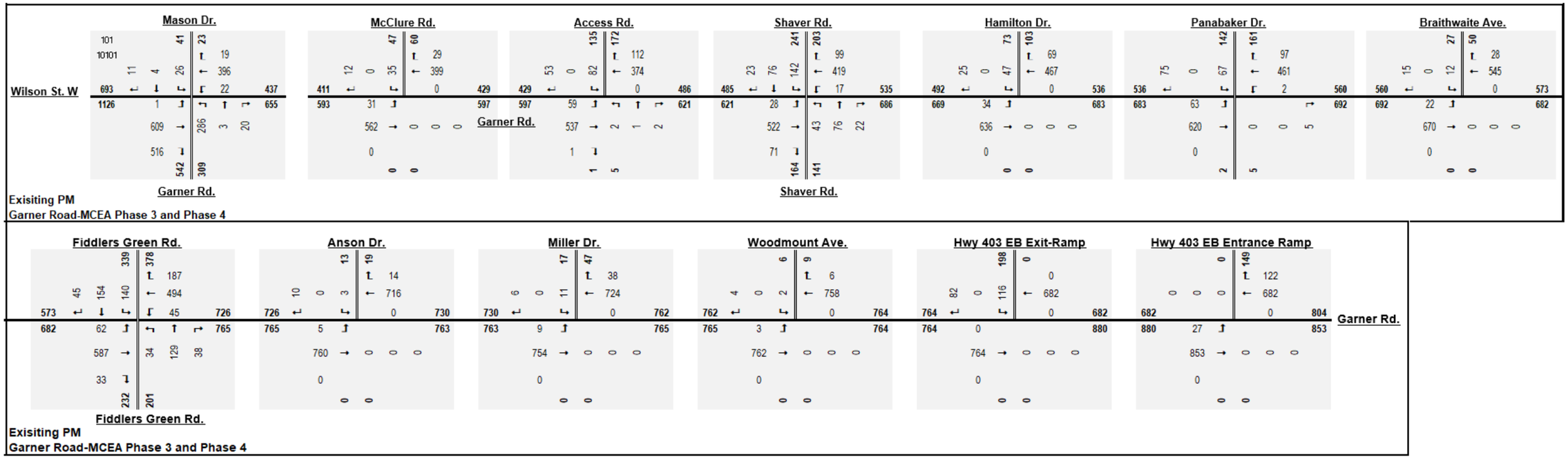


Figure 3.14 – Existing Traffic Volumes (2021) – PM Peak Hour

3.5 Existing Conditions (2021) Intersection Capacity Analysis

The existing conditions intersection capacity analysis was conducted as per HCM 2000 methodology and critical movements were identified as per the City's traffic impact study guideline criteria. The criteria for identifying the critical movements are listed as below:

- Signalized intersections or movements should be highlighted where:
  - Volume to capacity (V/C) ratios for through movements or shared through/turning movements operate at 0.85 or greater (0.85 is considered the maximum acceptable criteria for these movements).
  - Volume to capacity (V/C) ratios for exclusive turning movements increase to 0.90 or greater (0.90 is considered the maximum acceptable criteria for these movements);
  - Queues for an individual movement are projected to exceed available turning lane storage at 95th percentile volumes.
- Unsignalized intersections or movements should be highlighted where:
  - Level of service, based on average delay per vehicle or individual movements, is LOS "D" or greater.

The estimated 95th percentile queue length for an individual movement exceeds the available queue storage.

The existing conditions vehicular operational analysis results, based on Synchro HCM 2000, are included in full in **Appendix D** and summarized in **Table 3.3** and **Table 3.4** for the signalized and unsignalized intersections within the study area. These tables present the traffic performance for the study area intersections relative to the criteria discussed above. Where traffic operations exceed the thresholds, it has been highlighted for further discussion. As shown in these tables, all study area intersections are currently operating with an acceptable LOS and residual margin of V/C ratios during the AM and PM peak hours and no traffic operational concerns were identified, except for the following movements:

<u>During AM peak hour:</u>

- Fiddlers Green Road & Garner Road West (signalized): southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS F with an estimated delay of 105.7 seconds (V/C ratio is 0.84).
- Garner Road West & Anson Drive (unsignalized): southbound left/right at LOS F with a delay equal to 95.5 seconds (V/C ratio is 0.46).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 77.4 seconds (V/C ratio is 0.45).
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with a delay equal to 219.2 seconds (V/C ratio is 1.16).

During PM peak hour:

- Fiddlers Green Road & Garner Road West (signalized): northbound left 95th percentile queuing exceeds available storage length.
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with an estimated delay equal to 148.1 seconds (V/C ratio is 1.10).

Table 3.3 - Existing (2021) ICA Analysis (Signalized)

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd/Mason Dr & Wilson St	EBL	A	6.1	0.01	1.9	A	5.3	0.00	0.7
	EBT	A	7.7	0.30	20.5	A	9.2	0.56	61.5
	WBL	A	6.3	0.03	3.6	A	7.1	0.13	5.8
	WBT	A	7.5	0.28	34.9	A	6.4	0.22	24.5
	NBL	C	31.1	0.69	42.7	C	30.9	0.66	37.0
	NBT	C	31.9	0.70	42.5	C	30.1	0.64	35.5
	SBL	C	21.7	0.02	2.2	C	23.6	0.12	8.3
	SBT	C	21.7	0.02	3.7	C	23.1	0.02	4.5
	Overall	**B**	**13.3**	**0.41**	**-**	**B**	**12.3**	**0.58**	**-**
Shaver Rd & Garner Rd W	EBL	A	4.9	0.02	2.2	A	5.2	0.05	5.2
	EBT	A	7.8	0.44	53.2	A	8.3	0.47	71.0
	EBR	A	4.8	0.03	2.9	A	5.2	0.06	6.8
	WBL	A	5.0	0.04	3.4	A	5.2	0.04	3.7
	WBT	A	7.3	0.40	48.4	A	7.4	0.38	53.5
	WBR	A	5.0	0.06	5.3	A	5.2	0.07	6.6
	NBL	C	25.6	0.23	13.3	C	25.0	0.19	12.4
	NBT	C	25.2	0.20	14.1	C	25.3	0.25	20.1
	SBL	C	30.6	0.59	29.1	C	30.9	0.61	33.5
	SBT	C	25.7	0.26	17.3	C	25.4	0.26	20.2
	Overall	**B**	**12.2**	**0.47**	**-**	**B**	**12.4**	**0.50**	**-**
Panabaker Dr & Garner Rd W	EBL	A	8.8	0.53	28.4	A	4.2	0.19	7.2
	EBT	B	11.5	0.71	70.3	A	9.0	0.74	68.0
	WBL	A	6.0	0.04	2.6	A	3.6	0.01	0.7
	WBT	A	7.9	0.47	41.0	A	5.8	0.55	43.1
	WBR	A	7.2	0.34	4.5	A	3.8	0.09	3.1
	SBL	C	22.6	0.66	31.0	C	22.4	0.49	15.6
	SBR	B	16.5	0.17	7.4	C	20.4	0.07	6.5
	Overall	**B**	**11.1**	**0.69**	**-**	**A**	**8.6**	**0.69**	**-**

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Fiddlers Green Rd & Garner Rd W	EBL	B	12.8	0.36	11.6	B	10.3	0.19	10.0
	EBT	B	12.8	0.47	48.8	B	11.4	0.38	43.2
	WBL	B	14.9	0.10	6.6	B	14.9	0.17	12.5
	WBT	C	21.3	0.71	74.0	B	17.8	0.55	58.9
	NBL	C	28.0	0.40	23.7	C	25.2	0.18	11.8
	NBT	C	30.2	0.58	45.7	C	28.2	0.53	38.8
	SBL	C	29.8	0.75	47.6	B	18.4	0.39	26.0
	SBT	B	19.8	0.32	31.9	B	19.1	0.36	37.3
	Overall	**C**	**20.1**	**0.75**	**-**	**B**	**16.6**	**0.51**	**-**

Table 3.4 – Existing (2021) ICA Analysis (Unsignalized)

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & McClure Rd	EBL	A	8.4	0.02	0.6	A	8.5	0.03	0.8
	SBLR	B	14.4	0.08	1.9	C	24.2	0.22	6.4
Garner Rd W & Access Rd	EBL	A	8.5	0.01	0.3	A	8.7	0.06	1.5
	SBLR	C	16.3	0.12	3.0	D	30.2	0.51	20.8
Garner Rd W & Hamilton Dr	EBL	A	8.9	0.01	0.3	A	9.0	0.04	0.9
	SBLR	D	34.8	0.53	21.6	D	28.6	0.34	10.9
Garner Rd W & Braithwaite Ave	EBL	B	10.2	0.02	0.5	A	8.9	0.03	0.6
	SBLR	F	105.7	0.84	39.8	C	21.3	0.12	3.0
Garner Rd W & Anson Dr	EBL	A	0.3	0.01	0.2	A	0.2	0.01	0.1
	SBLR	F	95.5	0.46	14.0	C	21.8	0.06	1.4
Garner Rd W & Miller Dr	EBL	B	10.6	0.01	0.3	A	9.5	0.01	0.3
	SBLR	F	77.4	0.45	14.0	D	31.7	0.12	3.0
Garner Rd W & Woodmount Ave	EBL	A	0.0	0.00	0.0	A	0.1	0.00	0.1
	SBLR	D	26.4	0.05	1.2	C	22.5	0.03	0.7
Garner Rd W & 403 EB off-ramp	SBLR	F	219.2	1.16	58.0	F	148.1	1.10	76.6
Garner Rd W & 403 EB on-ramp	EBL	B	12.0	0.19	5.1	B	10.1	0.04	0.9

3.6 Multi-Modal Level of Service (MMLOS)

3.6.1 Multi-Modal Level of Service (MMLOS) Methodology

A Multi-Modal Level of Service (MMLOS) assessment is a quantitative approach that is used to determine the convenience and comfort experienced by all users (i.e., motorists, cyclists, pedestrians, trucks, and transit users) along roadway corridors and at signalized intersections. It is an important tool used to evaluate the tradeoffs among users of different transportation modes as the corridor design elements and the function of the public spaces can be adjusted based on it. The MMLOS analysis evaluates the existing conditions for transit, bicycles, pedestrians, trucks, and vehicles at both an intersection level and a link/segment level. This approach will allow the impacts of the future roadway configuration alternatives to be assessed and will properly define the needs at the intersection and segment levels, as opposed to solely considering intersection operations/delays for automobiles. The findings of the MMLOS assessment will be used to determine the improvements needed along the study corridor based on the increasing need to move more people, as opposed to purely vehicles, to accommodate growing population and sustainability goals.

In this study, the MMLOS assessment was conducted based on the Ontario Traffic Council (OTC) Multi-Modal Level of Service Guidelines (February 2022). OTC's MMLOS Guidelines outlines the methodology for evaluating LOS for all transportation modes and provides a standardized spreadsheet (OTC MMLOS – Analysis Tool) to calculate MMLOS scores for signalized intersections and road segments. The LOS for the different transportation modes range from a LOS A to a LOS F, with LOS A representing the best score in terms of factors such as comfort, safety, delay, and reliability, depending on the transportation mode under consideration. Further details for the different LOS descriptions for each transportation mode is provided in the OTC MMLOS Guidelines.

Active Transportation Design Check

The first step in the OTC MMLOS evaluation involves an 'active transportation design check' which screens whether the minimum provision of active transportation facilities are available to ensure user safety. Intersections or segments which fail the active transportation design checks are not provided a LOS for the active transportation mode under consideration. This decouples the analysis of safety from the other elements of analysis which involve factors such as comfort and delay.

The active transportation design checks for segments are as follows:

- Pedestrians: Do the pedestrian facilities provide direct access to all properties along the segment?
- Bicycles: Does the bicycle facility selected correspond with the minimum appropriate facility type?

The active transportation design checks for segments are as follows:

- Pedestrians: Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?
- Pedestrians: Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?

- Bicycles: Does the approaching bike facility continue at a consistent width up to the edge of the intersection?
- Bicycles: Is a continuous amount of space and accompanying pavement markings delineated for cyclists through the intersection?
- Bicycles: Does the intersection design provide features which facilitate all the intended turn movements for cyclists?

The entire design check is failed if a single design check is not met for the active transportation mode under consideration.

Level of Service Evaluations

Table 3.5 sets out the key factors which influence the LOS levels for each transportation mode and the associated scoring weights for each factor. The instructions and inputs incorporated into the MMLOS evaluation can be found in **Appendix E**.

Table 3.5 – OTC MMLOS Evaluation Criteria

Mode	Measure	Weight
Segments		
Pedestrians	Pedestrian Facility Width	33%
	Pedestrian Buffer Width	33%
	Max Distance between Controlled Crossings	33%
Bikes	Bike Facility Width per Direction	33%
	Bike Buffer Width	33%
	Conflicts with Other Modes	33%
Buses	Transit Facility Type	33%
	Transit Passenger Amenities	33%
	Pedestrian Level of Service	33%
Trucks	Width of the Curb Lane	50%
	Car Level of Service	50%
Cars	Mid-Block V/C ratio	50%
	Curb Lane Conflicts	50%
Intersections		
Pedestrians	Enhanced Pedestrian Measures	25%
	Average Effective Turning Radius	25%
	Signal Cycle Length	25%
	Number of Uncontrolled Conflicts	25%
Bikes	Enhanced Bicycle Measures	25%
	Average Effective Turning Radius (m)	25%
	Signal Cycle Length	25%
	Number of Uncontrolled Conflicts	25%

Mode	Measure	Weight
Buses	Transit Priority Measures	33%
	Transit Movement Delay	33%
	Pedestrian Level of Service	33%
Trucks	Average Effective Turning Radius	50%
	Car Level of Service	50%
Cars	Percentage of Turning Movements with Dedicated Lanes	50%
	Intersection Delay	50%

The Synchro software, based on the HCM 2000 methodology and as per the City's traffic impact study guideline criteria, was used to determine intersection and transit movement delays, as well as mid-block V/Cs (based on the arterial LOS reporting function).

It should be noted that the car LOS calculated based on the OTC MMLOS criteria may be different to the car LOS output from the Synchro software. This is because the OTC MMLOS criteria considers curb lane conflicts and percentage of turning movements with dedicated lanes, which are not directly taken into account in Synchro.

3.6.2 MMLOS Targets

The City-Wide TMP states that the City is processing their own MMLOS guideline that will be included in the traffic impact study guideline and will specify the MMLOS targets in the future. Therefore, the typical MMLOS targets for a general urban/suburban area were considered for analysis, with a pedestrian LOS target of C, a bicycle LOS target of D, a transit LOS target of D, a truck LOS target of D, and a car LOS target of D.

3.6.3 Multi-Model Operational Assessment

The multi-modal operations along Garner Road segments and signalized intersections in the study areas are assessed using the OTC's MMLOS Guidelines, as outlined in **Section 3.3**. The inputs of the MMLOS assessment using OTC's MMLOS Analysis Tool spreadsheet and the resulting MMLOS scores for the existing conditions in 2021 are included in **Appendix E**. **Table 3.6** and **Table** 3.7 below present a summary of the MMLOS results.

Table 3.6 – Existing Conditions (2021) Intersections MMLOS Results

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Signalized										
Wilson St W & Garner Rd W / Mason Dr	Fails	Fails	E	B	B	Fails	Fails	E	C	B
Garner Rd W & Shaver Rd	D	Fails	D	B	B	D	Fails	D	B	B

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Garner Rd W & Panabaker Dr	Fails	Fails	D	B	B	Fails	Fails	D	B	A
Garner Road W & Fiddlers Grn Rd	E	Fails	D	B	B	E	Fails	D	B	B
Unsignalized										
Garner Rd W & McClure Rd	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd W & SmartCentres Access Rd	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd W & Hamilton Dr	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd W & Braithwaite Ave	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd E & Anson Dr	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd E & Miller Dr	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd E & Woodmount Ave	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd E & Hwy 403 EB Exit-Ramp	Fails	Fails	C	B	B	Fails	Fails	C	B	B
Garner Rd E & Hwy 403 EB Entrance-Ramp	Fails	Fails	C	B	A	Fails	Fails	C	B	A

Table 3.7 – Existing Conditions (2021) Segment MMLOS Results

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Mason Dr to McClure Rd	Fails	Fails	F	C	C	Fails	Fails	F	C	B
McClure Rd to Shaver Rd	Fails	Fails	E	C	C	Fails	Fails	F	C	B
Shaver Rd to Hamilton Dr	Fails	Fails	F	C	C	Fails	Fails	F	C	C
Hamilton D to Panabaker D	Fails	Fails	E	C	C	Fails	Fails	F	C	C
Panabaker Dr to Braithwaite Ave	Fails	Fails	F	C	C	Fails	Fails	E	C	B
Braithwaite Ave to Fiddlers Green Rd	Fails	Fails	F	D	D	Fails	Fails	F	B	A

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Fiddlers Green Rd to Anson Dr.	Fails	Fails	F	D	D	Fails	Fails	F	D	D
Anson Dr to Miller Dr	Fails	Fails	F	C	C	Fails	Fails	F	C	B
Miller Dr to Woodmount Ave	Fails	Fails	F	C	B	Fails	Fails	F	C	C
Woodmount Ave to HWY 403 Off-Ramp	Fails	Fails	F	D	D	Fails	Fails	F	D	D
HWY 403 Off-Ramp to HWY 403 On-Ramp	Fails	Fails	F	B	A	Fails	Fails	F	B	A

Pedestrian and Bicycle LOS

In terms of the pedestrian and cyclist LOS, the existing condition of all segments and almost all intersections fails the active transportation design checks. When considering the segment LOS, there are no pedestrian or bicycle facilities along Garner Road within the study area. At the intersections, pedestrian crossings are not marked and/or they are not accessible crossings, and there are no bicycle facilities or features. The only exceptions are the signalized intersections of Garner Road West and Shaver Road and Garner Road and Fiddlers Green Road where the intersections pass the pedestrian design checks. Overall, the pedestrian target of LOS C is not met for the intersections and segments of the study area.

Transit LOS

The transit LOS at all unsignalized intersections is LOS C during both the AM and PM peak hours which is due to the combination of low transit movement delays and a pedestrian LOS of F (which feeds into the transit LOS score) at all unsignalized intersections. For signalized intersections, the transit LOS ranges between LOS D and E which, aside from the same reasons as for the unsignalized intersection, is also due to there not being any transit priority measures in the existing conditions.

The transit LOS across all segments ranges between LOS E and F which is due to the pedestrian LOS of F (which feeds into the transit LOS score) and because transit is mixed with general traffic with one (1) lane per direction. Overall, the transit target LOS of D is met for all intersections except for the Wilson Street West and Garner Road intersection, but is not met for any of the segments.

Truck LOS

The truck LOS for almost all intersections is LOS B, which is due to the high LOS scores which feed into the truck LOS scores. For segments, the LOS ranges between B to D which again is due to the different car LOS scores for each segment since the width of the curb lane is generally the same across all segments. Overall, the truck target LOS D is met for all study area intersections and segments.

Car LOS

The car LOS for intersections ranges between LOS A and B due to low levels of overall intersection delay. For segments, the car LOS ranges between A to D with the low scoring segments having a numbers of curb lane conflicts which lower the LOS.

As stated previously, the car LOS results based on the OTC MMLOS criteria is different to the car LOS results from the Synchro ICA results. This is because the OTC MMLOS criteria considers curb lane conflicts and percentage of turning movements with dedicated lanes, which are not directly taken into account in Synchro.

4.0 Future Do Nothing (2031) Conditions

The following aspects of the traffic analysis are covered in this section of the report:

- Future Do Nothing (2031) scenario traffic estimation
- Future Do Nothing (2031) scenario intersection capacity assessment
- OTC MMLOS Results for the 2031 Future Do Nothing Scenario

4.1 Future Do Nothing (2031) Scenario Traffic estimation

Traffic forecasts for the Future Do Nothing (2031) scenario were estimated based on the changes in traffic volumes as predicted by the City of Hamilton's (the City) EMME transportation forecasting modelling. This was done based on the following methodology:

1. Changes in traffic volumes between 2021 to 2031 were calculated by comparing the EMME modelling volume outputs, as provided by the City, between the 2011 model scenario and the 2031 Base model scenario. A steady growth was assumed between 2011 and 2031 to interpolate traffic volumes for the year of 2021 which was subsequently compared against the 2031 volumes to provide the changes in traffic volume.

2. The above-mentioned changes in traffic volumes between 2021 - 2031 (based on the City's EMME modelling) were applied to Stantec's Existing Conditions (2021) traffic volumes which are based on turning movement counts (TMCs). The link volumes between adjacent intersections were subsequently balanced.

3. Since the EMME modelling outputs only include link (arterial) volumes, turning movement volumes at each intersection had to be calculated separately. This was done by considering the following methods and using engineering judgement to decide the method which would provide the best fit to the link volumes:

    a. Calculating the percentage share of each turning movement as a proportion of its total intersection approach volume, based on the Existing Conditions (2021) traffic volumes. This percentage share is subsequently applied to the calculated Future Do Nothing (2031) intersection approach volume for the turning movement under question.

    b. Calculating the percentage share of each turning movement as a proportion of its total intersection departure (exit) volume. This percentage share is subsequently applied to the calculated Future Do Nothing (2031) intersection departure (exit) volume for the turning movement under question.

    c. Applying a 2% annual uplift to the turning movement traffic volumes between 2021 to 2031

The EMME modelling outputs were only available for the AM peak hour. Changes in traffic volumes between 2021 – 2031 for the PM peak hour were estimated by reversing the directions of the AM peak hour EMME changes in volumes, and also uplifting the volumes by a further 10% for a conservative assessment.



Figure 4.1 and **Figure 4.2** show the Future Do Nothing (2031) traffic volumes for the AM and PM peak hours.

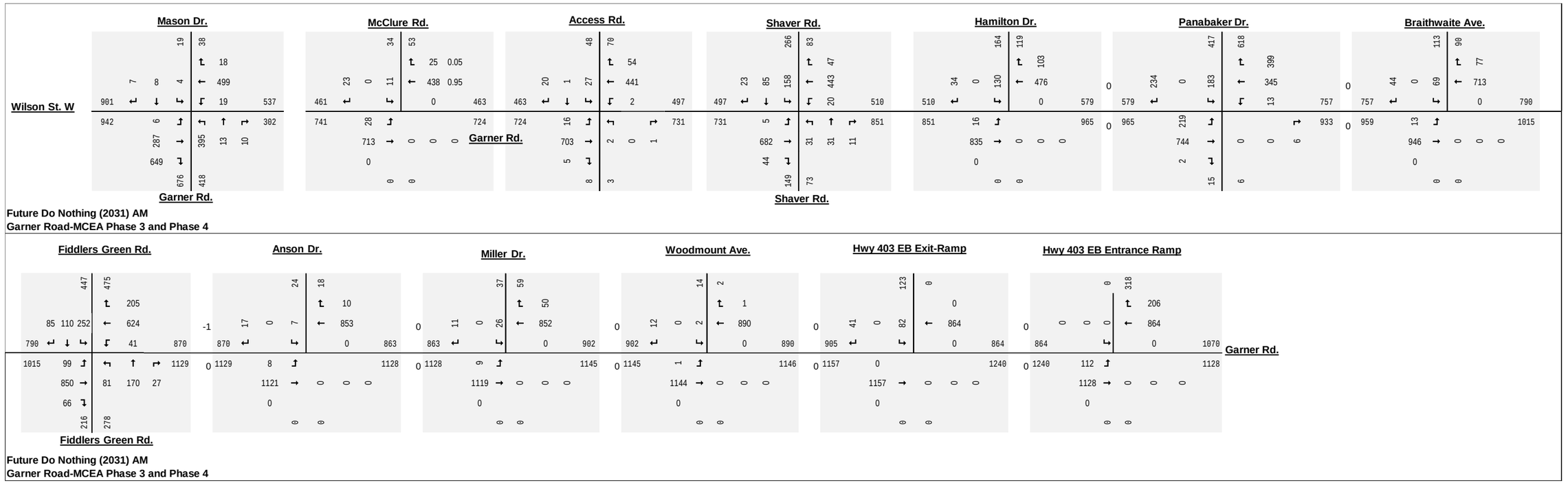


Figure 4.1 – Future Do Nothing Traffic Volumes (2031) – AM Peak Hour

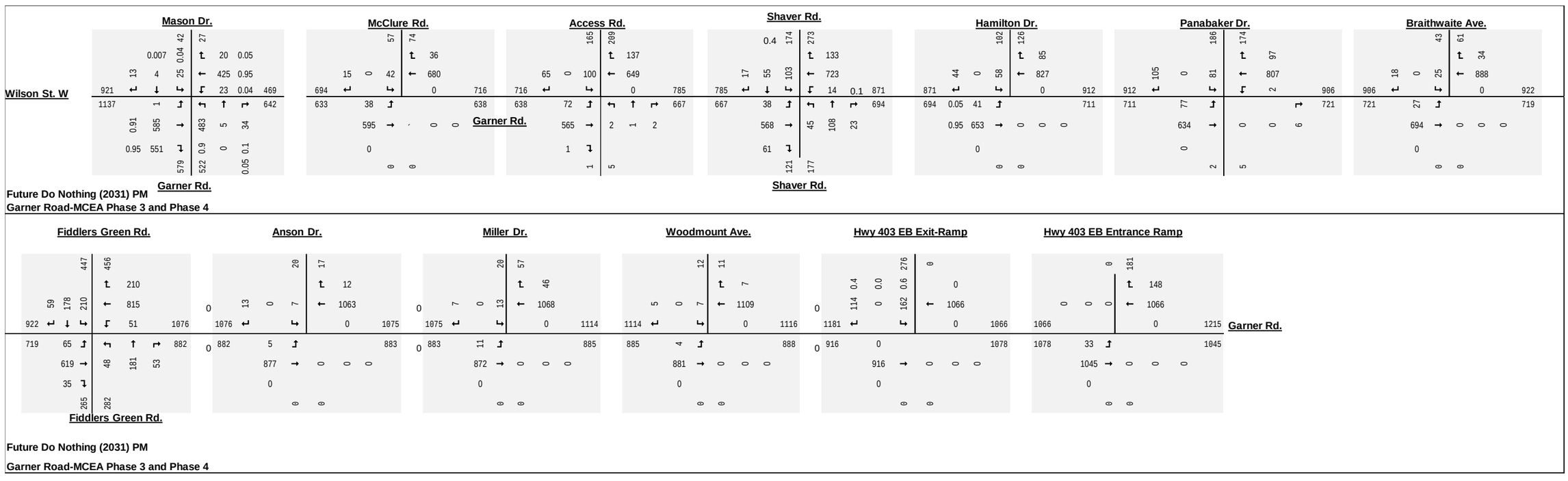


Figure 4.2 – Future Do Nothing Traffic Volumes (2031) – PM Peak Hour

4.2 Future Do Nothing (2031) Scenario intersection capacity Analysis

The Future Do Nothing (2031) intersection capacity analysis results, based on Synchro HCM 2000, are summarized in **Table 4.1** and **Table 4.2** for the signalized and unsignalized intersections, respectively. The detailed Synchro analysis outputs have been included in **Appendix D**. A summary of the key traffic operational concerns are as follows:

During AM peak hour:

- Garner Road West & Panabaker Drive (signalized): southbound though at LOS D with an estimated delay of 42.9 seconds (V/C ratio is 1.00).
- Fiddlers Green Road & Garner Road West (signalized): southbound left at LOS C with an estimated delay of 82.7 seconds (V/C ratio is 1.02). Southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & Hamilton Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 155.7 seconds (V/C ratio is 1.10).
- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS F with an estimated delay of 610.2 seconds (V/C ratio is 2.05).
- Garner Road West & Anson Drive (unsignalized): southbound left/right at LOS F with significant delay (V/C ratio is 15.66).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 351.5 seconds (V/C ratio is 1.17).
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with significant delays (V/C ratio is 3.18).

During PM peak hour:

- Garner Road West & Panabaker Drive (signalized): southbound though at LOS C with an estimated delay of 23.3 seconds (V/C ratio is 0.94).
- Fiddlers Green Road & Garner Road West (signalized): southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & McClure Road (unsignalized): southbound left/right at LOS F with an estimated delay equal to 51.2 seconds (V/C ratio is 0.46).
- Garner Road West & SmartCentres Access Road (unsignalized): southbound left/right at LOS F with an estimated delay equal to 222.9 seconds (V/C ratio is 1.26).
- Garner Road West & Hamilton Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 99.3 seconds (V/C ratio is 0.82).
- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS F with an estimated delay of 52.2 seconds (V/C ratio is 0.39).

- Garner Road West & Anson Drive (unsignalized): southbound left/right at LOS F with a delay of 66.9 seconds (V/C ratio is 0.27).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 69.2 seconds (V/C ratio is 0.28).
- Garner Road West & Woodmount Ave (unsignalized): southbound left/right at LOS F with an estimated delay of 58.1 seconds (V/C ratio is 0.15).
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with significant delays (V/C ratio is 3.28).

Table 4.1 – Future Do Nothing (2031) Signalized Intersection Capacity Analysis Results

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd/Mason Dr & Wilson St	EBL	A	6.6	0.01	2.5	A	8.1	0.00	0.9
	EBT	A	9.3	0.42	26.2	B	14.0	0.63	78.0
	WBL	A	7.5	0.09	5.6	B	12.4	0.20	8.3
	WBT	A	8.1	0.28	35.1	A	9.9	0.27	33.7
	NBL	C	31.2	0.71	45.7	C	31.9	0.77	53.7
	NBT	C	32.1	0.72	45.5	C	32.1	0.77	53.0
	SBL	C	20.8	0.02	2.1	B	18.7	0.11	6.7
	SBT	C	20.9	0.03	4.5	B	18.1	0.02	3.9
	Overall	**B**	**13.9**	**0.51**	**-**	**B**	**17.5**	**0.68**	**-**
Shaver Rd & Garner Rd W	EBL	A	5.7	0.02	1.8	A	4.6	0.11	6.5
	EBT	B	15.1	0.75	#145.9	A	6.6	0.48	71.7
	EBR	A	5.7	0.04	4.3	A	3.8	0.05	5.1
	WBL	A	6.9	0.11	5.0	A	3.8	0.03	3.0
	WBT	A	9.2	0.47	64.6	A	8.5	0.61	107.4
	WBR	A	5.7	0.04	4.7	A	4.1	0.11	10.3
	NBL	C	23.2	0.13	8.9	C	28.6	0.26	13.6
	NBT	C	23.0	0.11	9.6	C	30.2	0.49	28.6
	SBL	C	31.2	0.65	34.6	D	35.3	0.61	26.8
	SBT	C	24.6	0.32	20.8	C	28.2	0.25	16.6
	Overall	**B**	**15.4**	**0.73**	**-**	**B**	**11.5**	**0.61**	**-**
Panabaker Dr & Garner Rd W	EBL	B	11.7	0.64	38.1	D	47.2	0.85	#28.3
	EBT	D	42.9	1.00	#151.7	A	9.1	0.74	75.9
	WBL	A	6.6	0.14	3.6	A	3.6	0.01	0.8
	WBT	A	8.2	0.46	42.5	C	23.3	0.94	#143.7
	WBR	A	7.5	0.36	4.4	A	3.8	0.09	3.3
	SBL	C	34.2	0.79	37.7	C	26.4	0.59	18.1

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
	SBR	B	18.8	0.21	7.5	C	22.9	0.37	14.2
	Overall	**C**	**23.9**	**0.94**	**-**	**B**	**18.4**	**0.87**	**-**
Fiddlers Green Rd & Garner Rd W	EBL	B	16.4	0.53	17.5	B	14.3	0.32	12.3
	EBT	B	16.1	0.67	87.2	B	12.7	0.39	55.1
	WBL	B	18.2	0.34	14.3	B	15.8	0.18	15.3
	WBT	C	25.0	0.78	90.0	C	23.8	0.77	119.1
	NBL	C	30.6	0.44	28.8	C	28.4	0.23	19.5
	NBT	C	34.9	0.65	58.9	C	34.9	0.65	70.8
	SBL	C	82.7	1.02	#81.1	C	27.5	0.68	54.4
	SBT	B	22.7	0.41	46.1	C	22.5	0.41	61.6
	Overall	**C**	**27.7**	**0.90**	**-**	**C**	**21.8**	**0.74**	**-**

Table 4.2 – Future Do Nothing (2031) Unsignalized Intersection Capacity Analysis Results

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & McClure Rd	EBL	A	8.6	0.03	0.7	A	9.7	0.05	1.3
	SBLR	C	19.2	0.13	3.5	F	51.2	0.46	16.1
Garner Rd W & Access Rd	EBL	A	8.6	0.02	0.4	B	10.6	0.11	2.8
	SBLR	D	25.4	0.23	6.5	F	222.9	1.26	82.7
Garner Rd W & Hamilton Dr	EBL	A	9.1	0.02	0.4	B	11.0	0.07	1.7
	SBLR	F	155.7	1.10	70.0	F	99.3	0.82	39.1
Garner Rd W & Braithwaite Ave	EBL	B	10.5	0.03	0.6	B	10.5	0.04	1.0
	SBLR	F	610.2	2.05	102.5	F	52.2	0.39	12.3
Garner Rd W & Anson Dr	EBL	A	1.5	0.02	0.4	A	0.2	0.01	0.2
	SBLR	F	750	9.83	Err	F	66.9	0.27	7.3
Garner Rd W & Miller Dr	EBL	B	11.4	0.02	0.4	B	11.2	0.02	0.5
	SBLR	F	351.5	1.17	35.2	F	69.2	0.28	7.6
Garner Rd W/ Woodmount Ave	EBL	A	0.1	0.00	0.0	A	0.2	0.01	0.2
	SBLR	D	33.5	0.12	3.0	F	58.1	0.15	3.8
Garner Rd W & 403 EB exit-ramp	SBLR	F	750	3.18	Err	F	750	3.28	Err

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & 403 EB entr-rmp	EBL	B	14.2	0.25	7.6	B	12.7	0.07	1.7

Signal Warrant Analysis

Signal warrant analysis was undertaken for the unsignalized intersections which operate significantly over maximum capacity and/or intersections with significant delays. These intersections include the Garner Road West intersections with Anson Drive, Braithwaite, Miller Drive and Highway 403 Exit-Ramp. The Signal Warrant Analysis outputs are included in **Appendix F**.

The analysis shows that signals are not warranted for any of the intersections assessed except for the Garner Road/ Highway 403 Exit-Ramp intersection which satisfies Justification 4 (four-hour volume justification). While Justification 4, on its own, is not recognized to be sufficient for proposing signalization, the LOS results, in both existing and future do-nothing scenarios, illustrate the benefits of signalization at this intersection.

A simple signalized intersection has been tested for the Garner Road/ Highway 403 Exit-Ramp intersection based on a cycle time of 120s in the AM Peak hour and 80s in the PM peak hour, and with the following movements: EBT, WBT, SBL and SBR

The intersection capacity analysis results for the signalized Garner Road/ Highway 403 Exit-Ramp intersection is shown in **Table 4.3** and the detailed Synchro outputs are included in **Appendix D**.

Table 4.3 – Intersection Capacity Analysis Results for Signalization of Garner Road/ Highway 403 Exit-Ramp (Future Do Nothing 2031)

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & 403 EB entr-rmp	EBT	C	26.3	0.97	#335.7	A	9	0.74	130.9
	WBT	A	6.3	0.72	113.7	B	14.3	0.86	#217.2
	SBL	D	47.5	0.53	32.6	C	25.8	0.53	37.6
	SBR	D	42.5	0.03	8.9	C	22.6	0.12	14.1
	Overall	**B**	**19.3**	**0.92**		**B**	**13.4**	**0.79**	

The results show that the intersection operates within capacity across both peak hours and that all movements operate at a LOS of D or better. However, due to the high EBT traffic volumes in the AM peak hour and the high WBT traffic volumes in the PM peak hour, these movements operate at high V/C values and with significant levels of queueing in the respective peak hour.

4.3 Future Do Nothing (2031) Scenario MMLOS Analysis

The Future Do Nothing (2031) scenario MMLOS results for intersections and segments are presented in **Table 4.4** and **Table 4.5**, respectively.

Table 4.4 – Future Do Nothing (2031) Intersections MMLOS Results

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Signalized										
Wilson St W & Garner Rd W / Mason Dr	Fails	Fails	E	B	B	Fails	Fails	E	C	B
Garner Rd W & Shaver Rd	D	Fails	D	B	B	D	Fails	D	B	B
Garner Rd W & Panabaker Dr	Fails	Fails	E	B	B	Fails	Fails	E	B	B
Garner Road W & Fiddlers Grn Rd	E	Fails	E	C	C	E	Fails	D	C	C
Unsignalized										
Garner Rd W & McClure Rd	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd W & SmartCentres Access Rd	Fails	Fails	C	B	A	Fails	Fails	C	C	C
Garner Rd W & Hamilton Dr	Fails	Fails	C	B	B	Fails	Fails	C	B	A
Garner Rd W & Braithwaite Ave	Fails	Fails	C	C	D	Fails	Fails	C	B	A
Garner Rd E & Anson Dr	Fails	Fails	C	D	F	Fails	Fails	C	B	A
Garner Rd E & Miller Dr	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd E & Woodmount Ave	Fails	Fails	C	B	A	Fails	Fails	C	B	A
Garner Rd E & Hwy 403 EB Exit-Ramp	Fails	Fails	C	D	F	Fails	Fails	C	D	F
Garner Rd E & Hwy 403 EB Entrance-Ramp	Fails	Fails	C	B	A	Fails	Fails	C	B	A

Table 4.5 – Future Do Nothing (2031) Segment MMLOS Results

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Mason Dr to McClure Rd	Fails	Fails	F	C	C	Fails	Fails	F	C	B
McClure Rd to Shaver Rd	Fails	Fails	E	C	C	Fails	Fails	F	C	B
Shaver Rd to Hamilton Dr	Fails	Fails	F	D	D	Fails	Fails	F	C	C
Hamilton D to Panabaker D	Fails	Fails	E	D	D	Fails	Fails	F	C	C
Panabaker Dr to Braithwaite Ave	Fails	Fails	F	C	C	Fails	Fails	E	C	C
Braithwaite Ave to Fiddlers Green Rd	Fails	Fails	F	D	D	Fails	Fails	F	C	B
Fiddlers Green Rd to Anson Dr.	Fails	Fails	F	D	D	Fails	Fails	F	D	D
Anson Dr to Miller Dr	Fails	Fails	F	C	C	Fails	Fails	F	C	B
Miller Dr to Woodmount Ave	Fails	Fails	F	C	B	Fails	Fails	F	C	C
Woodmount Ave to HWY 403 Off-Ramp	Fails	Fails	F	D	D	Fails	Fails	F	D	D
HWY 403 Off-Ramp to HWY 403 On-Ramp	Fails	Fails	F	B	A	Fails	Fails	F	B	A

Pedestrian and Bicycle LOS

In terms of the pedestrian and bicycle LOS, the results under the Future Do Nothing (2031) scenario are the same as the existing conditions and all segments and almost all intersections fail the active transportation design checks. No new pedestrian or bicycle facilities are expected under the Future Do Nothing (2031) scenario compared to the existing conditions.

Transit LOS

The transit LOS at all unsignalized intersections is LOS C, similar to the existing conditions, since the transit movement delays have not changed to different LOS levels. For signalized intersections, the transit LOS ranges between LOS D and E and the intersections of Garner Road and Panabaker Drive and Garner Road and Fiddlers Green Road perform worse compared to the existing conditions, at a transit LOS E.

Similar to the existing conditions, the transit LOS across all segments ranges between LOS E and F due to the pedestrian LOS of F (which feeds into the transit LOS score). Overall, the transit target LOS of D is met for all unsignalized intersections, for the Garner Road and Shaver Road signalized intersection and is not met for any of the segments.



Truck LOS

The truck LOS for intersections ranged between LOS B to LOS D, with some intersections having lower LOS levels compared to the existing conditions due to worse car LOS levels (which feeds into the truck LOS score). Similarly for segments, the LOS ranges between B to D, with some segments having lower LOS levels due to lower car LOS levels. Overall, the truck target LOS D is met for all study area intersections and segments.

Car LOS

The car LOS for intersections ranges between LOS B to C for signalized intersections and between LOS A to F for the unsignalized intersections. Various intersections perform at a lower car LOS compared to the existing conditions due the increased overall intersections delays. For segments, the car LOS ranges between A to D similar to the existing conditions.

5.0 Assessment of Future Alternatives

5.1 Design Alternatives Assessed

The following design alternatives have been included in the assessment of potential future improvements along Garner Road:

Alternative 1
- Road layout and cross-section similar to the existing conditions.
- 1.8m sidewalks and 1.5m bicycle lanes provided along both sides of Garner Road, separated from traffic lanes by a boulevard and swale,

Alternative 2
- Widening of the Garner Road cross-section along the study area to three lanes, with one through lane in each direction and one central two-way-left-turn-lane (TWLTL)
- Road layout at intersection, including turning lane storage lengths, similar to the existing conditions. For unsignalized intersections, a left turning lane was added as part of the TWLTL addition.
- 1.8m sidewalks and 1.5m bicycle lanes provided along both sides of Garner Road, separated from traffic lanes by a boulevard and swale,

Alternative 3
- Widening of the Garner Road cross-section along the study area to four lanes, with two through lanes in each direction
- Turning lane provision at intersections generally similar to the existing conditions with storage lengths determined based on intersection capacity analysis
- 1.8m sidewalks and 1.5m bicycle lanes provided along both sides of Garner Road, separated from traffic lanes by a boulevard and swale

5.2 Future Alternatives Traffic Volumes

The traffic volumes for all three alternatives in 2031 assessed are the same as the Future Do Nothing (2031) scenario traffic volumes, as presented in **Figure 4.1** and **Figure 4.2** within **Section 4.1** of this report.

5.3 Future alternatives Intersection Capacity Analysis

5.3.1 Alternative 1

The Future Alternative 1 (2031) intersection capacity analysis results, based on Synchro HCM 2000, are summarized in **Table 5.1** and **Table 5.2** for the signalized and unsignalized intersections, respectively. The detailed Synchro analysis outputs have been included in **Appendix D**. Overall, the operation of the intersections under this scenario is similar to the Future Do Nothing (2031) scenario since the road layout and cross-sections are identical between the two. The two signalized intersections at Panabaker Drive and at Fiddlers Green have had their signal cycle time and phase splits optimized under Alternative 1 which results in improvements in their performance.

A summary of the key traffic operational concerns are as follows:

<u>During AM peak hour:</u>

- Garner Road West & Panabaker Drive (signalized): eastbound though at LOS C with an estimated delay of 22.4 seconds (V/C ratio is 0.9), southbound left at LOS D with an estimated delay of 52.9 seconds and 95th percentile queues of 53m (V/C ratio is 0.87). This is an improvement compared to the Future Do Nothing (2031) scenario due to the signal phase split optimization.
- Fiddlers Green Road & Garner Road West (signalized): southbound left at LOS D with an estimated delay of 50.1 seconds and 95th percentile queues of 50m (V/C ratio is 0.91). This is an improvement compared to the Future Do Nothing (2031) scenario due to the signal phase split optimization. Southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & Hamilton Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 155.7 seconds (V/C ratio is 1.10).
- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS F with an estimated delay of 610.2 seconds (V/C ratio is 2.05).
- Garner Road West & Anson Drive (unsignalized): southbound left/right at LOS F with significant delay (V/C ratio is 9.83).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 351.5 seconds (V/C ratio is 1.17).
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with significant delays (V/C ratio is 3.18).

During PM peak hour:

- Garner Road West & Panabaker Drive (signalized): westbound through at LOS B with an estimated delay of 16.6 seconds (V/C ratio is 0.88). This is an improvement compared to the Future Do Nothing (2031) scenario due to the signal phase split optimization.
- Fiddlers Green Road & Garner Road West (signalized): southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & McClure Road (unsignalized): southbound left/right at LOS F with an estimated delay equal to 51.2 seconds (V/C ratio is 0.46).
- Garner Road West & SmartCentres Access Road (unsignalized): southbound left/right at LOS F with an estimated delay equal to 222.9 seconds (V/C ratio is 1.26).
- Garner Road West & Hamilton Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 99.3 seconds (V/C ratio is 0.82).
- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS F with an estimated delay of 52.2 seconds (V/C ratio is 0.39).
- Garner Road West & Anson Drive (unsignalized): southbound left/right at LOS F with a delay of 66.9 seconds (V/C ratio is 0.27).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 69.2 seconds (V/C ratio is 0.28).
- Garner Road West & Woodmount Ave (unsignalized): southbound left/right at LOS F with an estimated delay of 58.1 seconds (V/C ratio is 0.15).
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with significant delays (V/C ratio is 3.28).

Overall, under Alternative 1 (2031) all signalized intersections operate with all movements at LOS D or better and within a V/C of 1.0, during both the AM and PM peak hours. However, for some of the unsignalized intersections, the southbound movements out of the crossing roads on Garner Road operate over capacity and at a LOS F with long delay times.

Table 5.1 – Future Alternative 1 (2031) Signalized Intersection Capacity Analysis Results

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Road/Mason Dr & Wilson St	EBL	A	6.6	0.01	2.5	A	8.1	0	0.9
	EBT	A	9.3	0.42	26.2	B	14	0.63	78
	WBL	A	7.5	0.09	5.6	B	12.4	0.2	8.3
	WBT	A	8.1	0.28	35.1	A	9.9	0.27	33.7
	NBL	C	31.2	0.71	45.7	C	31.9	0.77	53.7
	NBT	C	32.1	0.72	45.5	C	32.1	0.77	53

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
	SBL	C	20.8	0.02	2.1	B	18.7	0.11	6.7
	SBT	C	20.9	0.03	4.5	B	18.1	0.02	3.9
	Overall	**B**	**13.9**	**0.51**		**B**	**17.5**	**0.68**	
Shaver Rd & Garner Rd W	EBL	A	5.7	0.02	1.8	A	4.6	0.11	6.5
	EBT	B	15.1	0.75	#145.9	A	6.6	0.48	71.7
	EBR	A	5.7	0.04	4.3	A	3.8	0.05	5.1
	WBL	A	6.9	0.11	5	A	3.8	0.03	3
	WBT	A	9.2	0.47	64.6	A	8.5	0.61	107.4
	WBR	A	5.7	0.04	4.7	A	4.1	0.11	10.3
	NBL	C	23.2	0.13	8.9	C	28.6	0.26	13.6
	NBT	C	23	0.11	9.6	C	30.2	0.49	28.6
	SBL	C	31.2	0.65	34.6	D	35.3	0.61	26.8
	SBT	C	24.6	0.32	20.8	C	28.2	0.25	16.6
	Overall	**B**	**15.4**	**0.73**		**B**	**11.5**	**0.61**	
Panabaker Dr & Garner Rd W	EBL	A	9.6	0.57	34.6	B	13.3	0.65	#25.2
	EBT	C	22.4	0.9	125.8	A	8.4	0.69	81.3
	WBL	A	6.1	0.12	3.1	A	3.7	0.01	0.8
	WBT	A	7.6	0.42	39.9	B	16.6	0.88	129.5
	WBR	A	7.2	0.36	2.7	A	3.9	0.09	2.9
	NBT	C	24.2	0	0	C	28.1	0	0
	SBL	D	52.9	0.87	#59.3	C	33	0.56	26.1
	SBR	C	25.5	0.21	8.4	C	28.7	0.13	10
	Overall	**B**	**18.8**	**0.89**		**B**	**14.4**	**0.82**	
Fiddlers Green Rd & Garner Rd W	EBL	B	18.9	0.58	17.7	B	14.3	0.32	12.3
	EBT	B	17.5	0.71	87.3	B	12.7	0.39	55.1
	WBL	B	19.1	0.38	15.2	B	15.8	0.18	15.3
	WBT	C	27.8	0.83	89.5	C	23.8	0.77	119.1
	NBL	C	29.3	0.44	24.2	C	28.4	0.23	19.5
	NBT	C	33.5	0.66	48.5	C	34.9	0.65	70.8
	SBL	D	50.1	0.91	#49.7	C	27.5	0.68	54.4
	SBT	C	20.1	0.38	33.8	C	22.5	0.41	61.6
	Overall	**C**	**25.8**	**0.90**		**C**	**21.8**	**0.74**	

Table 5.2 – Future Alternative 1 (2031) Unsignalized Intersection Capacity Analysis Results

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & McClure Rd	EBL	A	8.6	0.03	0.7	A	9.7	0.05	1.3
	SBLR	C	19.2	0.13	3.5	F	51.2	0.46	16.1
Garner Rd W & Access Rd	EBL	A	8.6	0.02	0.4	B	10.6	0.11	2.8
	SBLR	D	25.4	0.23	6.5	F	222.9	1.26	82.7
Garner Rd W & Hamilton Dr	EBL	A	9.1	0.02	0.4	B	11	0.07	1.7
	SBLR	F	155.7	1.1	70	F	99.3	0.82	39.1
Garner Rd W & Braithwaite Ave	EBL	B	10.5	0.03	0.6	B	10.5	0.04	1
	SBLR	F	610.2	2.05	102.5	F	52.2	0.39	12.3
Garner Rd W & Anson Dr	EBL	A	1.5	0.02	0.4	A	0.2	0.01	0.2
	SBLR	F	750	9.83	Err	F	66.9	0.27	7.3
Garner Rd W & Miller Dr	EBL	B	11.4	0.02	0.4	B	11.2	0.02	0.5
	SBLR	F	351.5	1.17	35.2	F	69.2	0.28	7.6
Garner Rd W/ Woodmount Ave	EBL	A	0.1	0	0	A	0.2	0.01	0.2
	SBLR	D	33.5	0.12	3	F	58.1	0.15	3.8
Garner Rd W & 403 EB exit-ramp	SBLR	F	750	3.18	Err	F	750	3.28	Err
Garner Rd W & 403 EB entr-rmp	EBL	B	14.2	0.25	7.6	B	12.7	0.07	1.7

Signal Warrant Analysis

The signal warrant analysis results for the Future Do Nothing (2031) scenario (included in **Section 4.2**) also apply to Alternative 1 since the traffic volumes and the intersection layouts are identical.

As set out in **Section 4.2**, the analysis shows that signals are not warranted for any of the intersections assessed except for the Garner Road/ Highway 403 Exit-Ramp intersection which satisfies Justification 4 (four-hour volume justification). While Justification 4, on its own, is not recognized to be sufficient for proposing signalization, the LOS results, illustrate the benefits of signalization at this intersection.

A simple signalized intersection has been tested for the Garner Road/ Highway 403 Exit-Ramp intersection based on a cycle time of 120s in the AM Peak hour and 80s in the PM peak hour, and with the following movements: EBT, WBT, SBL and SBR.

The intersection capacity analysis results for the signalized Garner Road/ Highway 403 Exit-Ramp intersection is shown in **Table 5.3** and the detailed Synchro outputs are included in **Appendix D**.

Table 5.3 – Intersection Capacity Analysis Results for Signalization of Garner Road/ Highway 403 Exit-Ramp (Alternative 1, 2031)

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & 403 EB exit-rmp	EBT	C	26.3	0.97	#335.7	A	9	0.74	130.9
	WBT	A	6.3	0.72	113.7	B	14.3	0.86	#217.2
	SBL	D	47.5	0.53	32.6	C	25.8	0.53	37.6
	SBR	D	42.5	0.03	8.9	C	22.6	0.12	14.1
	Overall	**B**	**19.3**	**0.92**		**B**	**13.4**	**0.79**	

The results show that the intersection operates within capacity across both peak hours and that all movements operate at a LOS of D or better. However, due to the high EBT traffic volumes in the AM peak hour and the high WBT traffic volumes in the PM peak hour, these movements operate at high V/C values and with significant levels of queueing which back onto adjacent intersections.

5.3.2 Alternative 2

The Future Alternative 2 (2031) intersection capacity analysis results, based on Synchro HCM 2000, are summarized in **Table 5.4** and **Table 5.5** for the signalized and unsignalized intersections, respectively. The detailed Synchro analysis outputs have been included in **Appendix D**.

A summary of the key traffic operational concerns are as follows:

<u>During AM peak hour:</u>

- Garner Road West & Panabaker Drive (signalized): eastbound though at LOS C with an estimated delay of 22.4 seconds (V/C ratio is 0.9), southbound left at LOS D with an estimated delay of 52.9 seconds and 95th percentile queues of 59m (V/C ratio is 0.87). This is an improvement compared to the Future Do Nothing (2031) scenario due to the signal phase split optimization.

- Fiddlers Green Road & Garner Road West (signalized): southbound left at LOS D with an estimated delay of 50.1 seconds and 95th percentile queues of 50m (V/C ratio is 0.91). This is an improvement compared to the Future Do Nothing (2031) scenario due to the signal phase split optimization. Southbound left and northbound left 95th percentile queuing exceeds available storage lengths.

- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS E with an estimated delay of 40 seconds (V/C ratio is 0.6).

- Garner Road West & Anson Drive (unsignalized): southbound left/right at LOS E with an estimated delay of 35.7 seconds (V/C ratio is 0.21).

- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with an estimated delay of 60 seconds (V/C ratio is 0.74).

During PM peak hour:

- Garner Road West & Panabaker Drive (signalized): westbound through at LOS B with an estimated delay of 16.6 seconds (V/C ratio is 0.88). This is an improvement compared to the Future Do Nothing (2031) scenario due to the signal phase split optimization.
- Fiddlers Green Road & Garner Road West (signalized): southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with estimated delays pf 151.9 seconds (V/C ratio is 1.17).

Overall, under Alternative 2 (2031) there are notable improvements in the operation of several unsignalized intersections, which is due to the introduction of the TWLTL and added left turning lane at these intersections. All signalized intersections operate with all movements at LOS D or better and within a V/C of 1.0, during both the AM and PM peak hours. In terms of the unsignalized intersections, all movements for all intersections operate within a V/C ratio of 1.0 but there are a few southbound movements out of the crossing roads on Garner Road which operate at LOS F with long delay times.

Table 5.4 – Future Alternative 2 (2031) Signalized Intersection Capacity Analysis Results

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd/Mason Dr & Wilson St	EBL	A	6.6	0.01	2.5	A	8.1	0	0.9
	EBT	A	9.3	0.42	26.2	B	14	0.63	78
	WBL	A	7.5	0.09	5.6	B	12.4	0.2	8.3
	WBT	A	8.1	0.28	35.1	A	9.9	0.27	33.7
	NBL	C	31.2	0.71	45.7	C	31.9	0.77	53.7
	NBT	C	32.1	0.72	45.5	C	32.1	0.77	53
	SBL	C	20.8	0.02	2.1	B	18.7	0.11	6.7
	SBT	C	20.9	0.03	4.5	B	18.1	0.02	3.9
	Overall	**B**	**13.9**	**0.51**		**B**	**17.5**	**0.68**	
Shaver Rd & Garner Rd W	EBL	A	5.7	0.02	1.8	A	4.6	0.11	6.5
	EBT	B	15.1	0.75	#145.9	A	6.6	0.48	71.7
	EBR	A	5.7	0.04	4.3	A	3.8	0.05	5.1
	WBL	A	6.9	0.11	5	A	3.8	0.03	3
	WBT	A	9.2	0.47	64.6	A	8.5	0.61	107.4
	WBR	A	5.7	0.04	4.7	A	4.1	0.11	10.3
	NBL	C	23.2	0.13	8.9	C	28.6	0.26	13.6
	NBT	C	23	0.11	9.6	C	30.2	0.49	28.6
	SBL	C	31.2	0.65	34.6	D	35.3	0.61	26.8
	SBT	C	24.6	0.32	20.8	C	28.2	0.25	16.6
	Overall	**B**	**15.4**	**0.73**		**B**	**11.5**	**0.61**	

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Panabaker Dr & Garner Rd W	EBL	A	9.6	0.57	34.6	B	13.3	0.65	#25.2
	EBT	C	22.4	0.9	125.8	A	8.4	0.69	81.3
	WBL	A	6.1	0.12	3.1	A	3.7	0.01	0.8
	WBT	A	7.6	0.42	39.9	B	16.6	0.88	129.5
	WBR	A	7.2	0.36	2.7	A	3.9	0.09	2.9
	NBT	C	24.2	0	0	C	28.1	0	0
	SBL	D	52.9	0.87	#59.3	C	33	0.56	26.1
	SBR	C	25.5	0.21	8.4	C	28.7	0.13	10
	Overall	**B**	**18.8**	**0.89**		**B**	**14.4**	**0.82**	
Fiddlers Green Rd & Garner Rd W	EBL	B	18.9	0.58	17.7	B	14.3	0.32	12.3
	EBT	B	17.5	0.71	87.3	B	12.7	0.39	55.1
	WBL	B	19.1	0.38	15.2	B	15.8	0.18	15.3
	WBT	C	27.8	0.83	89.5	C	23.8	0.77	119.1
	NBL	C	29.3	0.44	24.2	C	28.4	0.23	19.5
	NBT	C	33.5	0.66	48.5	C	34.9	0.65	70.8
	SBL	D	50.1	0.91	#49.7	C	27.5	0.68	54.4
	SBT	C	20.1	0.38	33.8	C	22.5	0.41	61.6
	Overall	**C**	**25.8**	**0.9**		**C**	**21.8**	**0.74**	

Table 5.5 – Future Alternative 2 (2031) Unsignalized Intersection Capacity Analysis Results

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & McClure Rd	EBL	A	8.6	0.03	0.7	A	9.7	0.05	1.3
	SBLR	B	13.5	0.08	2.1	C	18.3	0.19	5.4
Garner Rd W & Access Rd	EBL	A	8.6	0.02	0.4	B	10.6	0.11	2.8
	SBLR	B	14.3	0.12	3	C	24.3	0.5	20.2
Garner Rd W & Hamilton Dr	EBL	A	9.1	0.02	0.4	B	11	0.07	1.7
	SBLR	C	24.8	0.5	20.4	C	23	0.36	12
Garner Rd W & Braithwaite Ave	EBL	B	10.5	0.03	0.6	B	10.5	0.04	1
	SBLR	E	40	0.6	26.9	C	19.8	0.16	4.3
Garner Rd W & Anson Dr	EBL	11.5	0.02	0.4	B	10.8	0.01	0.2	11.5
	SBLR	35.7	0.21	5.8	C	22	0.09	2.2	35.7

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & Miller Dr	EBL	B	11.4	0.02	0.4	B	11.2	0.02	0.5
	SBLR	D	30	0.25	7.1	C	21.6	0.09	2.2
Garner Rd W/ Woodmount Ave	EBL	B	10.6	0	0	B	11.2	0.01	0.2
	SBLR	C	20.4	0.07	1.7	C	21.5	0.05	1.2
Garner Rd W & 403 EB exit-ramp	SBLR	F	60	0.74	36.9	F	151.9	1.17	100.8
Garner Rd W & 403 EB entr-rmp	EBL	B	14.2	0.25	7.6	B	12.7	0.07	1.7

Signal Warrant Analysis

The signal warrant analysis results for the Future Do Nothing (2031) scenario (included in **Section 4.2**) also apply to Alternative 2 since the traffic volumes and the intersection layouts are identical.

As set out in **Section 4.2**, the analysis shows that signals are not warranted for any of the intersections assessed except for the Garner Road/ Highway 403 Exit-Ramp intersection which satisfies Justification 4 (four-hour volume justification). While Justification 4, on its own, is not recognized to be sufficient for proposing signalization, the LOS results, illustrate the benefits of signalization at this intersection.

A simple signalized intersection has been tested for the Garner Road/ Highway 403 Exit-Ramp intersection based on a cycle time of 120s in the AM Peak hour and 80s in the PM peak hour, and with the following movements: EBT, WBT, SBL and SBR.

The intersection capacity analysis results for the signalized Garner Road/ Highway 403 Exit-Ramp intersection is shown in Table 5.6 and the detailed Synchro outputs are included in **Appendix D**.

Table 5.6 – Intersection Capacity Analysis Results for Signalization of Garner Road/ Highway 403 Exit-Ramp (Alternative 2, 2031)

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & 403 EB exit-rmp	EBT	C	26.3	0.97	#335.7	A	9	0.74	130.9
	WBT	A	6.3	0.72	113.7	B	14.3	0.86	#217.2
	SBL	D	47.5	0.53	32.6	C	25.8	0.53	37.6
	SBR	D	42.5	0.03	8.9	C	22.6	0.12	14.1
	Overall	**B**	**19.3**	**0.92**		**B**	**13.4**	**0.79**	

The results show that the intersection operates within capacity across both peak hours and that all movements operate at a LOS of D or better. However, due to the high EBT traffic volumes in the AM peak hour and the high WBT traffic volumes in the PM peak hour, these movements operate at high V/C values and with significant levels of queueing which back onto adjacent intersections.

5.3.3 Alternative 3

The Future Alternative 3 (2031) intersection capacity analysis results, based on Synchro HCM 2000, are summarized in **Table 5.7** and **Table 5.8** for the signalized and unsignalized intersections, respectively. The detailed Synchro analysis outputs have been included in **Appendix D.**

A summary of the key traffic operational concerns are as follows:

<u>During AM peak hour:</u>

- Garner Road West & Panabaker Drive (signalized): Southbound left 95th percentile queuing exceeds available storage length.
- Fiddlers Green Road & Garner Road West (signalized): southbound left at LOS D with an estimated delay of 50.1 seconds and 95th percentile queues of 50m (V/C ratio is 0.91). Southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & Hamilton Drive (unsignalized): southbound left/right at LOS E with an estimated delay of 42.5 seconds (V/C ratio is 0.67).
- Garner Road West & Braithwaite Avenue (unsignalized): southbound left/right at LOS F with an estimated delay of 149.9 seconds (V/C ratio is 1.04).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS F with an estimated delay of 83.2 seconds (V/C ratio is 0.53).
- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with significant delays (V/C ratio is 1.43).

<u>During PM peak hour:</u>

- Fiddlers Green Road & Garner Road West (signalized): Southbound left and northbound left 95th percentile queuing exceeds available storage lengths.
- Garner Road West & SmartCentres Access Road (unsignalized): southbound left/right at LOS E with an estimated delay equal to 46.5 seconds (V/C ratio is 0.7).
- Garner Road West & Hamilton Drive (unsignalized): southbound left/right at LOS E with an estimated delay of 46.6 seconds (V/C ratio is 0.58).
- Garner Road West & Miller Drive (unsignalized): southbound left/right at LOS E with an estimated delay of 35 seconds (V/C ratio is 0.09).
- Garner Road West & Woodmount Ave (unsignalized): southbound left/right at LOS E with an estimated delay of 35 seconds (V/C ratio is 0.09).

- Garner Road West & 403 EB off-ramp (unsignalized): southbound left/right at LOS F with significant delays (V/C ratio is 1.96).

Overall, under Alternative 3 (2031) all signalized intersections operate with all movements at LOS D or better and within a V/C of 1.0, during both the AM and PM peak hours. However, some for some of the unsignalized intersections, the southbound movements out of the crossing roads on Garner Road operate at LOS E and F with long delay times.

Table 5.7 – Future Alternative 3 (2031) Signalized Intersection Capacity Analysis Results

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd/Mason Dr & Wilson St	EBL	A	6.6	0.01	2.5	A	8.1	0	0.9
	EBT	A	9.3	0.42	26.2	B	14	0.63	78
	WBL	A	7.5	0.09	5.6	B	12.4	0.2	8.3
	WBT	A	8.1	0.28	35.1	A	9.9	0.27	33.7
	NBL	C	31.2	0.71	45.7	C	31.9	0.77	53.7
	NBT	C	32.1	0.72	45.5	C	32.1	0.77	53
	SBL	C	20.8	0.02	2.1	B	18.7	0.11	6.7
	SBT	C	20.9	0.03	4.5	B	18.1	0.02	3.9
	Overall	**B**	**13.9**	**0.51**		**B**	**17.5**	**0.68**	
Shaver Rd & Garner Rd W	EBL	A	5.6	0.02	1.8	A	4.3	0.09	6.2
	EBT	A	7.8	0.4	43.8	A	4.6	0.25	27.7
	EBR	A	5.7	0.04	4.3	A	3.8	0.04	4.1
	WBL	A	6.2	0.07	4.7	A	3.8	0.03	2.9
	WBT	A	6.8	0.25	26.8	A	5	0.32	36.6
	WBR	A	5.7	0.04	4.1	A	4	0.09	6.2
	NBL	C	23.2	0.13	8.9	C	28.6	0.26	13.6
	NBT	C	23	0.11	9.6	C	30.2	0.49	28.6
	SBL	C	31.2	0.65	34.6	D	35.3	0.61	26.8
	SBT	C	24.6	0.32	20.8	C	28.2	0.25	16.6
	Overall	**B**	**11.6**	**0.46**		**A**	**9.6**	**0.37**	
Panabaker Dr & Garner Rd W	EBL	B	10.6	0.6	33	A	6.8	0.43	12.2
	EBT	A	8.9	0.53	41	A	6.4	0.43	28.4
	WBL	A	6.5	0.06	2.8	A	4.8	0.01	0.8
	WBT	A	7.2	0.24	17.6	A	7.2	0.55	38.2
	WBR	A	7.8	0.36	2.7	A	5	0.09	3
	NBT	B	18.2	0	0	B	17.8	0	0
	SBL	C	32.1	0.77	#59.3	B	19.9	0.43	23.9
	SBR	B	19.3	0.21	8.4	B	18.3	0.12	9.5

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
	Overall	**B**	**11.7**	**0.65**		**A**	**8**	**0.52**	
Fiddlers Green Rd & Garner Rd W	EBL	B	18.9	0.58	17.7	B	14.3	0.32	12.3
	EBT	B	17.5	0.71	87.3	B	12.7	0.39	55.1
	WBL	B	19.1	0.38	15.2	B	15.8	0.18	15.3
	WBT	C	27.8	0.83	89.5	C	23.8	0.77	119.1
	NBL	C	29.3	0.44	24.2	C	28.4	0.23	19.5
	NBT	C	33.5	0.66	48.5	C	34.9	0.65	70.8
	SBL	D	50.1	0.91	#49.7	C	27.5	0.68	54.4
	SBT	C	20.1	0.38	33.8	C	22.5	0.41	61.6
	Overall	**C**	**25.8**	**0.9**		**C**	**21.8**	**0.74**	

Table 5.8 – Future Alternative 3 (2031) Unsignalized Intersection Capacity Analysis Results

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & McClure Rd	EBL	A	8.6	0.03	0.7	A	9.7	0.05	1.3
	SBLR	B	14.2	0.09	2.3	D	31.9	0.33	10.3
Garner Rd W & Access Rd	EBL	A	8.6	0.02	0.4	A	9.9	0.1	2.4
	SBLR	C	16.8	0.15	3.8	E	46.5	0.7	35.9
Garner Rd W & Hamilton Dr	EBL	A	9.2	0.02	0.5	B	11.3	0.07	1.8
	SBLR	E	42.5	0.67	33.3	E	46.6	0.58	23.8
Garner Rd W & Braithwaite Ave	EBL	B	10.5	0.03	0.6	B	10.5	0.04	1.1
	SBLR	F	149.9	1.04	59.3	D	31.6	0.26	7.5
Garner Rd W & Anson Dr	EBL	A	0.6	0.02	0.4	A	0.3	0.01	0.2
	SBLR	D	28.3	0.17	4.4	C	23	0.09	2.4
Garner Rd W & Miller Dr	EBL	B	11.8	0.02	0.5	B	11.3	0.02	0.5
	SBLR	F	83.2	0.53	17.6	E	39.6	0.17	4.4
Garner Rd W/ Woodmount Ave	EBL	A	0	0	0	A	0.2	0.01	0.2
	SBLR	C	18.2	0.06	1.4	E	35	0.09	2.2
Garner Rd W & 403 EB exit-ramp	SBLR	F	311.5	1.43	82.1	F	507.1	1.96	170.6

Unsignalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & 403 EB entr-rmp	EBL	B	14.5	0.26	7.9	B	13.2	0.07	1.8

Signal Warrant Analysis

Under Alternative 3, a signal warrant analysis was conducted for the Garner Road/ Highway 403 Exit-Ramp intersection which satisfied Justification 4 (four-hour volume justification) under the Future Do Nothing (2031) scenario and Alternatives 1 and 2. The signal warrant analysis for this intersection was repeated for the case with 2 through-lanes on Garner Road to test if Justification 4 is satisfied. The Signal Warrant Analysis outputs are included in **Appendix F**.

The analysis shows that signals are not warranted for the Garner Road/ Highway 403 Exit-Ramp intersection. However, since compliance with Justification 4 is high (97%) and due to the poor levels of service and high V/C ratios, a signalized intersection has been tested to illustrate the benefits of signalization at this intersection.

A simple signalized intersection has been tested for the Garner Road/ Highway 403 Exit-Ramp intersection based on a cycle time of 120s in the AM Peak hour and 80s in the PM peak hour, and with the following movements: EBT, WBT, SBL and SBR.

The intersection capacity analysis results for the signalized Garner Road/ Highway 403 Exit-Ramp intersection is shown in Table 5.6 and the detailed Synchro outputs are included in **Appendix D**.

Table 5.9 – Intersection Capacity Analysis Results for Signalization of Garner Road/ Highway 403 Exit-Ramp (Alternative 3, 2031)

Signalized Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C	Queue (m) 95th	LOS	Delay (s)	V/C	Queue (m) 95th
Garner Rd W & 403 EB exit-rmp	EBT	B	17.5	0.78	84.5	B	18.2	0.61	60.5
	WBT	B	13.3	0.58	55.2	C	20.2	0.72	74.1
	SBL	B	17.9	0.16	19.5	B	13.8	0.21	32
	SBR	B	16.7	0.03	5.9	B	12.8	0.1	14
	Overall	**B**	**15.9**	**0.53**		**B**	**18.6**	**0.46**	

The results show that the intersection operates within capacity across both peak hours and that all movements operate at a LOS of B except for the WBT movement which operates at a LOS of C during the PM peak hour. The results show a significant improvement compared to the unsignalized intersection under Alternative 3.

5.4 Future Alternatives MMLOS Analysis

5.4.1 Alterative 1 MMLOS Results

The Alternative 1 MMLOS results for intersections and segments are presented in **Table 5.10** and **Table 5.11**, respectively.

Table 5.10 – Future Alternative 1 (2031) Intersections MMLOS Results

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Signalized										
Wilson St W & Garner Rd W / Mason Dr	C	Fails	D	B	B	C		D	B	B
Garner Rd W & Shaver Rd	C	C	D	B	B	C	C	D	B	B
Garner Rd W & Panabaker Dr	D	C	D	B	B	D	C	D	B	B
Garner Road W & Fiddlers Grn Rd	D	C	D	C	C	D	D	D	C	C
Unsignalized										
Garner Rd W & McClure Rd	D	C	B	B	A	D	C	B	B	A
Garner Rd W & SmartCentres Access Rd	D	C	B	B	A	D	C	B	C	C
Garner Rd W & Hamilton Dr	C	C	B	B	B	C	C	B	B	A
Garner Rd W & Braithwaite Ave	D	C	B	C	D	D	C	B	B	A
Garner Rd E & Anson Dr	C	C	B	D	F	C	C	B	B	A
Garner Rd E & Miller Dr	C	C	B	B	A	C	C	B	B	A
Garner Rd E & Woodmount Ave	D	C	B	B	A	D	C	B	B	A
Garner Rd E & Hwy 403 EB Exit-Ramp	D	C	B	D	F	D	C	B	D	F
Garner Rd E & Hwy 403 EB Entrance-Ramp	D	C	B	B	A	D	C	B	B	A

Table 5.11 – Future Alternative 1 (2031) Segment MMLOS Results

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Mason Dr to McClure Rd	D	C	D	C	C	D	C	D	C	B
McClure Rd to Shaver Rd	D	C	D	C	C	D	C	D	C	B
Shaver Rd to Hamilton Dr	D	C	D	D	D	D	C	D	C	C
Hamilton D to Panabaker D	D	C	D	D	D	D	C	D	C	C
Panabaker Dr to Braithwaite Ave	D	C	D	C	C	D	C	D	C	C
Braithwaite Ave to Fiddlers Green Rd	D	C	D	D	D	D	B	D	C	B
Fiddlers Green Rd to Anson Dr.	D	C	D	D	D	D	C	D	D	D
Anson Dr to Miller Dr	D	C	D	C	C	D	B	D	C	B
Miller Dr to Woodmount Ave	D	C	D	C	B	D	B	D	C	C
Woodmount Ave to HWY 403 Off-Ramp	D	C	D	D	D	D	C	D	D	D
HWY 403 Off-Ramp to HWY 403 On-Ramp	D	B	D	B	A	D	B	D	B	A

Pedestrian LOS

Due to the provision of active transportation facilities, all the OTC pedestrian design checks are passed for the segments and intersections. Under Alternative 1, the pedestrian LOS for all intersections ranges between LOS C and D. This is due to the combination of the various elements which make up the pedestrian LOS scores. Key contributing factors for signalized intersections is the number of uncontrolled conflicts and for unsignalized intersections, the average crossing distance length. The pedestrian LOS across all segments is LOS D with the maximum distance between controlled crossings influencing the scores.

Bicycle LOS

Due to the provision of active transportation facilities, all the OTC bicycle design checks are passed for the segments and intersections. The only exception to this is at the Garner Road intersection with Wilson Street West which is the western limit of the study area and so no bicycle facilities are provided beyond to provide wider connectivity. The bike LOS for all intersections is LOS C, except for the Garner Road intersection with Fiddlers Green, which has an LOS score of D in the PM peak due to the longer signal cycle length.

In general, the average effective radius at the intersections and the number of uncontrolled conflicts are among the key factors influencing the bicycle LOS scores for this alternative. The bicycle LOS for all segments ranges between LOS B and C.

Transit LOS

The transit LOS at most unsignalized intersections is LOS B, whereas the LOS for all signalized intersections is D. The difference in LOS scores between the two is due to the fact that the score for signalized intersections takes into account the provision (or absence of) transit priority measures which have not been provided as part of any of the alternatives. The transit LOS score across all segments is LOS D.

Compared to the Future Do Nothing (2031) scenario, the transit LOS score under Alternative 1 is almost always better for both intersections and segments. This is primarily the result of better pedestrian LOS levels (which feed into the transit LOS levels) under Alternative 1. Overall, the transit target LOS of D is met for all intersections and segments across the study area.

Truck LOS

The truck LOS for intersections and segments ranges between LOS B to LOS D and the LOS is very similar to the LOS under the Future Do Nothing (2031) scenario,

Overall, the truck target LOS D is met for all study area intersections and segments.

Car LOS

The car LOS for intersections ranges between LOS B to C for signalized intersections and between LOS A to F for the unsignalized intersections. For segments, the car LOS ranges between A to D.

Overall, the car LOS scores are similar to the Future Do Nothing (2031) scenario since the overall averaged intersection delays and midblock V/Cs have not changed significantly.

5.4.2 Alterative 2 MMLOS Results

The Alternative 2 MMLOS results for intersections and segments are presented in **Table 5.12** and **Table 5.13,** respectively.

Table 5.12 – Future Alternative 2 (2031) Intersections MMLOS Results

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Signalized										
Wilson St W & Garner Rd W / Mason Dr	C	Fails	D	B	B	C		D	B	B
Garner Rd W & Shaver Rd	C	C	D	B	B	C	C	D	B	B

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Garner Rd W & Panabaker Dr	D	C	D	B	B	D	C	D	B	B
Garner Road W & Fiddlers Grn Rd	D	C	D	C	C	D	D	D	C	C
Unsignalized										
Garner Rd W & McClure Rd	D	C	B	B	A	D	C	B	B	A
Garner Rd W & SmartCentres Access Rd	D	C	B	B	A	D	C	B	B	A
Garner Rd W & Hamilton Dr	C	C	B	B	A	C	C	B	B	A
Garner Rd W & Braithwaite Ave	D	C	B	B	A	D	C	B	B	A
Garner Rd E & Anson Dr	C	C	B	B	A	C	C	B	B	A
Garner Rd E & Miller Dr	C	C	B	B	A	C	C	B	B	A
Garner Rd E & Woodmount Ave	D	C	B	B	A	D	C	B	B	A
Garner Rd E & Hwy 403 EB Exit-Ramp	D	C	B	B	A	D	C	B	B	B
Garner Rd E & Hwy 403 EB Entrance-Ramp	D	C	B	B	A	D	C	B	B	A

Table 5.13 – Future Alternative 2 (2031) Segment MMLOS Results

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Mason Dr to McClure Rd	D	C	D	C	C	D	C	D	C	B
McClure Rd to Shaver Rd	D	C	D	C	C	D	C	D	C	B
Shaver Rd to Hamilton Dr	D	C	D	D	D	D	C	D	C	C
Hamilton D to Panabaker D	D	C	D	D	D	D	C	D	C	C
Panabaker Dr to Braithwaite Ave	D	C	D	C	C	D	C	D	C	C
Braithwaite Ave to Fiddlers Green Rd	D	C	D	D	D	D	B	D	C	B
Fiddlers Green Rd to Anson Dr.	D	C	D	D	D	D	C	D	D	D

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Anson Dr to Miller Dr	D	C	D	C	C	D	B	D	C	B
Miller Dr to Woodmount Ave	D	C	D	C	B	D	B	D	C	C
Woodmount Ave to HWY 403 Off-Ramp	D	C	D	D	D	D	C	D	D	D
HWY 403 Off-Ramp to HWY 403 On-Ramp	D	B	D	B	A	D	B	D	B	A

Pedestrian LOS

The pedestrian LOS under Alternative 2 is the same as for Alternative 1 since the provision of pedestrian facilities is identical and almost all the factors which contribute to the score are the same. The pedestrian LOS for all intersections ranges between LOS C and D. Key contributing factors for signalized intersections is the number of uncontrolled conflicts and for unsignalized intersections, the average crossing distance length. The pedestrian LOS across all segments is LOS D with the maximum distance between controlled crossings influencing the scores.

Bicycle LOS

The bicycle LOS under Alternative 2 is the same as for Alternative 1 since the provision of bicycle facilities is identical and almost all the factors which contribute to the score are the same. The bicycle LOS For all intersections is LOS C, except for the Garner Road intersection with Fiddlers Green, which has an LOS score of D in the PM peak due to the longer signal cycle length. In general, the average effective radius at the intersections and the number of uncontrolled conflicts are among the key factors influencing the bicycle LOS scores for this alternative. The bicycle LOS for all segments ranges between LOS B and C.

Transit LOS

The transit LOS under Alternative 2 is the same as for Alternative 1 since the provision of transit facilities and measures are identical between the scenarios and the other contributing factors to the scores are also generally similar. The transit LOS at the unsignalized intersections is LOS B, whereas the LOS for all signalized intersections is D. The difference in LOS scores between the two is due to the fact that the score for signalized intersections takes into account the provision (or absence of) transit priority measures which have not been provided as part of any of the alternatives. The transit LOS score across all segments is LOS D.

Overall, the transit target LOS of D is met for all intersections and segments across the study area.

Truck LOS

The truck LOS for all intersections is LOS B, except for the Garner Road and Fiddlers Green intersection which has an LOS C.



The truck LOS under Alternative 2 has improved for several intersections due to improved car LOS scores (which feed into the truck LOS score). The truck LOS for segments ranges between LOS B to LOS D similar to Alternative 1.

Overall, the truck target LOS D is met for all study area intersections and segments.

Car LOS

The Car LOS for intersections ranges between LOS B to C for signalized intersections and between LOS A to B for the unsignalized intersections. The car LOS under Alternative 2 has improved for several intersections compared to Alternative 1 due to reduced average intersection delays.

For segments, the car LOS ranges between A to D and is similar to Alternative 1.

5.4.3 Alterative 3 MMLOS Results

The Alternative 3 MMLOS results for intersections and segments are presented in **Table 5.14** and **Table 5.15,** respectively.

Table 5.14 – Future Alternative 3 (2031) Intersections MMLOS Results

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Signalized										
Wilson St W & Garner Rd W / Mason Dr	C	Fails	D	B	B	C		D	B	B
Garner Rd W & Shaver Rd	C	C	D	B	B	C	C	D	B	A
Garner Rd W & Panabaker Dr	C	C	D	B	B	C	C	D	B	A
Garner Road W & Fiddlers Grn Rd	D	C	D	C	C	D	C	D	C	C
Unsignalized										
Garner Rd W & McClure Rd	D	C	B	B	A	D	C	B	B	A
Garner Rd W & SmartCentres Access Rd	D	C	B	B	A	D	C	B	B	A
Garner Rd W & Hamilton Dr	C	C	B	B	A	C	C	B	B	A
Garner Rd W & Braithwaite Ave	D	C	B	B	A	D	C	B	B	A
Garner Rd E & Anson Dr	C	C	B	B	A	C	C	B	B	A
Garner Rd E & Miller Dr	C	C	B	B	A	C	C	B	B	A

Intersection Location	AM Peak Hour					PM Peak Hour				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Garner Rd E & Woodmount Ave	D	C	B	B	A	D	C	B	B	A
Garner Rd E & Hwy 403 EB Exit-Ramp	D	C	B	B	B	D	C	B	D	E
Garner Rd E & Hwy 403 EB Entrance-Ramp	D	C	B	B	A	D	C	B	B	A

Table 5.15 – Future Alternative 3 (2031) Segment MMLOS Results

Segments	Eastbound					Westbound				
	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS	Ped LOS	Bike LOS	Transit LOS	Truck LOS	Car LOS
Mason Dr to McClure Rd	D	C	D	C	C	D	C	D	C	B
McClure Rd to Shaver Rd	D	C	D	C	C	D	C	D	C	B
Shaver Rd to Hamilton Dr	D	C	D	C	C	D	C	D	C	C
Hamilton D to Panabaker D	D	C	D	C	C	D	C	D	C	C
Panabaker Dr to Braithwaite Ave	D	C	D	C	C	D	C	D	C	B
Braithwaite Ave to Fiddlers Green Rd	D	C	D	D	D	D	B	D	B	A
Fiddlers Green Rd to Anson Dr.	D	C	D	D	D	D	C	D	D	D
Anson Dr to Miller Dr	D	C	D	C	C	D	B	D	C	B
Miller Dr to Woodmount Ave	D	C	D	C	B	D	B	D	C	C
Woodmount Ave to HWY 403 Off-Ramp	D	C	D	D	D	D	C	D	D	D
HWY 403 Off-Ramp to HWY 403 On-Ramp	D	B	D	B	A	D	B	D	B	A

Pedestrian LOS

The pedestrian LOS under Alternative 3 is very similar to Alternative 1 and Alternative 2 since the provision of pedestrian facilities is identical and almost all the factors which contribute to the score are the same. The pedestrian LOS for all intersections ranges between LOS C and D. Key contributing factors for signalized intersections is the number of uncontrolled conflicts and for unsignalized intersections, the average crossing distance length. The pedestrian LOS across all segments is LOS D with the maximum distance between controlled crossings influencing the scores.

Bicycle LOS

The bike LOS under Alternative 3 is very similar to Alternative 1 and Alternative 2 since the provision of bicycle facilities is identical and almost all the factors which contribute to the score are the same. The bicycle LOS For all intersections is LOS C. In general, the average effective radius at the intersections and the number of uncontrolled conflicts are among the key factors influencing the bicycle LOS scores for this alternative. The bicycle LOS for all segments ranges between LOS B and C.

Transit LOS

The transit LOS under Alternative 3 is the same as for Alternative 1 and Alternative 2 since the provision of transit facilities and measures are identical between the scenarios and the other contributing factors to the scores are also generally similar. The transit LOS at the unsignalized intersections is LOS B, whereas the LOS for all signalized intersections is D. The difference in LOS scores between the two is due to the fact that the score for signalized intersections takes into account the provision (or absence of) transit priority measures which have not been provided as part of any of the alternatives. The transit LOS score across all segments is LOS D.

Overall, the transit target LOS of D is met for all intersections and segments across the study area.

Truck LOS

The truck LOS for all intersections is LOS B, except for the Garner Road and Fiddlers Green intersection which has an LOS C. The truck LOS under Alternative 3 is the same as for Alternative 2. The truck LOS for segments ranges between LOS B to LOS D similar to Alternative 1 and Alternative 2.

Overall, the truck target LOS D is met for all study area intersections and segments.

Car LOS

The Car LOS for intersections ranges between LOS A to C for signalized intersections and is LOS A for the unsignalized intersections except for the Garner Road and Highway 403 EB Exit-Ramp intersection which has an LOS of B and E in the AM and PM peak hours, respectively. The car LOS under Alternative 3 has improved for several intersections compared to Alternative 1 due to reduced average intersection delays but is similar to Alterative 2.

For segments, the car LOS ranges between A to D and is similar to Alternative 1 and Alternative 2.

5.4.4 Summary of Design Alternatives MMLOS Results

The MMLOS results for the future design alternatives have been summarized below:

Pedestrian LOS

- All three design alternatives have very similar or identical pedestrian LOS scores since the provision of pedestrian facilities is identical and most factors which contribute to the score are the same.
- The pedestrian LOS for all intersections ranges between LOS C and D under all three alternatives.
- The pedestrian LOS for segments is LOS D under all three alternatives.

Bicycle LOS

- All three design alternatives have very similar bicycle LOS scores since the provision of bicycle facilities is identical and most factors which contribute to the score are the same.
- The bicycle LOS For all intersections is LOS C
- The bicycle LOS for all segments ranges between LOS B and C.

Transit LOS

- The transit LOS under all three alternatives is the same since the provision of transit facilities and measures are identical between the scenarios and the other contributing factors to the scores are also generally similar.
- The transit LOS at the unsignalized intersections is LOS B, whereas the LOS for all signalized intersections is D.
- The transit LOS score across all segments is LOS D.

Truck LOS

- The truck LOS for intersections ranges between LOS B to LOS D under Alternative 1 but is improved under Alternatives 2 and 3 to an LOS of B for all intersections except for the Garner Road and Fiddlers Green intersection which has an LOS C. This improvement is due to improved car LOS scores under Alternatives 2 and 3 which feed into the truck LOS score.
- The truck LOS for segments under all three scenarios ranges between LOS B to LOS D.

Car LOS

- Under Alternative 1, the car LOS for intersections ranges between LOS B to C for signalized intersections and between LOS A to F for the unsignalized intersections.
- Under Alternative 2, the car LOS for intersections ranges between LOS B to C for signalized intersections and between LOS A to B for the unsignalized intersections.
- Under Alternative 3, the car LOS for intersections ranges between LOS A to C for signalized intersections and is LOS A for the unsignalized intersections except for the Garner Road and Highway 403 EB Exit-Ramp intersection which has an LOS of B and E in the AM and PM peak hours, respectively. The car LOS under Alternative 3 has improved for several intersections compared to Alternative 1 due to reduced average intersection delays but is similar to Alterative 2.
- For segments, the car LOS is similar across all three alternatives and ranges between A to D.

6.0 Summary and Conclusions

6.1 Summary

A detailed multi-model transportation assessment was undertaken to confirm the current and future needs of Garner Road. Garner Road between Wilson Street and the Highway 403 ramp currently operates with high vehicle traffic volumes (especially during peak hours) and there is a lack or discontinuity of active transportation and public transit provision along this road segment.

The findings of this transportation assessment have been summarized below:

- A background document review was undertaken which highlighted that the need for future improvements along Garner Road have previously been identified across multiple studies and City of Hamilton documentation. In addition to roadway improvements, the need for improvements in active transportation and transit provision was highlighted in various City of Hamilton planning and policy documentation.

- The existing active transportation provision along Garner Road within the study area is poor with two unconnected segments of sidewalk on the north side of Garner Road and no bicycle facilities. Two bus routes operate along Garner Road in the study area, providing connections to Upper Centennial Parkway, Redeemer University, Duff's Corner and Meadowlands.

- Under the existing conditions (2021), the intersection capacity analysis identified that the Garner Road and Highway 403 EB off-ramp intersection operates over capacity and multiple other intersections, which operate within capacity, operate with delay or queuing issues. A Multi-Modal Level of Service (MMLOS) assessment was conducted based on the Ontario Traffic Council (OTC) Multi-Modal Level of Service Guidelines. MMLOS targets for a general urban/suburban area were considered for analysis, with a pedestrian LOS target of C, a bicycle LOS target of D, a transit LOS target of D, and a truck LOS target of D. Under the existing conditions (2021), almost all segments and intersections fail the minimum pedestrian and bicycle design check due to inadequate or lack of suitable facilities. The transit LOS ranges between LOS C – D for intersections and between LOS E – F for segments (primarily due to the poor pedestrian LOS score which feeds into the transit LOS). Almost all intersections scored a truck LOS B whilst for segments, the truck LOS ranges between LOS B – D. The car LOS for intersections ranges between LOS A and B and for segments, the car LOS ranges between LOS A to D.

- The Future Do Nothing (2031) scenario traffic forecasts were estimated based on the changes in traffic volumes as predicted by the City of Hamilton's (the City) EMME transport modelling. The Future Do Nothing (2031) intersection capacity analysis show that eight out of the 13 study area intersections operate at or over maximum capacity, with delay and/or queueing issues at the majority of the study area intersections. In terms of the Future Do Nothing (2031) MMLOS analysis, almost all intersections and segments fail the pedestrian and bicycle design checks (similar to the existing conditions) and the transit LOS are similar to the existing conditions.

The truck LOS for both intersection and segments range between LOS B – D with some intersections/ segments having lower scores compared to the existing conditions due to the increased vehicle traffic volumes. The car LOS for intersections ranges between LOS A – F, with some intersections operating worse compared to the existing conditions due the increased overall intersections delays. For segments, the car LOS ranges between A to D similar to the existing conditions.

- The following design alternatives have been included in the assessment of potential future improvements along Garner Road:

  Alternative 1: Road layout and cross-section similar to the existing conditions but with segregated active transportation provision separated from the traffic lanes by a boulevard

  Alternative 2: One through lane in each direction and one central two-way-left-turn-lane (TWLTL) and active transportation provision similar to Alternative 1.

  Alternative 3: Two through lanes in each direction and active transportation provision similar to Alternatives 1 and 2.

- The assessment of alternatives included intersection capacity analysis and MMLOS analysis based on the same traffic volumes as the Future Do Nothing (2031) scenario. The intersection capacity results are summarized as follows:

  - Under Alternative 1, the operation of the intersections is similar to the Future Do Nothing scenario since the road layout and cross-section is the same. There are minor improvements to the operation of the Garner Road intersections with Panabaker Drive and Fiddlers Green Road under Alternative 1 due to the signal phase split optimization. However, at the Garner Road and Panabaker Drive intersection, the EBT movement operates at a V/C ratio of 0.9 in the AM peak hour and the WBT operates at a V/C ratio of 0.88 in the PM peak hour. Overall, under Alternative 1 all signalized intersections operate with all movements at LOS D or better and within a V/C of 1.0, during both the AM and PM peak hours. However, for some of the unsignalized intersections, the southbound movements out of the crossing roads on Garner Road operate over capacity and at a LOS F with long delay times.

  - Under Alternative 2 signalized intersections operate similar to Alternative 1 since the overall intersection layout is the same between the scenarios. All signalized intersections operate with all movements at LOS D or better and within a V/C of 1.0, during both the AM and PM peak hours. There are notable improvements in the operation of several unsignalized intersections, which is due to the introduction of the TWLTL. All movements for all intersections operate within a V/C ratio of 1.0 but there are a few southbound movements out of the crossing roads on Garner Road which operate at LOS F with long delay times.

  - Under Alternative 3, there are improvements at the Garner Road and Panabaker Drive signalized intersection, with the EBT and WBT movements operating well within capacity.

The remaining signalized intersections operate similar to Alternatives 1 and 2. In terms of unsignalized intersections, the operation of various intersections is worse when compared to Alternative 1, with the southbound movements out of the crossing roads on Garner Road operating at LOS E and F with long delay times.

- The MMLOS analysis results for the alternatives are summarized as follows:
    - Alternative 1: The active transportation design checks are passed for pedestrians and cyclists. The pedestrian and bicycle LOS for all intersections and segments is LOS D or better. The transit LOS at most unsignalized intersections is LOS B, whereas the LOS for all signalized intersections is D, which is better when compared against the Future Do Nothing (2031) scenario. The truck LOS for intersections and segments ranges between LOS B to LOS D and the LOS is very similar to the LOS under the Future Do Nothing (2031) scenario. The car LOS scores are similar to the Future Do Nothing (2031) scenario since the overall averaged intersection delays and midblock V/Cs have not changed significantly.
    - Alternative 2: The pedestrian and bicycle LOS is identical to Alternative 1 since the provision of active transportation facilities is identical between the alternatives. Similarly, the transit LOS under Alternative 2 is the same as for Alternative 1 since the provision of transit facilities and measures are identical between the scenarios. The truck LOS for almost all intersections is LOS B (an improvement over Alternative 1 for some intersections) and for segments it is LOS D. The car LOS for intersections ranges between LOS A – C (an improvement over Alternative 1 for some intersections) and for segments it ranges between LOS A – D.
    - Alternative 3: The pedestrian, bicycle and transit LOS for Alternative 3 is similar to Alternatives 1 and 2 since due to the same provision of facilities between the three alternatives. The truck LOS is the same as Alternative 2 at LOS B for almost all intersections and LOS D for segments. The car LOS is similar to Alternative 2 and ranges between LOS A – C for all intersection and LOS A – D for all segments.

6.2 Recommendations

The Transportation Assessment recommends a number of improvements along the Garner Road corridor and at various intersections within the study area to accommodate the future forecast 2031 traffic volumes. The exact timing and phasing of the recommendation would depend on the actual traffic volumes along the study area and weather the projected increases in traffic volumes materialize. The study recommendations are summarized below:

- Garner Road cross-section within the study area limits: one through lane in each direction and one central two-way-left-turn-lane (TWLTL) and segregated active transportation provision separated from the traffic lanes by a boulevard (Alternative 2). Except for the cases stated below, the layouts of intersections, including turning lane storage lengths, will be similar to the existing condition.

- Optimize the signal plans of the Garner Road/ Panabaker Drive and Fiddlers Green Road/ Garner Road intersections.
- Garner Road/ Highway 403 Exit-Ramp intersection: Install traffic signals at the intersection. Provide an exclusive southbound right turn lane with a minimum storage length of 40m and convert the existing shared southbound left/right lane to an exclusive southbound left turn lane.
- Garner Road/ Panabaker Drive intersection: it is recommended that a bus queue-jump lane is considered in both directions at this intersection. This could include having a new shared right-turn/ queue-jump lane in the eastbound direction and converting the existing westbound right-turn lane into a shared right-turn/ queue-jump lane. This would allow buses to bypass queues in both directions, which the intersection capacity analysis estimated to be in the region of 130 meters.

APPENDIX A:
TMC DATA

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:45:00
To: 8:45:00

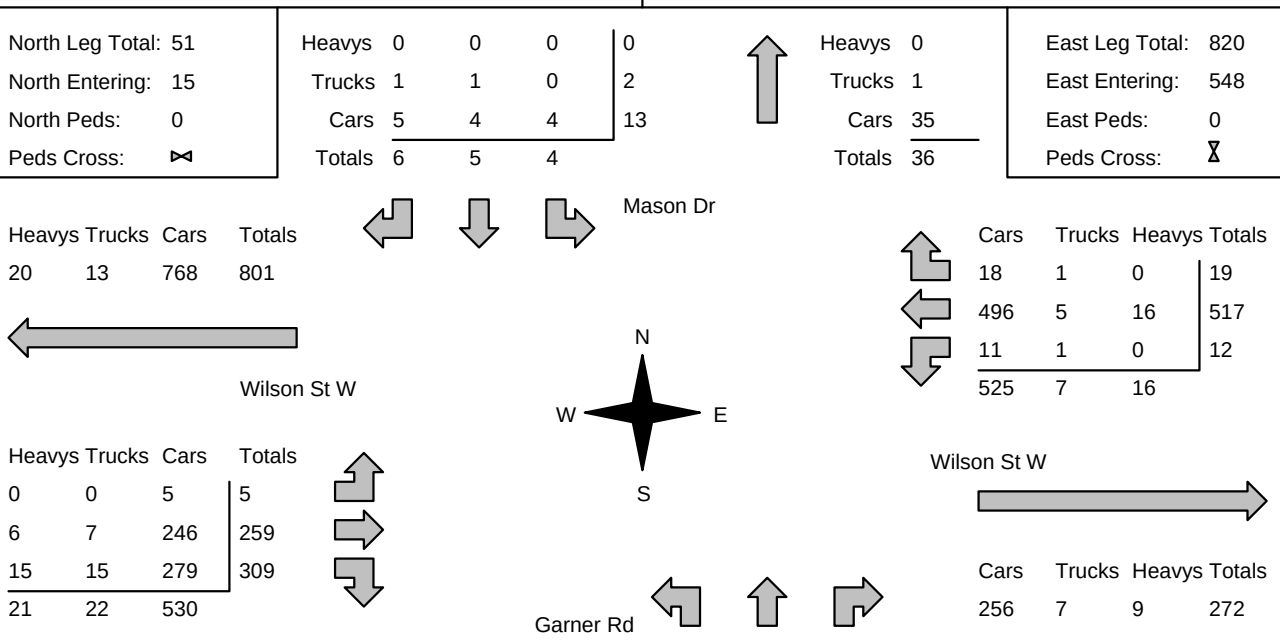
Municipality: Hamilton
Site #: 2109500001
Intersection: Wilson St W & Garner Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Wilson St W runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

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

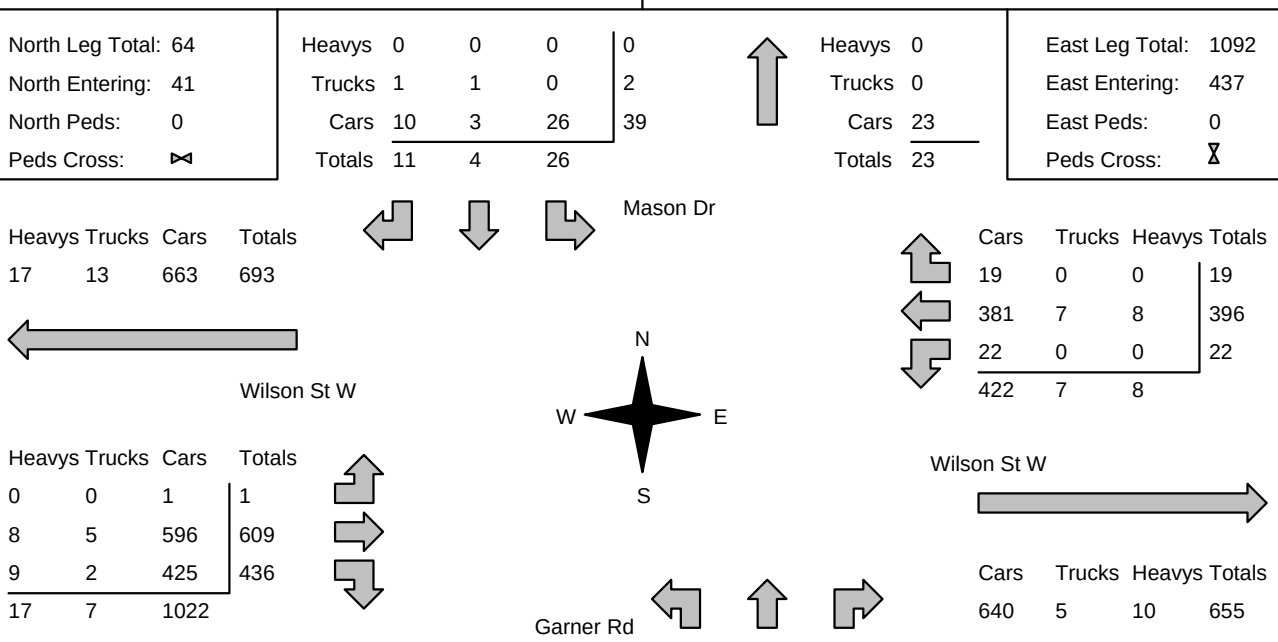
Municipality: Hamilton
Site #: 2109500001
Intersection: Wilson St W & Garner Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Wilson St W runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

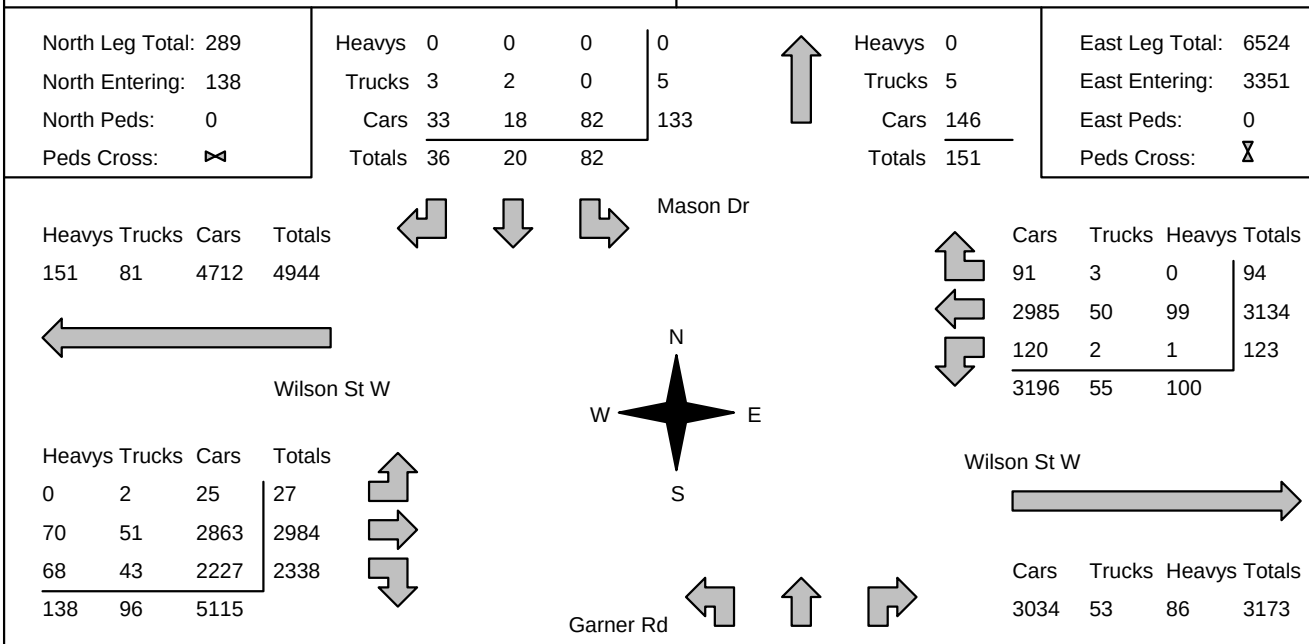
Municipality: Hamilton
Site #: 2109500001
Intersection: Wilson St W & Garner Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Wilson St W runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Wilson St W & Garner Rd | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	North/South Total Approaches
	Left	Thru	Right	Grand Total		
7:00:00	*0*	*0*	*0*	*0*	*0*	*94*
8:00:00	*2*	*1*	*1*	*4*	*0*	*228*
9:00:00	*4*	*6*	*5*	*15*	*0*	*301*
10:00:00	*5*	*0*	*2*	*7*	*0*	*196*
15:00:00	*6*	*1*	*2*	*9*	*0*	*89*
16:00:00	*14*	*1*	*5*	*20*	*0*	*291*
17:00:00	*25*	*6*	*5*	*36*	*0*	*324*
18:00:00	*16*	*2*	*13*	*31*	*0*	*301*
19:00:00	*10*	*3*	*3*	*16*	*0*	*225*
Totals:	82	20	36	138	0	2049

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*91*	*1*	*2*	*94*	*0*
8:00:00	*212*	*6*	*6*	*224*	*0*
9:00:00	*264*	*10*	*12*	*286*	*1*
10:00:00	*175*	*0*	*14*	*189*	*0*
15:00:00	*66*	*3*	*11*	*80*	*0*
16:00:00	*253*	*6*	*12*	*271*	*0*
17:00:00	*262*	*4*	*22*	*288*	*0*
18:00:00	*258*	*0*	*12*	*270*	*0*
19:00:00	*193*	*0*	*16*	*209*	*0*
S Totals:	1774	30	107	1911	1

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	East/West Total Approaches
	Left	Thru	Right	Grand Total		
7:00:00	*0*	*201*	*2*	*203*	*0*	*405*
8:00:00	*4*	*462*	*11*	*477*	*0*	*997*
9:00:00	*11*	*498*	*19*	*528*	*0*	*1078*
10:00:00	*16*	*317*	*18*	*351*	*0*	*831*
15:00:00	*5*	*168*	*3*	*176*	*0*	*412*
16:00:00	*21*	*416*	*11*	*448*	*0*	*1284*
17:00:00	*31*	*411*	*18*	*460*	*0*	*1476*
18:00:00	*17*	*347*	*6*	*370*	*0*	*1304*
19:00:00	*18*	*314*	*6*	*338*	*0*	*913*
Totals:	123	3134	94	3351	0	8700

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*1*	*104*	*97*	*202*	*0*
8:00:00	*6*	*241*	*273*	*520*	*0*
9:00:00	*3*	*266*	*281*	*550*	*1*
10:00:00	*5*	*287*	*188*	*480*	*0*
15:00:00	*1*	*146*	*89*	*236*	*0*
16:00:00	*4*	*474*	*358*	*836*	*0*
17:00:00	*0*	*594*	*422*	*1016*	*0*
18:00:00	*3*	*545*	*386*	*934*	*0*
19:00:00	*4*	*327*	*244*	*575*	*0*
W Totals:	27	2984	2338	5349	1

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*10:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*92*	*220*	*279*	*180*	*273*	*293*	*276*	*206*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500001**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	2	2	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
8:15:00	3	1	2	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0
8:30:00	4	1	4	2	3	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0
8:45:00	4	0	5	1	5	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0
9:00:00	6	2	6	1	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
9:15:00	6	0	6	0	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
9:30:00	9	3	6	0	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
9:45:00	11	2	6	0	6	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0
10:00:00	11	0	6	0	6	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0
10:15:00	15	4	7	1	7	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
10:30:00	17	2	7	0	8	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
10:45:00	17	0	7	0	8	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
15:00:00	17	0	7	0	8	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
15:15:00	21	4	7	0	9	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
15:30:00	23	2	7	0	9	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
15:45:00	28	5	8	1	10	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0
16:00:00	31	3	8	0	13	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0
16:15:00	36	5	10	2	13	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
16:30:00	42	6	11	1	14	1	0	0	2	1	3	1	0	0	0	0	0	0	0	0
16:45:00	50	8	12	1	14	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0
17:00:00	56	6	13	1	17	3	0	0	2	0	3	0	0	0	0	0	0	0	0	0
17:15:00	62	6	13	0	23	6	0	0	2	0	3	0	0	0	0	0	0	0	0	0
17:30:00	70	8	13	0	25	2	0	0	2	0	3	0	0	0	0	0	0	0	0	0
17:45:00	72	2	15	2	29	4	0	0	2	0	3	0	0	0	0	0	0	0	0	0
18:00:00	72	0	15	0	30	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0
18:15:00	76	4	15	0	31	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0
18:30:00	79	3	17	2	33	2	0	0	2	0	3	0	0	0	0	0	0	0	0	0
18:45:00	79	0	17	0	33	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0
19:00:00	82	3	18	1	33	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0
19:15:00	82	0	18	0	33	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0
19:15:15	82	0	18	0	33	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	77	77	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0
7:00:00	0	0	196	119	2	2	0	0	0	0	0	0	0	0	5	1	0	0	0	0
7:15:00	0	0	286	90	2	0	0	0	0	0	0	0	0	0	7	2	0	0	0	0
7:30:00	0	0	394	108	3	1	0	0	1	1	0	0	0	0	10	3	0	0	0	0
7:45:00	0	0	507	113	5	2	0	0	2	1	0	0	0	0	13	3	0	0	0	0
8:00:00	4	4	646	139	12	7	0	0	2	0	1	1	0	0	15	2	0	0	0	0
8:15:00	5	1	777	131	17	5	0	0	6	4	1	0	0	0	22	7	0	0	0	0
8:30:00	6	1	901	124	21	4	0	0	6	0	1	0	0	0	27	5	0	0	0	0
8:45:00	11	5	1003	102	23	2	1	1	7	1	1	0	0	0	29	2	0	0	0	0
9:00:00	14	3	1122	119	31	8	1	0	8	1	1	0	0	0	31	2	0	0	0	0
9:15:00	17	3	1203	81	35	4	1	0	9	1	1	0	0	0	33	2	0	0	0	0
9:30:00	20	3	1286	83	38	3	1	0	10	1	2	1	1	1	36	3	0	0	0	0
9:45:00	22	2	1343	57	40	2	1	0	11	1	2	0	1	0	40	4	0	0	0	0
10:00:00	29	7	1422	79	47	7	1	0	13	2	3	1	1	0	43	3	0	0	0	0
10:15:00	32	3	1497	75	48	1	2	1	19	6	3	0	1	0	48	5	0	0	0	0
10:30:00	33	1	1567	70	50	2	2	0	24	5	3	0	1	0	55	7	0	0	0	0
10:45:00	33	0	1567	0	50	0	2	0	24	0	3	0	1	0	55	0	0	0	0	0
15:00:00	33	0	1567	0	50	0	2	0	24	0	3	0	1	0	55	0	0	0	0	0
15:15:00	41	8	1670	103	52	2	2	0	28	4	3	0	1	0	62	7	0	0	0	0
15:30:00	46	5	1756	86	54	2	2	0	31	3	3	0	1	0	66	4	0	0	0	0
15:45:00	52	6	1868	112	57	3	2	0	32	1	3	0	1	0	71	5	0	0	0	0
16:00:00	54	2	1953	85	61	4	2	0	33	1	3	0	1	0	76	5	0	0	0	0
16:15:00	69	15	2066	113	62	1	2	0	34	1	3	0	1	0	79	3	0	0	0	0
16:30:00	75	6	2165	99	66	4	2	0	34	0	3	0	1	0	81	2	0	0	0	0
16:45:00	83	8	2250	85	70	4	2	0	36	2	3	0	1	0	83	2	0	0	0	0
17:00:00	85	2	2350	100	79	9	2	0	38	2	3	0	1	0	85	2	0	0	0	0
17:15:00	91	6	2447	97	81	2	2	0	41	3	3	0	1	0	87	2	0	0	0	0
17:30:00	96	5	2536	89	82	1	2	0	42	1	3	0	1	0	88	1	0	0	0	0
17:45:00	100	4	2613	77	84	2	2	0	44	2	3	0	1	0	91	3	0	0	0	0
18:00:00	102	2	2679	66	85	1	2	0	47	3	3	0	1	0	94	3	0	0	0	0
18:15:00	102	0	2754	75	87	2	2	0	48	1	3	0	1	0	97	3	0	0	0	0
18:30:00	106	4	2827	73	89	2	2	0	48	0	3	0	1	0	98	1	0	0	0	0
18:45:00	111	5	2898	71	89	0	2	0	49	1	3	0	1	0	99	1	0	0	0	0
19:00:00	120	9	2985	87	91	2	2	0	50	1	3	0	1	0	99	0	0	0	0	0
19:15:00	120	0	2985	0	91	0	2	0	50	0	3	0	1	0	99	0	0	0	0	0
19:15:15	120	0	2985	0	91	0	2	0	50	0	3	0	1	0	99	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500001**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	42	42	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
7:00:00	89	47	1	1	1	1	0	0	0	0	0	0	2	1	0	0	1	1	0	0
7:15:00	124	35	1	0	1	0	0	0	0	0	0	0	3	1	0	0	1	0	0	0
7:30:00	174	50	2	1	2	1	1	1	0	0	0	0	5	2	0	0	2	1	0	0
7:45:00	225	51	4	2	3	1	2	1	0	0	0	0	6	1	0	0	2	0	0	0
8:00:00	294	69	7	3	4	1	3	1	0	0	0	0	6	0	0	0	4	2	0	0
8:15:00	369	75	13	6	5	1	4	1	0	0	0	0	8	2	0	0	4	0	0	0
8:30:00	446	77	14	1	9	4	5	1	0	0	0	0	8	0	0	0	5	1	0	0
8:45:00	492	46	16	2	9	0	9	4	0	0	0	0	10	2	0	0	5	0	1	1
9:00:00	545	53	17	1	14	5	10	1	0	0	0	0	12	2	0	0	6	1	1	0
9:15:00	590	45	17	0	18	4	12	2	0	0	0	0	16	4	0	0	6	0	1	0
9:30:00	621	31	17	0	20	2	12	0	0	0	0	0	22	6	0	0	6	0	1	0
9:45:00	664	43	17	0	24	4	14	2	0	0	0	0	26	4	0	0	7	1	1	0
10:00:00	699	35	17	0	27	3	16	2	0	0	0	0	27	1	0	0	7	0	1	0
10:15:00	725	26	18	1	31	4	16	0	0	0	1	1	28	1	0	0	8	1	1	0
10:30:00	763	38	20	2	35	4	16	0	0	0	2	1	29	1	0	0	8	0	1	0
10:45:00	763	0	20	0	35	0	16	0	0	0	2	0	29	0	0	0	8	0	1	0
15:00:00	763	0	20	0	35	0	16	0	0	0	2	0	29	0	0	0	8	0	1	0
15:15:00	819	56	23	3	37	2	17	1	0	0	2	0	32	3	0	0	9	1	1	0
15:30:00	875	56	23	0	40	3	18	1	0	0	2	0	34	2	0	0	9	0	1	0
15:45:00	951	76	25	2	42	2	18	0	0	0	2	0	35	1	0	0	10	1	1	0
16:00:00	1006	55	26	1	45	3	18	0	0	0	2	0	37	2	0	0	10	0	1	0
16:15:00	1063	57	27	1	48	3	18	0	0	0	2	0	39	2	0	0	11	1	1	0
16:30:00	1130	67	29	2	57	9	20	2	0	0	2	0	42	3	0	0	11	0	1	0
16:45:00	1199	69	29	0	61	4	21	1	0	0	2	0	46	4	0	0	12	1	1	0
17:00:00	1256	57	30	1	65	4	21	0	0	0	2	0	46	0	0	0	12	0	1	0
17:15:00	1335	79	30	0	66	1	23	2	0	0	2	0	48	2	0	0	13	1	1	0
17:30:00	1390	55	30	0	68	2	24	1	0	0	2	0	49	1	0	0	13	0	1	0
17:45:00	1448	58	30	0	72	4	26	2	0	0	2	0	50	1	0	0	14	1	1	0
18:00:00	1504	56	30	0	75	3	27	1	0	0	2	0	50	0	0	0	14	0	1	0
18:15:00	1558	54	30	0	81	6	27	0	0	0	2	0	51	1	0	0	15	1	1	0
18:30:00	1614	56	30	0	84	3	28	1	0	0	2	0	51	0	0	0	15	0	1	0
18:45:00	1656	42	30	0	85	1	28	0	0	0	2	0	51	0	0	0	16	1	1	0
19:00:00	1694	38	30	0	89	4	28	0	0	0	2	0	52	1	0	0	16	0	1	0
19:15:00	1694	0	30	0	89	0	28	0	0	0	2	0	52	0	0	0	16	0	1	0
19:15:15	1694	0	30	0	89	0	28	0	0	0	2	0	52	0	0	0	16	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500001**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	56	56	39	39	0	0	5	5	5	5	0	0	2	2	0	0	0	0
7:00:00	1	1	90	34	89	50	0	0	9	4	6	1	0	0	5	3	2	2	0	0
7:15:00	2	1	149	59	139	50	0	0	11	2	6	0	0	0	7	2	3	1	0	0
7:30:00	2	0	206	57	191	52	0	0	12	1	7	1	0	0	9	2	9	6	0	0
7:45:00	4	2	261	55	251	60	0	0	12	0	8	1	0	0	11	2	12	3	0	0
8:00:00	7	3	319	58	342	91	0	0	14	2	11	3	0	0	12	1	17	5	0	0
8:15:00	8	1	388	69	406	64	0	0	16	2	12	1	0	0	13	1	20	3	1	1
8:30:00	8	0	444	56	471	65	0	0	17	1	17	5	0	0	15	2	24	4	1	0
8:45:00	9	1	507	63	530	59	0	0	19	2	23	6	0	0	17	2	27	3	1	0
9:00:00	10	1	567	60	597	67	0	0	23	4	25	2	0	0	21	4	29	2	1	0
9:15:00	11	1	619	52	637	40	0	0	25	2	27	2	0	0	25	4	32	3	1	0
9:30:00	14	3	685	66	691	54	0	0	25	0	28	1	0	0	29	4	32	0	1	0
9:45:00	14	0	758	73	733	42	0	0	32	7	29	1	0	0	31	2	33	1	1	0
10:00:00	15	1	825	67	771	38	0	0	36	4	31	2	0	0	37	6	37	4	1	0
10:15:00	16	1	884	59	817	46	0	0	37	1	31	0	0	0	39	2	40	3	1	0
10:30:00	16	0	961	77	856	39	0	0	40	3	31	0	0	0	43	4	41	1	1	0
10:45:00	16	0	961	0	856	0	0	0	40	0	31	0	0	0	43	0	41	0	1	0
15:00:00	16	0	961	0	856	0	0	0	40	0	31	0	0	0	43	0	41	0	1	0
15:15:00	16	0	1072	111	951	95	0	0	42	2	34	3	0	0	45	2	42	1	1	0
15:30:00	16	0	1174	102	1022	71	0	0	42	0	34	0	0	0	49	4	45	3	1	0
15:45:00	18	2	1319	145	1113	91	2	2	43	1	37	3	0	0	51	2	47	2	1	0
16:00:00	18	0	1423	104	1198	85	2	0	43	0	39	2	0	0	52	1	49	2	1	0
16:15:00	18	0	1586	163	1314	116	2	0	43	0	40	1	0	0	55	3	50	1	1	0
16:30:00	18	0	1708	122	1405	91	2	0	43	0	42	2	0	0	58	3	53	3	1	0
16:45:00	18	0	1878	170	1508	103	2	0	47	4	42	0	0	0	61	3	56	3	1	0
17:00:00	18	0	2003	125	1608	100	2	0	47	0	42	0	0	0	62	1	58	2	1	0
17:15:00	19	1	2182	179	1739	131	2	0	48	1	42	0	0	0	63	1	59	1	1	0
17:30:00	19	0	2331	149	1836	97	2	0	48	0	42	0	0	0	64	1	60	1	1	0
17:45:00	20	1	2450	119	1918	82	2	0	48	0	42	0	0	0	66	2	61	1	1	0
18:00:00	21	1	2541	91	1990	72	2	0	49	1	42	0	0	0	67	1	62	1	1	0
18:15:00	22	1	2633	92	2052	62	2	0	49	0	43	1	0	0	68	1	65	3	1	0
18:30:00	22	0	2725	92	2126	74	2	0	49	0	43	0	0	0	69	1	66	1	1	0
18:45:00	25	3	2796	71	2181	55	2	0	51	2	43	0	0	0	70	1	68	2	1	0
19:00:00	25	0	2863	67	2227	46	2	0	51	0	43	0	0	0	70	0	68	0	1	0
19:15:00	25	0	2863	0	2227	0	2	0	51	0	43	0	0	0	70	0	68	0	1	0
19:15:15	25	0	2863	0	2227	0	2	0	51	0	43	0	0	0	70	0	68	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

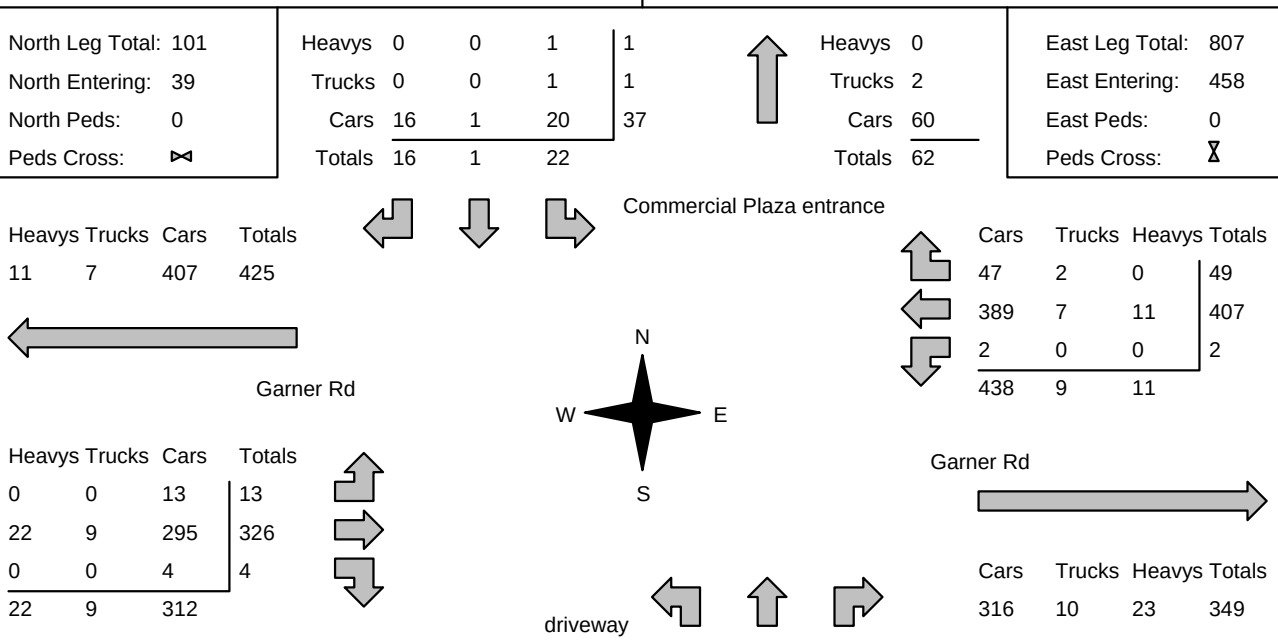
Municipality: Hamilton
Site #: 2109500002
Intersection: Garner Rd & Commercial Plaza ent
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

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

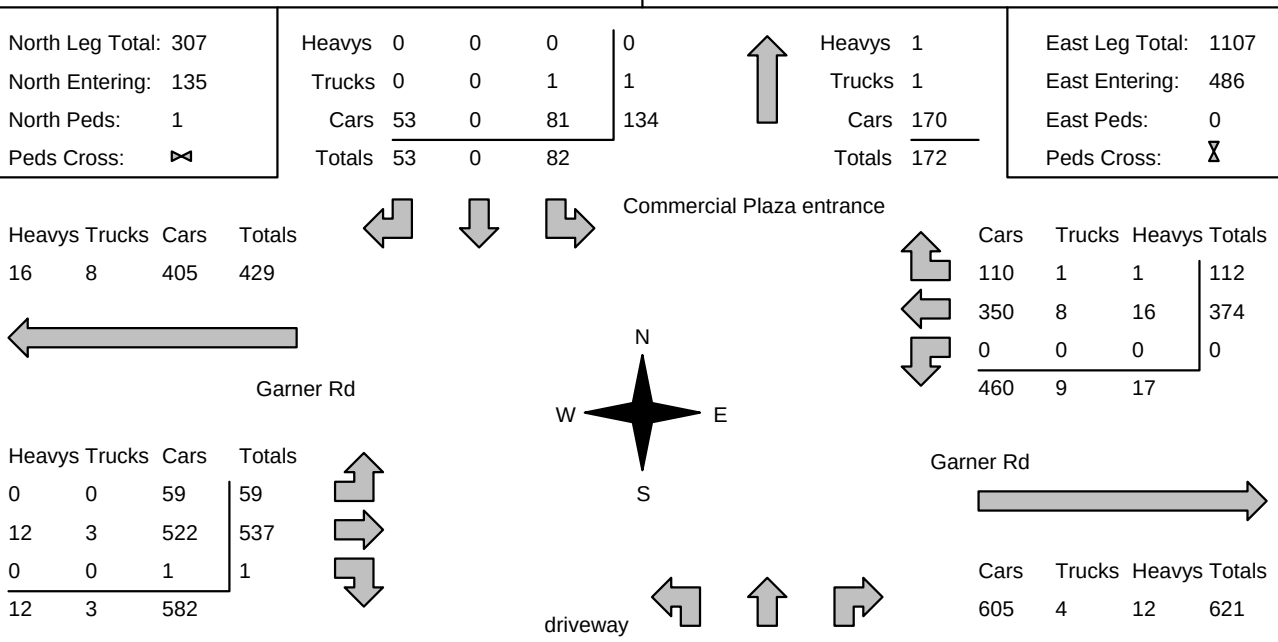
Municipality: Hamilton
Site #: 2109500002
Intersection: Garner Rd & Commercial Plaza ent
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

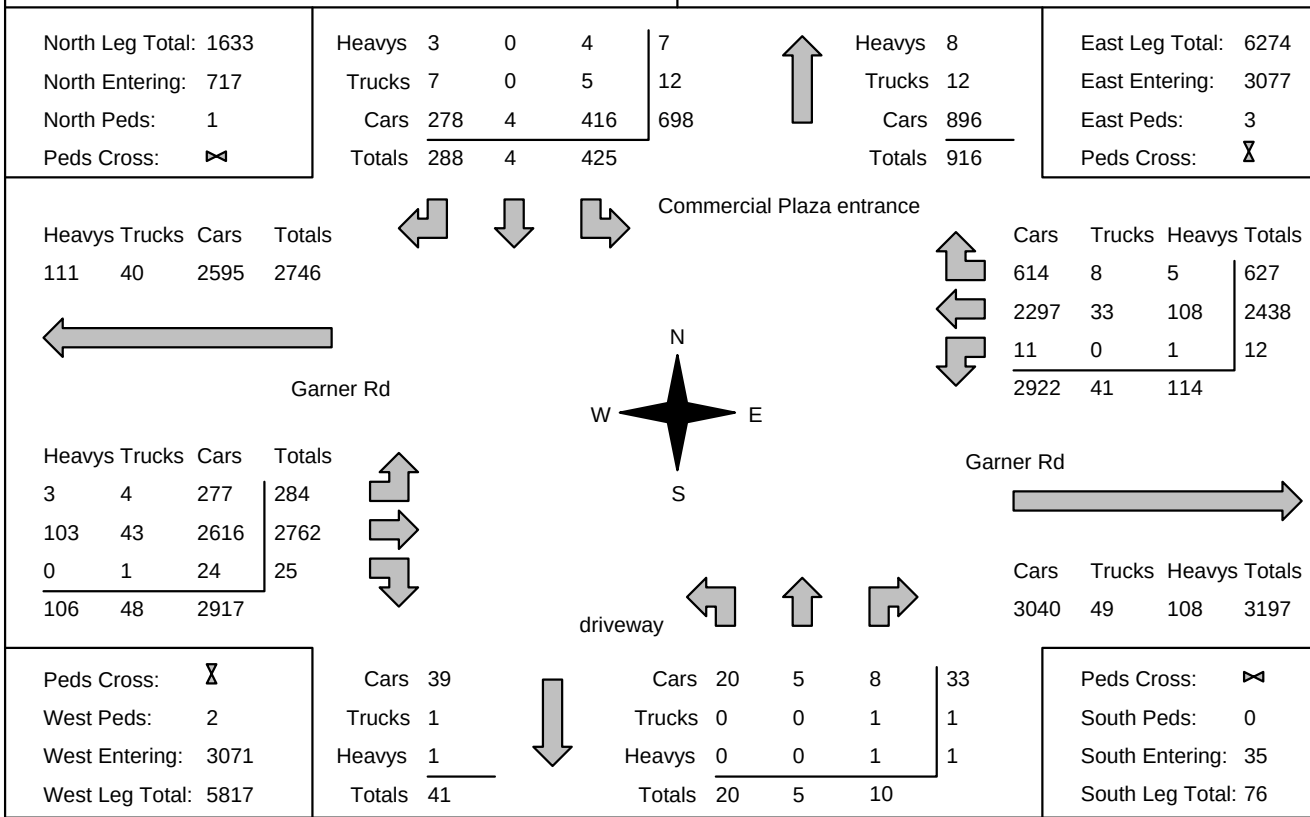
Municipality: Hamilton
Site #: 2109500002
Intersection: Garner Rd & Commercial Plaza ent
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Commercial Plaza en | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*8*	*0*	*2*	*10*	*0*
8:00:00	*21*	*2*	*13*	*36*	*0*
9:00:00	*26*	*0*	*24*	*50*	*0*
10:00:00	*34*	*2*	*27*	*63*	*0*
15:00:00	*15*	*0*	*11*	*26*	*0*
16:00:00	*76*	*0*	*44*	*120*	*0*
17:00:00	*77*	*0*	*49*	*126*	*1*
18:00:00	*77*	*0*	*58*	*135*	*0*
19:00:00	*91*	*0*	*60*	*151*	*0*
Totals:	425	4	288	717	1

North/South Total Approaches: 752

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*1*	*1*	*0*
8:00:00	*3*	*0*	*1*	*4*	*0*
9:00:00	*1*	*0*	*0*	*1*	*0*
10:00:00	*2*	*3*	*3*	*8*	*0*
15:00:00	*2*	*1*	*0*	*3*	*0*
16:00:00	*8*	*0*	*2*	*10*	*0*
17:00:00	*2*	*1*	*2*	*5*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*2*	*0*	*1*	*3*	*0*
S Totals:	20	5	10	35	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*2*	*150*	*15*	*167*	*0*
8:00:00	*6*	*306*	*41*	*353*	*0*
9:00:00	*1*	*386*	*58*	*445*	*0*
10:00:00	*2*	*301*	*80*	*383*	*0*
15:00:00	*1*	*101*	*38*	*140*	*0*
16:00:00	*0*	*291*	*93*	*384*	*2*
17:00:00	*0*	*378*	*106*	*484*	*0*
18:00:00	*0*	*300*	*95*	*395*	*0*
19:00:00	*0*	*225*	*101*	*326*	*1*
Totals:	12	2438	627	3077	3

East/West Total Approaches: 6148

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*3*	*67*	*8*	*78*	*2*
8:00:00	*8*	*270*	*5*	*283*	*0*
9:00:00	*23*	*308*	*2*	*333*	*0*
10:00:00	*34*	*223*	*3*	*260*	*0*
15:00:00	*13*	*119*	*3*	*135*	*0*
16:00:00	*46*	*446*	*3*	*495*	*0*
17:00:00	*55*	*537*	*1*	*593*	*0*
18:00:00	*59*	*474*	*0*	*533*	*0*
19:00:00	*43*	*318*	*0*	*361*	*0*
W Totals:	284	2762	25	3071	2

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*26*	*27*	*39*	*18*	*86*	*80*	*77*	*94*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500002**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	2	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	8	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	13	5	0	0	5	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	19	6	1	1	9	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	25	6	1	0	12	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	28	3	2	1	15	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	34	6	2	0	20	5	1	0	0	0	0	0	1	1	0	0	0	0	0	0
8:30:00	39	5	2	0	25	5	2	1	0	0	0	0	1	0	0	0	0	0	0	0
8:45:00	47	8	2	0	33	8	2	0	0	0	0	0	1	0	0	0	0	0	0	0
9:00:00	52	5	2	0	38	5	2	0	0	0	1	1	1	0	0	0	0	0	0	0
9:15:00	62	10	2	0	42	4	2	0	0	0	1	0	1	0	0	0	0	0	0	0
9:30:00	70	8	2	0	44	2	2	0	0	0	1	0	1	0	0	0	0	0	0	0
9:45:00	77	7	2	0	55	11	2	0	0	0	2	1	1	0	0	0	1	1	0	0
10:00:00	86	9	4	2	61	6	2	0	0	0	3	1	1	0	0	0	2	1	0	0
10:15:00	92	6	4	0	65	4	2	0	0	0	4	1	1	0	0	0	2	0	0	0
10:30:00	100	8	4	0	70	5	2	0	0	0	4	0	2	1	0	0	3	1	0	0
10:45:00	100	0	4	0	70	0	2	0	0	0	4	0	2	0	0	0	3	0	0	0
15:00:00	100	0	4	0	70	0	2	0	0	0	4	0	2	0	0	0	3	0	0	0
15:15:00	130	30	4	0	79	9	2	0	0	0	4	0	2	0	0	0	3	0	0	0
15:30:00	145	15	4	0	90	11	2	0	0	0	4	0	2	0	0	0	3	0	0	0
15:45:00	161	16	4	0	103	13	2	0	0	0	4	0	2	0	0	0	3	0	0	0
16:00:00	176	15	4	0	114	11	2	0	0	0	4	0	2	0	0	0	3	0	0	0
16:15:00	197	21	4	0	126	12	2	0	0	0	4	0	3	1	0	0	3	0	0	0
16:30:00	218	21	4	0	138	12	2	0	0	0	4	0	3	0	0	0	3	0	1	1
16:45:00	230	12	4	0	150	12	3	1	0	0	4	0	3	0	0	0	3	0	1	0
17:00:00	251	21	4	0	163	13	3	0	0	0	4	0	3	0	0	0	3	0	1	0
17:15:00	278	27	4	0	179	16	3	0	0	0	4	0	3	0	0	0	3	0	1	0
17:30:00	291	13	4	0	195	16	3	0	0	0	5	1	3	0	0	0	3	0	1	0
17:45:00	303	12	4	0	209	14	3	0	0	0	6	1	3	0	0	0	3	0	1	0
18:00:00	327	24	4	0	219	10	4	1	0	0	6	0	3	0	0	0	3	0	1	0
18:15:00	355	28	4	0	240	21	4	0	0	0	7	1	3	0	0	0	3	0	1	0
18:30:00	374	19	4	0	256	16	5	1	0	0	7	0	3	0	0	0	3	0	1	0
18:45:00	395	21	4	0	265	9	5	0	0	0	7	0	3	0	0	0	3	0	1	0
19:00:00	416	21	4	0	278	13	5	0	0	0	7	0	4	1	0	0	3	0	1	0
19:15:00	416	0	4	0	278	0	5	0	0	0	7	0	4	0	0	0	3	0	1	0
19:15:15	416	0	4	0	278	0	5	0	0	0	7	0	4	0	0	0	3	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500002

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	72	72	4	4	0	0	1	1	0	0	1	1	3	3	0	0	0	0
7:00:00	1	1	145	73	15	11	0	0	1	0	0	0	1	0	4	1	0	0	0	0
7:15:00	1	0	197	52	25	10	0	0	2	1	1	1	1	0	10	6	0	0	0	0
7:30:00	5	4	266	69	34	9	0	0	3	1	1	0	1	0	14	4	0	0	0	0
7:45:00	5	0	344	78	47	13	0	0	6	3	1	0	1	0	17	3	0	0	0	0
8:00:00	7	2	430	86	54	7	0	0	6	0	2	1	1	0	20	3	0	0	0	0
8:15:00	7	0	537	107	69	15	0	0	8	2	3	1	1	0	23	3	0	0	0	0
8:30:00	7	0	655	118	81	12	0	0	10	2	3	0	1	0	25	2	0	0	0	0
8:45:00	7	0	706	51	91	10	0	0	12	2	3	0	1	0	33	8	0	0	0	0
9:00:00	8	1	790	84	111	20	0	0	13	1	3	0	1	0	39	6	0	0	0	0
9:15:00	9	1	872	82	124	13	0	0	14	1	4	1	1	0	42	3	1	1	0	0
9:30:00	10	1	932	60	146	22	0	0	16	2	4	0	1	0	48	6	1	0	0	0
9:45:00	10	0	1002	70	167	21	0	0	16	0	5	1	1	0	53	5	1	0	0	0
10:00:00	10	0	1072	70	186	19	0	0	16	0	7	2	1	0	55	2	1	0	0	0
10:15:00	10	0	1117	45	199	13	0	0	17	1	7	0	1	0	57	2	1	0	0	0
10:30:00	11	1	1168	51	223	24	0	0	17	0	7	0	1	0	59	2	2	1	0	0
10:45:00	11	0	1168	0	223	0	0	0	17	0	7	0	1	0	59	0	2	0	0	0
15:00:00	11	0	1168	0	223	0	0	0	17	0	7	0	1	0	59	0	2	0	0	0
15:15:00	11	0	1239	71	241	18	0	0	18	1	7	0	1	0	64	5	2	0	0	0
15:30:00	11	0	1309	70	263	22	0	0	18	0	7	0	1	0	67	3	2	0	1	1
15:45:00	11	0	1373	64	292	29	0	0	19	1	7	0	1	0	71	4	2	0	1	0
16:00:00	11	0	1441	68	315	23	0	0	19	0	7	0	1	0	75	4	3	1	2	1
16:15:00	11	0	1531	90	338	23	0	0	21	2	7	0	1	0	80	5	3	0	2	0
16:30:00	11	0	1620	89	361	23	0	0	23	2	7	0	1	0	82	2	3	0	2	0
16:45:00	11	0	1706	86	386	25	0	0	24	1	7	0	1	0	90	8	3	0	2	0
17:00:00	11	0	1796	90	420	34	0	0	26	2	7	0	1	0	91	1	4	1	2	0
17:15:00	11	0	1881	85	448	28	0	0	29	3	8	1	1	0	96	5	4	0	2	0
17:30:00	11	0	1942	61	470	22	0	0	30	1	8	0	1	0	98	2	4	0	2	0
17:45:00	11	0	2016	74	493	23	0	0	31	1	8	0	1	0	100	2	4	0	2	0
18:00:00	11	0	2079	63	514	21	0	0	33	2	8	0	1	0	101	1	4	0	2	0
18:15:00	11	0	2132	53	535	21	0	0	33	0	8	0	1	0	104	3	5	1	2	0
18:30:00	11	0	2193	61	562	27	0	0	33	0	8	0	1	0	106	2	5	0	3	1
18:45:00	11	0	2239	46	587	25	0	0	33	0	8	0	1	0	107	1	5	0	3	0
19:00:00	11	0	2297	58	614	27	0	0	33	0	8	0	1	0	108	1	5	0	3	0
19:15:00	11	0	2297	0	614	0	0	0	33	0	8	0	1	0	108	0	5	0	3	0
19:15:15	11	0	2297	0	614	0	0	0	33	0	8	0	1	0	108	0	5	0	3	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500002**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
7:15:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:30:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:00:00	3	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:15:00	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:30:00	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:45:00	4	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
9:00:00	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
9:15:00	5	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
9:30:00	6	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
9:45:00	6	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
10:00:00	6	0	3	1	3	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0
10:15:00	7	1	4	1	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
10:30:00	8	1	4	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
10:45:00	8	0	4	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
15:00:00	8	0	4	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
15:15:00	8	0	4	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
15:30:00	11	3	4	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
15:45:00	15	4	4	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
16:00:00	16	1	4	0	5	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0
16:15:00	16	0	4	0	5	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
16:30:00	18	2	5	1	7	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0
16:45:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
17:00:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
17:15:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
17:30:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
17:45:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
18:00:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
18:15:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
18:30:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
18:45:00	18	0	5	0	7	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
19:00:00	20	2	5	0	8	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0
19:15:00	20	0	5	0	8	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
19:15:15	20	0	5	0	8	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500002**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	1	1	20	20	3	3	0	0	0	0	0	0	0	0	1	1	0	0	1	1
7:00:00	3	2	63	43	8	5	0	0	0	0	0	0	0	0	4	3	0	0	2	1
7:15:00	5	2	107	44	10	2	0	0	0	0	0	0	0	0	7	3	0	0	2	0
7:30:00	7	2	158	51	10	0	0	0	1	1	0	0	0	0	12	5	0	0	2	0
7:45:00	10	3	210	52	13	3	0	0	2	1	0	0	0	0	18	6	0	0	2	0
8:00:00	11	1	309	99	13	0	0	0	4	2	0	0	0	0	24	6	0	0	2	0
8:15:00	14	3	382	73	13	0	0	0	7	3	0	0	0	0	29	5	0	0	2	0
8:30:00	20	6	453	71	14	1	0	0	10	3	0	0	0	0	34	5	0	0	2	0
8:45:00	26	6	515	62	14	0	0	0	14	4	0	0	0	0	38	4	0	0	2	0
9:00:00	34	8	585	70	15	1	0	0	19	5	0	0	0	0	41	3	0	0	2	0
9:15:00	37	3	635	50	16	1	1	1	23	4	0	0	1	1	48	7	0	0	2	0
9:30:00	44	7	691	56	17	1	2	1	23	0	1	1	1	0	49	1	0	0	2	0
9:45:00	53	9	742	51	17	0	3	1	24	1	1	0	2	1	51	2	0	0	2	0
10:00:00	63	10	786	44	17	0	3	0	25	1	1	0	2	0	57	6	0	0	2	0
10:15:00	73	10	837	51	18	1	3	0	26	1	1	0	2	0	59	2	0	0	2	0
10:30:00	76	3	900	63	20	2	3	0	27	1	1	0	2	0	60	1	0	0	2	0
10:45:00	76	0	900	0	20	0	3	0	27	0	1	0	2	0	60	0	0	0	2	0
15:00:00	76	0	900	0	20	0	3	0	27	0	1	0	2	0	60	0	0	0	2	0
15:15:00	86	10	1020	120	21	1	3	0	30	3	1	0	2	0	63	3	0	0	2	0
15:30:00	95	9	1131	111	22	1	3	0	31	1	1	0	2	0	66	3	0	0	2	0
15:45:00	112	17	1224	93	23	1	3	0	34	3	1	0	2	0	68	2	0	0	2	0
16:00:00	122	10	1324	100	23	0	3	0	37	3	1	0	2	0	72	4	0	0	2	0
16:15:00	138	16	1466	142	23	0	3	0	40	3	1	0	2	0	75	3	0	0	2	0
16:30:00	147	9	1592	126	24	1	3	0	42	2	1	0	2	0	78	3	0	0	2	0
16:45:00	166	19	1718	126	24	0	3	0	42	0	1	0	2	0	81	3	0	0	2	0
17:00:00	177	11	1843	125	24	0	3	0	43	1	1	0	2	0	84	3	0	0	2	0
17:15:00	197	20	1988	145	24	0	3	0	43	0	1	0	2	0	87	3	0	0	2	0
17:30:00	209	12	2106	118	24	0	3	0	43	0	1	0	2	0	89	2	0	0	2	0
17:45:00	219	10	2214	108	24	0	3	0	43	0	1	0	2	0	91	2	0	0	2	0
18:00:00	236	17	2307	93	24	0	3	0	43	0	1	0	2	0	94	3	0	0	2	0
18:15:00	249	13	2389	82	24	0	4	1	43	0	1	0	2	0	98	4	0	0	2	0
18:30:00	262	13	2474	85	24	0	4	0	43	0	1	0	3	1	100	2	0	0	2	0
18:45:00	266	4	2545	71	24	0	4	0	43	0	1	0	3	0	103	3	0	0	2	0
19:00:00	277	11	2616	71	24	0	4	0	43	0	1	0	3	0	103	0	0	0	2	0
19:15:00	277	0	2616	0	24	0	4	0	43	0	1	0	3	0	103	0	0	0	2	0
19:15:15	277	0	2616	0	24	0	4	0	43	0	1	0	3	0	103	0	0	0	2	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

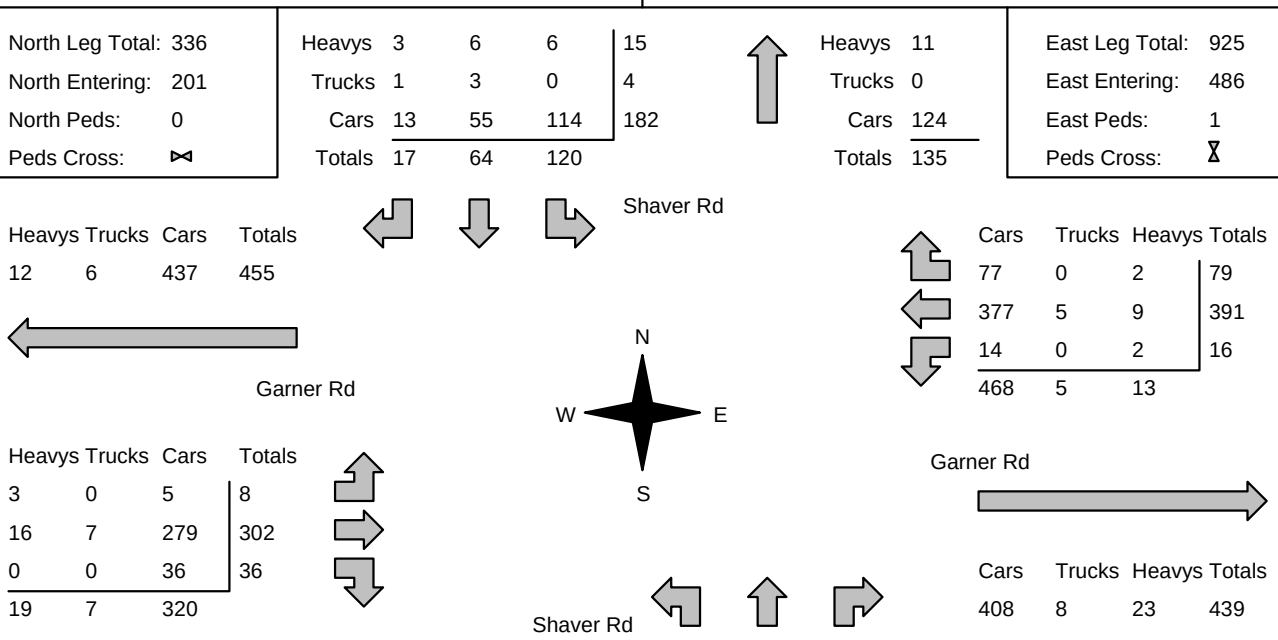
Municipality: Hamilton
Site #: 2109500003
Intersection: Garner Rd & Shaver Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

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

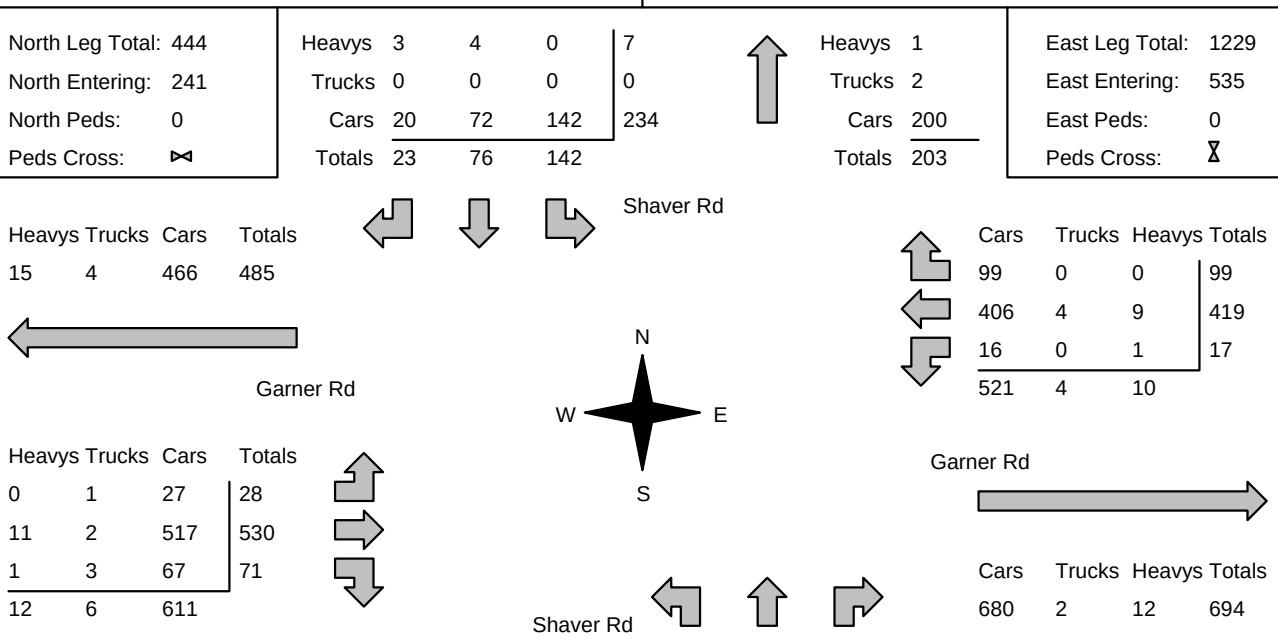
Municipality: Hamilton
Site #: 2109500003
Intersection: Garner Rd & Shaver Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

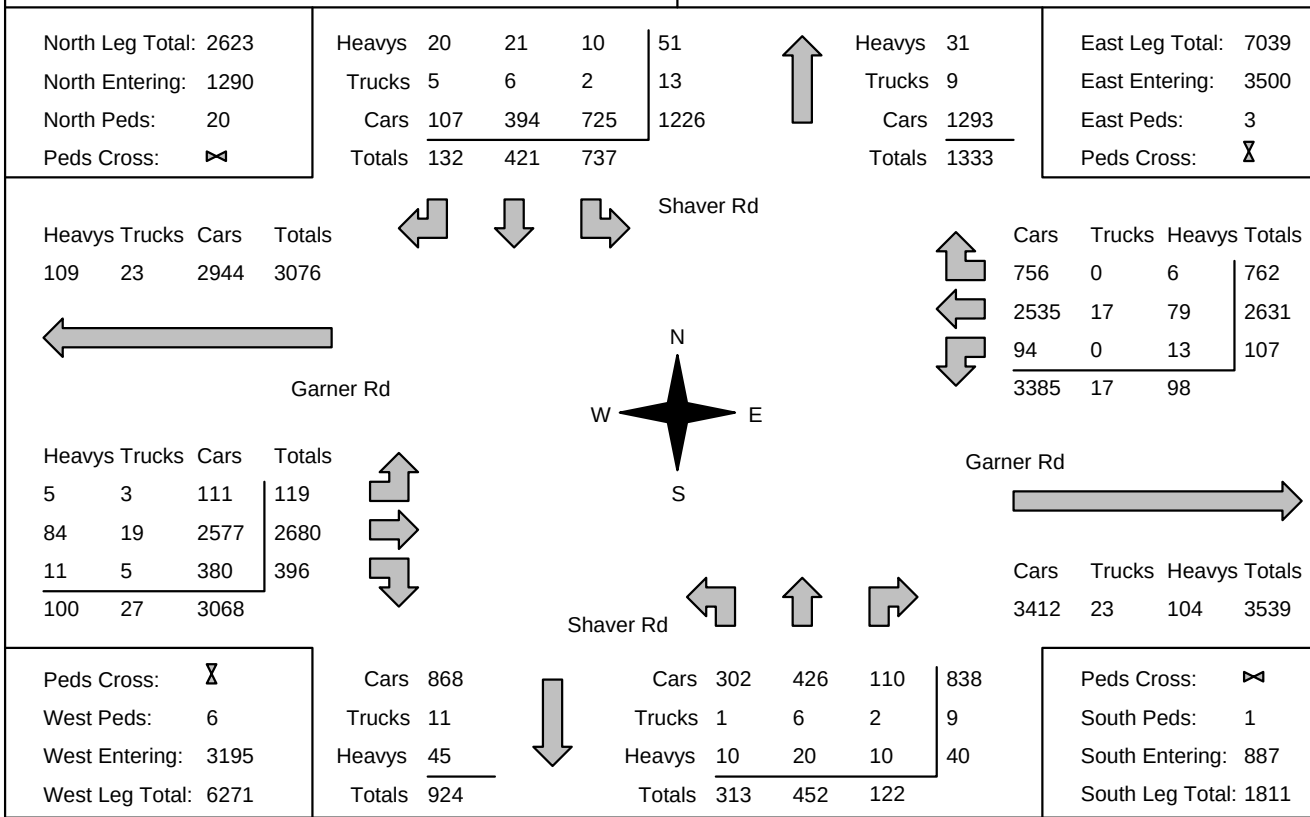
Municipality: Hamilton
Site #: 2109500003
Intersection: Garner Rd & Shaver Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Shaver Rd | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*7*	*20*	*6*	*33*	*0*
8:00:00	*71*	*50*	*13*	*134*	*0*
9:00:00	*91*	*50*	*21*	*162*	*3*
10:00:00	*54*	*33*	*16*	*103*	*2*
15:00:00	*38*	*25*	*10*	*73*	*3*
16:00:00	*127*	*67*	*13*	*207*	*5*
17:00:00	*139*	*72*	*20*	*231*	*0*
18:00:00	*115*	*64*	*16*	*195*	*4*
19:00:00	*95*	*40*	*17*	*152*	*3*
Totals:	737	421	132	1290	20

North/South Total Approaches: 2177

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*15*	*13*	*2*	*30*	*0*
8:00:00	*48*	*45*	*9*	*102*	*1*
9:00:00	*42*	*54*	*15*	*111*	*0*
10:00:00	*38*	*46*	*8*	*92*	*0*
15:00:00	*15*	*27*	*9*	*51*	*0*
16:00:00	*47*	*88*	*26*	*161*	*0*
17:00:00	*46*	*64*	*17*	*127*	*0*
18:00:00	*28*	*78*	*16*	*122*	*0*
19:00:00	*34*	*37*	*20*	*91*	*0*
S Totals:	313	452	122	887	1

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*9*	*143*	*23*	*175*	*0*
8:00:00	*12*	*291*	*51*	*354*	*1*
9:00:00	*16*	*386*	*91*	*493*	*0*
10:00:00	*7*	*326*	*98*	*431*	*0*
15:00:00	*7*	*118*	*52*	*177*	*0*
16:00:00	*13*	*321*	*121*	*455*	*2*
17:00:00	*13*	*416*	*105*	*534*	*0*
18:00:00	*16*	*350*	*114*	*480*	*0*
19:00:00	*14*	*280*	*107*	*401*	*0*
Totals:	107	2631	762	3500	3

East/West Total Approaches: 6695

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*5*	*60*	*9*	*74*	*1*
8:00:00	*9*	*246*	*31*	*286*	*0*
9:00:00	*9*	*295*	*33*	*337*	*0*
10:00:00	*9*	*216*	*32*	*257*	*0*
15:00:00	*6*	*110*	*19*	*135*	*0*
16:00:00	*21*	*423*	*79*	*523*	*0*
17:00:00	*26*	*521*	*76*	*623*	*1*
18:00:00	*23*	*462*	*64*	*549*	*4*
19:00:00	*11*	*347*	*53*	*411*	*0*
W Totals:	119	2680	396	3195	6

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*170*	*187*	*138*	*80*	*264*	*258*	*225*	*169*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500003**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	4	4	5	5	3	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0
7:00:00	7	3	19	14	4	1	0	0	0	0	1	0	0	0	1	1	1	1	0	0
7:15:00	15	8	29	10	7	3	0	0	0	0	1	0	0	0	1	0	2	1	0	0
7:30:00	26	11	37	8	10	3	0	0	0	0	1	0	0	0	2	1	2	0	0	0
7:45:00	34	8	51	14	11	1	0	0	1	1	1	0	1	1	2	0	4	2	0	0
8:00:00	75	41	63	12	13	2	0	0	2	1	2	1	3	2	5	3	4	0	0	0
8:15:00	131	56	83	20	18	5	0	0	3	1	2	0	6	3	6	1	5	1	0	0
8:30:00	140	9	92	9	23	5	0	0	3	0	2	0	6	0	8	2	5	0	0	0
8:45:00	152	12	101	9	25	2	0	0	4	1	3	1	7	1	8	0	6	1	2	2
9:00:00	162	10	108	7	30	5	0	0	4	0	4	1	7	0	8	0	6	0	3	1
9:15:00	173	11	115	7	34	4	0	0	4	0	4	0	7	0	9	1	6	0	5	2
9:30:00	182	9	120	5	36	2	0	0	4	0	5	1	7	0	9	0	7	1	5	0
9:45:00	201	19	125	5	39	3	0	0	5	1	5	0	7	0	9	0	8	1	5	0
10:00:00	216	15	137	12	42	3	0	0	5	0	5	0	7	0	11	2	9	1	5	0
10:15:00	232	16	147	10	46	4	0	0	5	0	5	0	7	0	11	0	9	0	7	2
10:30:00	252	20	161	14	51	5	1	1	5	0	5	0	8	1	12	1	10	1	8	1
10:45:00	252	0	161	0	51	0	1	0	5	0	5	0	8	0	12	0	10	0	8	0
15:00:00	252	0	161	0	51	0	1	0	5	0	5	0	8	0	12	0	10	0	8	0
15:15:00	287	35	174	13	52	1	1	0	5	0	5	0	9	1	14	2	11	1	13	5
15:30:00	309	22	191	17	54	2	1	0	5	0	5	0	9	0	14	0	11	0	13	0
15:45:00	342	33	208	17	58	4	1	0	5	0	5	0	9	0	15	1	12	1	13	0
16:00:00	376	34	225	17	62	4	2	1	5	0	5	0	10	1	15	0	12	0	13	0
16:15:00	412	36	236	11	66	4	2	0	5	0	5	0	10	0	15	0	13	1	13	0
16:30:00	454	42	257	21	71	5	2	0	5	0	5	0	10	0	16	1	13	0	13	0
16:45:00	481	27	273	16	78	7	2	0	5	0	5	0	10	0	17	1	15	2	13	0
17:00:00	515	34	293	20	79	1	2	0	5	0	5	0	10	0	19	2	15	0	13	0
17:15:00	554	39	308	15	86	7	2	0	5	0	5	0	10	0	19	0	16	1	13	0
17:30:00	582	28	327	19	89	3	2	0	5	0	5	0	10	0	19	0	17	1	13	0
17:45:00	606	24	343	16	91	2	2	0	5	0	5	0	10	0	20	1	17	0	16	3
18:00:00	630	24	356	13	93	2	2	0	5	0	5	0	10	0	20	0	17	0	17	1
18:15:00	653	23	364	8	98	5	2	0	5	0	5	0	10	0	20	0	18	1	17	0
18:30:00	671	18	369	5	100	2	2	0	5	0	5	0	10	0	20	0	19	1	18	1
18:45:00	702	31	379	10	102	2	2	0	6	1	5	0	10	0	21	1	19	0	18	0
19:00:00	725	23	394	15	107	5	2	0	6	0	5	0	10	0	21	0	20	1	20	2
19:15:00	725	0	394	0	107	0	2	0	6	0	5	0	10	0	21	0	20	0	20	0
19:15:15	725	0	394	0	107	0	2	0	6	0	5	0	10	0	21	0	20	0	20	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500003**

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	2	2	66	66	13	13	0	0	0	0	0	0	0	0	3	3	0	0	0	0
7:00:00	9	7	140	74	23	10	0	0	0	0	0	0	0	0	3	0	0	0	0	0
7:15:00	12	3	193	53	32	9	0	0	1	1	0	0	0	0	7	4	0	0	0	0
7:30:00	13	1	262	69	40	8	0	0	2	1	0	0	0	0	9	2	0	0	0	0
7:45:00	17	4	341	79	53	13	0	0	3	1	0	0	1	1	11	2	0	0	0	0
8:00:00	19	2	417	76	72	19	0	0	3	0	0	0	2	1	14	3	2	2	1	1
8:15:00	21	2	525	108	87	15	0	0	5	2	0	0	2	0	17	3	2	0	1	0
8:30:00	27	6	639	114	117	30	0	0	7	2	0	0	2	0	18	1	2	0	1	0
8:45:00	30	3	694	55	133	16	0	0	7	0	0	0	2	0	25	7	3	1	1	0
9:00:00	35	5	783	89	161	28	0	0	7	0	0	0	2	0	30	5	4	1	1	0
9:15:00	35	0	869	86	183	22	0	0	8	1	0	0	2	0	34	4	4	0	1	0
9:30:00	39	4	934	65	205	22	0	0	8	0	0	0	2	0	39	5	4	0	1	0
9:45:00	39	0	1015	81	233	28	0	0	9	1	0	0	3	1	43	4	5	1	1	0
10:00:00	41	2	1092	77	258	25	0	0	10	1	0	0	3	0	44	1	5	0	1	0
10:15:00	43	2	1139	47	284	26	0	0	11	1	0	0	3	0	46	2	5	0	1	0
10:30:00	45	2	1205	66	310	26	0	0	11	0	0	0	6	3	48	2	5	0	1	0
10:45:00	45	0	1205	0	310	0	0	0	11	0	0	0	6	0	48	0	5	0	1	0
15:00:00	45	0	1205	0	310	0	0	0	11	0	0	0	6	0	48	0	5	0	1	0
15:15:00	46	1	1279	74	330	20	0	0	12	1	0	0	8	2	50	2	5	0	1	0
15:30:00	49	3	1355	76	377	47	0	0	12	0	0	0	8	0	53	3	5	0	3	2
15:45:00	51	2	1434	79	397	20	0	0	13	1	0	0	9	1	55	2	5	0	3	0
16:00:00	55	4	1513	79	430	33	0	0	13	0	0	0	9	0	59	4	6	1	3	0
16:15:00	58	3	1611	98	464	34	0	0	13	0	0	0	9	0	62	3	6	0	3	0
16:30:00	60	2	1710	99	484	20	0	0	15	2	0	0	10	1	63	1	6	0	3	0
16:45:00	63	3	1804	94	504	20	0	0	15	0	0	0	10	0	68	5	6	0	3	0
17:00:00	67	4	1917	113	535	31	0	0	16	1	0	0	10	0	68	0	6	0	3	0
17:15:00	74	7	2017	100	563	28	0	0	17	1	0	0	10	0	71	3	6	0	3	0
17:30:00	78	4	2088	71	587	24	0	0	17	0	0	0	10	0	73	2	6	0	3	0
17:45:00	80	2	2176	88	620	33	0	0	17	0	0	0	12	2	74	1	6	0	3	0
18:00:00	81	1	2259	83	649	29	0	0	17	0	0	0	12	0	75	1	6	0	3	0
18:15:00	82	1	2324	65	676	27	0	0	17	0	0	0	12	0	77	2	6	0	3	0
18:30:00	85	3	2404	80	702	26	0	0	17	0	0	0	12	0	78	1	6	0	3	0
18:45:00	88	3	2463	59	724	22	0	0	17	0	0	0	12	0	79	1	6	0	3	0
19:00:00	94	6	2535	72	756	32	0	0	17	0	0	0	13	1	79	0	6	0	3	0
19:15:00	94	0	2535	0	756	0	0	0	17	0	0	0	13	0	79	0	6	0	3	0
19:15:15	94	0	2535	0	756	0	0	0	17	0	0	0	13	0	79	0	6	0	3	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500003**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	6	6	3	3	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
7:00:00	15	9	12	9	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
7:15:00	23	8	19	7	2	1	0	0	1	1	0	0	0	0	5	4	1	0	1	1
7:30:00	35	12	25	6	3	1	0	0	1	0	0	0	2	2	6	1	2	1	1	0
7:45:00	45	10	32	7	5	2	0	0	1	0	0	0	2	0	7	1	2	0	1	0
8:00:00	61	16	47	15	8	3	0	0	1	0	1	1	2	0	10	3	2	0	1	0
8:15:00	71	10	62	15	16	8	0	0	1	0	1	0	2	0	12	2	3	1	1	0
8:30:00	82	11	67	5	18	2	0	0	1	0	1	0	2	0	12	0	3	0	1	0
8:45:00	87	5	80	13	19	1	0	0	2	1	1	0	2	0	12	0	4	1	1	0
9:00:00	103	16	95	15	21	2	0	0	3	1	1	0	2	0	14	2	4	0	1	0
9:15:00	113	10	106	11	21	0	1	1	4	1	1	0	2	0	14	0	5	1	1	0
9:30:00	125	12	116	10	23	2	1	0	4	0	1	0	2	0	15	1	5	0	1	0
9:45:00	131	6	126	10	25	2	1	0	4	0	1	0	2	0	16	1	5	0	1	0
10:00:00	140	9	138	12	28	3	1	0	4	0	1	0	2	0	16	0	5	0	1	0
10:15:00	146	6	147	9	32	4	1	0	5	1	1	0	2	0	17	1	5	0	1	0
10:30:00	155	9	163	16	36	4	1	0	5	0	1	0	2	0	17	0	6	1	1	0
10:45:00	155	0	163	0	36	0	1	0	5	0	1	0	2	0	17	0	6	0	1	0
15:00:00	155	0	163	0	36	0	1	0	5	0	1	0	2	0	17	0	6	0	1	0
15:15:00	167	12	188	25	47	11	1	0	5	0	1	0	3	1	17	0	6	0	1	0
15:30:00	176	9	207	19	52	5	1	0	5	0	1	0	3	0	17	0	7	1	1	0
15:45:00	189	13	231	24	55	3	1	0	5	0	2	1	4	1	17	0	7	0	1	0
16:00:00	199	10	251	20	59	4	1	0	5	0	2	0	5	1	17	0	8	1	1	0
16:15:00	210	11	267	16	62	3	1	0	5	0	2	0	6	1	17	0	8	0	1	0
16:30:00	218	8	283	16	66	4	1	0	5	0	2	0	6	0	17	0	9	1	1	0
16:45:00	229	11	299	16	72	6	1	0	6	1	2	0	7	1	17	0	9	0	1	0
17:00:00	242	13	314	15	75	3	1	0	6	0	2	0	8	1	17	0	9	0	1	0
17:15:00	250	8	341	27	83	8	1	0	6	0	2	0	9	1	18	1	9	0	1	0
17:30:00	261	11	358	17	87	4	1	0	6	0	2	0	9	0	18	0	9	0	1	0
17:45:00	267	6	379	21	88	1	1	0	6	0	2	0	9	0	19	1	9	0	1	0
18:00:00	269	2	389	10	90	2	1	0	6	0	2	0	9	0	20	1	10	1	1	0
18:15:00	274	5	400	11	95	5	1	0	6	0	2	0	10	1	20	0	10	0	1	0
18:30:00	282	8	406	6	96	1	1	0	6	0	2	0	10	0	20	0	10	0	1	0
18:45:00	292	10	415	9	101	5	1	0	6	0	2	0	10	0	20	0	10	0	1	0
19:00:00	302	10	426	11	110	9	1	0	6	0	2	0	10	0	20	0	10	0	1	0
19:15:00	302	0	426	0	110	0	1	0	6	0	2	0	10	0	20	0	10	0	1	0
19:15:15	302	0	426	0	110	0	1	0	6	0	2	0	10	0	20	0	10	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500003**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	2	2	20	20	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
7:00:00	4	2	56	36	9	9	1	1	1	1	0	0	0	0	3	2	0	0	1	1
7:15:00	6	2	97	41	16	7	1	0	1	0	0	0	0	0	5	2	1	1	1	0
7:30:00	7	1	149	52	21	5	1	0	1	0	0	0	0	0	10	5	1	0	1	0
7:45:00	9	2	203	54	25	4	1	0	2	1	0	0	0	0	15	5	1	0	1	0
8:00:00	12	3	284	81	39	14	1	0	4	2	0	0	1	1	18	3	1	0	1	0
8:15:00	12	0	357	73	50	11	1	0	6	2	0	0	1	0	24	6	1	0	1	0
8:30:00	12	0	428	71	57	7	1	0	8	2	0	0	3	2	26	2	1	0	1	0
8:45:00	15	3	492	64	65	8	1	0	9	1	0	0	3	0	30	4	1	0	1	0
9:00:00	19	4	558	66	72	7	1	0	10	1	0	0	3	0	33	3	1	0	1	0
9:15:00	21	2	612	54	80	8	2	1	11	1	0	0	3	0	39	6	1	0	1	0
9:30:00	21	0	666	54	86	6	2	0	11	0	0	0	3	0	40	1	1	0	1	0
9:45:00	21	0	720	54	94	8	2	0	12	1	0	0	3	0	42	2	1	0	1	0
10:00:00	27	6	758	38	103	9	2	0	12	0	0	0	3	0	47	5	2	1	1	0
10:15:00	28	1	804	46	115	12	2	0	12	0	0	0	3	0	48	1	3	1	1	0
10:30:00	32	4	865	61	121	6	2	0	13	1	0	0	4	1	49	1	3	0	1	0
10:45:00	32	0	865	0	121	0	2	0	13	0	0	0	4	0	49	0	3	0	1	0
15:00:00	32	0	865	0	121	0	2	0	13	0	0	0	4	0	49	0	3	0	1	0
15:15:00	37	5	986	121	148	27	2	0	14	1	1	1	4	0	51	2	3	0	1	0
15:30:00	44	7	1093	107	160	12	2	0	15	1	1	0	4	0	54	3	3	0	1	0
15:45:00	46	2	1186	93	175	15	2	0	15	0	2	1	4	0	55	1	4	1	1	0
16:00:00	53	7	1274	88	197	22	2	0	17	2	2	0	4	0	59	4	4	0	1	0
16:15:00	58	5	1410	136	219	22	2	0	17	0	2	0	5	1	60	1	6	2	1	0
16:30:00	68	10	1533	123	231	12	3	1	18	1	3	1	5	0	62	2	7	1	2	1
16:45:00	74	6	1654	121	250	19	3	0	19	1	4	1	5	0	65	3	7	0	2	0
17:00:00	77	3	1784	130	267	17	3	0	19	0	5	1	5	0	68	3	7	0	2	0
17:15:00	85	8	1927	143	286	19	3	0	19	0	5	0	5	0	71	3	7	0	3	1
17:30:00	88	3	2038	111	305	19	3	0	19	0	5	0	5	0	73	2	7	0	5	2
17:45:00	95	7	2139	101	317	12	3	0	19	0	5	0	5	0	74	1	8	1	5	0
18:00:00	100	5	2238	99	329	12	3	0	19	0	5	0	5	0	76	2	9	1	6	1
18:15:00	101	1	2335	97	342	13	3	0	19	0	5	0	5	0	79	3	10	1	6	0
18:30:00	105	4	2430	95	349	7	3	0	19	0	5	0	5	0	81	2	10	0	6	0
18:45:00	110	5	2502	72	364	15	3	0	19	0	5	0	5	0	84	3	10	0	6	0
19:00:00	111	1	2577	75	380	16	3	0	19	0	5	0	5	0	84	0	11	1	6	0
19:15:00	111	0	2577	0	380	0	3	0	19	0	5	0	5	0	84	0	11	0	6	0
19:15:15	111	0	2577	0	380	0	3	0	19	0	5	0	5	0	84	0	11	0	6	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Hamilton
Site #: 2109500004
Intersection: Garner Rd & Braithwaite Ave
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E

North Leg Total: 158
North Entering: 84
North Peds: 4
Peds Cross: ⋈

Heavys	2	2	4
Trucks	0	0	0
Cars	34	46	80
Totals	36	48	

Heavys	1
Trucks	0
Cars	73
Totals	74

East Leg Total: 1449
East Entering: 756
East Peds: 0
Peds Cross: ⧖

Braithwaite Ave

Heavys	Trucks	Cars	Totals
44	11	674	729

Garner Rd

Heavys	Trucks	Cars	Totals
0	0	11	11
47	13	585	645
47	13	596	

Cars	Trucks	Heavys	Totals
62	0	1	63
640	11	42	693
702	11	43	

N
W E
S

Garner Rd

Cars	Trucks	Heavys	Totals
631	13	49	693

Peds Cross: ⧖
West Peds: 0
West Entering: 656
West Leg Total: 1385

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

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

Municipality: Hamilton
Site #: 2109500004
Intersection: Garner Rd & Braithwaite Ave
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

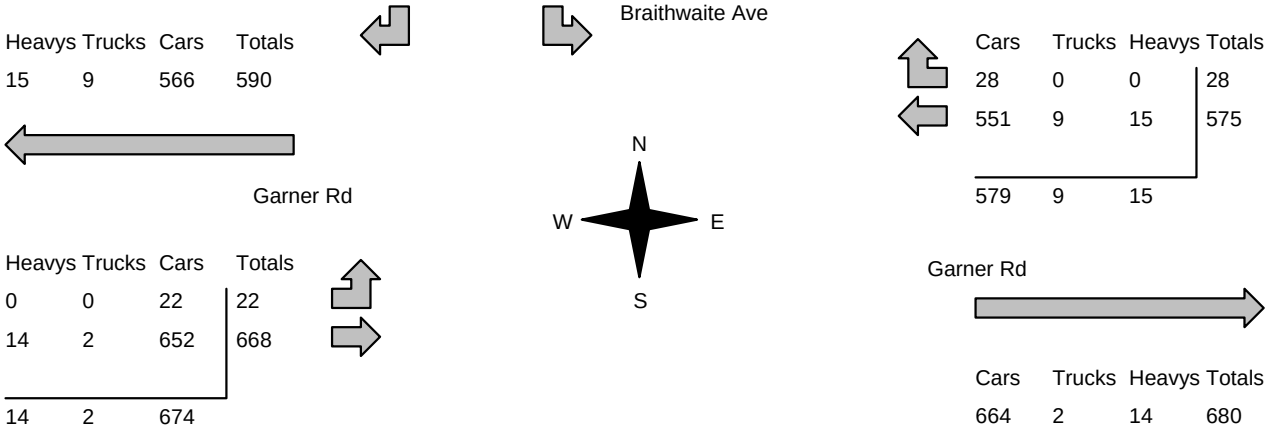
Major Road: Garner Rd runs W/E

North Leg Total: 77
North Entering: 27
North Peds: 13
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	15	12	27
Totals	15	12	

Heavys	0
Trucks	0
Cars	50
Totals	50

East Leg Total: 1283
East Entering: 603
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 690
West Leg Total: 1280

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

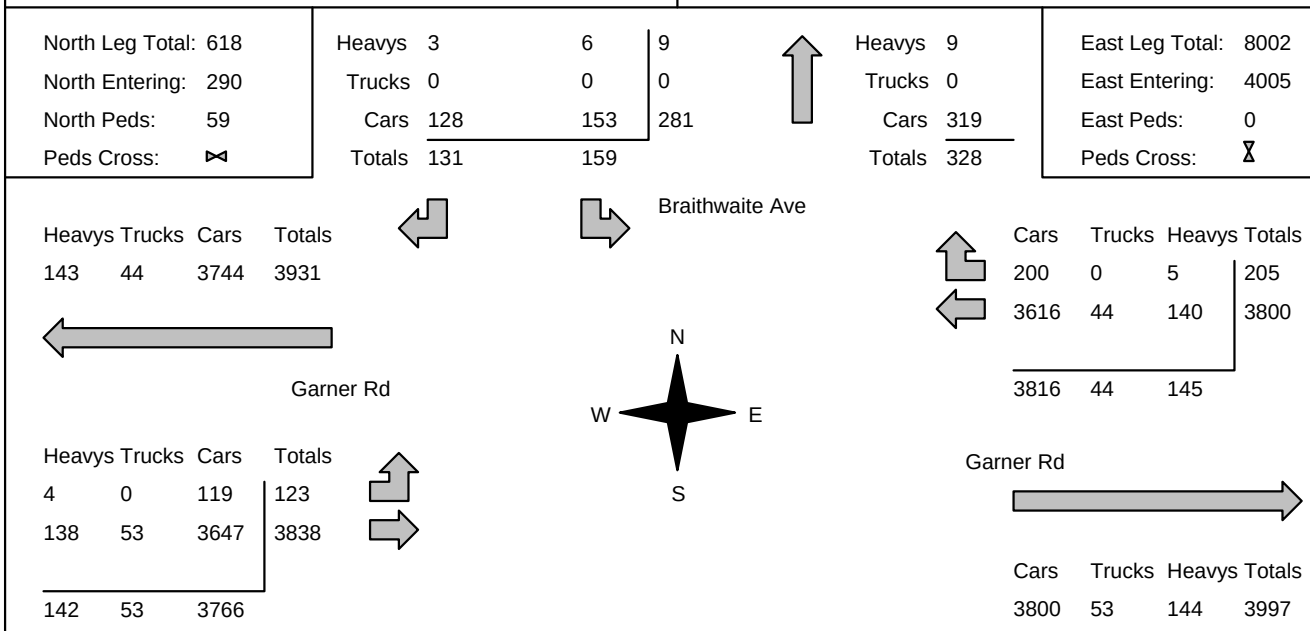
Municipality: Hamilton
Site #: 2109500004
Intersection: Garner Rd & Braithwaite Ave
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E



Peds Cross: ⧖
West Peds: 0
West Entering: 3961
West Leg Total: 7892

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Braithwaite Ave | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*2*	*0*	*4*	*6*	*1*
8:00:00	*23*	*0*	*18*	*41*	*6*
9:00:00	*39*	*0*	*33*	*72*	*4*
10:00:00	*12*	*0*	*17*	*29*	*8*
15:00:00	*7*	*0*	*5*	*12*	*1*
16:00:00	*21*	*0*	*11*	*32*	*3*
17:00:00	*20*	*0*	*13*	*33*	*9*
18:00:00	*17*	*0*	*14*	*31*	*7*
19:00:00	*18*	*0*	*16*	*34*	*20*
Totals:	159	0	131	290	59

North/South Total Approaches: *6*, *41*, *72*, *29*, *12*, *32*, *33*, *31*, *34*, 290

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
S Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*151*	*0*	*151*	*0*
8:00:00	*0*	*521*	*47*	*568*	*0*
9:00:00	*0*	*546*	*29*	*575*	*0*
10:00:00	*0*	*393*	*11*	*404*	*0*
15:00:00	*0*	*172*	*4*	*176*	*0*
16:00:00	*0*	*536*	*38*	*574*	*0*
17:00:00	*0*	*563*	*27*	*590*	*0*
18:00:00	*0*	*523*	*26*	*549*	*0*
19:00:00	*0*	*395*	*23*	*418*	*0*
Totals:	0	3800	205	4005	0

East/West Total Approaches: *226*, *976*, *1129*, *688*, *352*, *1215*, *1278*, *1197*, *905*, 7966

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*75*	*0*	*75*	*0*
8:00:00	*6*	*402*	*0*	*408*	*0*
9:00:00	*11*	*543*	*0*	*554*	*0*
10:00:00	*11*	*273*	*0*	*284*	*0*
15:00:00	*6*	*170*	*0*	*176*	*0*
16:00:00	*20*	*621*	*0*	*641*	*0*
17:00:00	*20*	*668*	*0*	*688*	*0*
18:00:00	*22*	*626*	*0*	*648*	*0*
19:00:00	*27*	*460*	*0*	*487*	*0*
W Totals:	123	3838	0	3961	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*23*	*39*	*12*	*7*	*21*	*20*	*17*	*18*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500004**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	2	1	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:15:00	3	1	0	0	7	3	0	0	0	0	0	0	0	0	0	0	1	1	3	2
7:30:00	5	2	0	0	12	5	0	0	0	0	0	0	1	1	0	0	1	0	6	3
7:45:00	7	2	0	0	16	4	0	0	0	0	0	0	1	0	0	0	2	1	6	0
8:00:00	23	16	0	0	19	3	0	0	0	0	0	0	2	1	0	0	3	1	7	1
8:15:00	45	22	0	0	43	24	0	0	0	0	0	0	2	0	0	0	3	0	9	2
8:30:00	51	6	0	0	46	3	0	0	0	0	0	0	3	1	0	0	3	0	10	1
8:45:00	53	2	0	0	50	4	0	0	0	0	0	0	4	1	0	0	3	0	10	0
9:00:00	60	7	0	0	52	2	0	0	0	0	0	0	4	0	0	0	3	0	11	1
9:15:00	65	5	0	0	56	4	0	0	0	0	0	0	4	0	0	0	3	0	11	0
9:30:00	68	3	0	0	62	6	0	0	0	0	0	0	4	0	0	0	3	0	17	6
9:45:00	71	3	0	0	64	2	0	0	0	0	0	0	4	0	0	0	3	0	18	1
10:00:00	72	1	0	0	69	5	0	0	0	0	0	0	4	0	0	0	3	0	19	1
10:15:00	74	2	0	0	71	2	0	0	0	0	0	0	4	0	0	0	3	0	20	1
10:30:00	79	5	0	0	74	3	0	0	0	0	0	0	4	0	0	0	3	0	20	0
10:45:00	79	0	0	0	74	0	0	0	0	0	0	0	4	0	0	0	3	0	20	0
15:00:00	79	0	0	0	74	0	0	0	0	0	0	0	4	0	0	0	3	0	20	0
15:15:00	85	6	0	0	83	9	0	0	0	0	0	0	5	1	0	0	3	0	22	2
15:30:00	89	4	0	0	84	1	0	0	0	0	0	0	5	0	0	0	3	0	22	0
15:45:00	94	5	0	0	84	0	0	0	0	0	0	0	6	1	0	0	3	0	23	1
16:00:00	98	4	0	0	85	1	0	0	0	0	0	0	6	0	0	0	3	0	23	0
16:15:00	106	8	0	0	87	2	0	0	0	0	0	0	6	0	0	0	3	0	23	0
16:30:00	109	3	0	0	91	4	0	0	0	0	0	0	6	0	0	0	3	0	24	1
16:45:00	114	5	0	0	95	4	0	0	0	0	0	0	6	0	0	0	3	0	29	5
17:00:00	118	4	0	0	98	3	0	0	0	0	0	0	6	0	0	0	3	0	32	3
17:15:00	118	0	0	0	102	4	0	0	0	0	0	0	6	0	0	0	3	0	36	4
17:30:00	126	8	0	0	104	2	0	0	0	0	0	0	6	0	0	0	3	0	38	2
17:45:00	132	6	0	0	108	4	0	0	0	0	0	0	6	0	0	0	3	0	38	0
18:00:00	135	3	0	0	112	4	0	0	0	0	0	0	6	0	0	0	3	0	39	1
18:15:00	142	7	0	0	116	4	0	0	0	0	0	0	6	0	0	0	3	0	47	8
18:30:00	145	3	0	0	121	5	0	0	0	0	0	0	6	0	0	0	3	0	50	3
18:45:00	148	3	0	0	122	1	0	0	0	0	0	0	6	0	0	0	3	0	55	5
19:00:00	153	5	0	0	128	6	0	0	0	0	0	0	6	0	0	0	3	0	59	4
19:15:00	153	0	0	0	128	0	0	0	0	0	0	0	6	0	0	0	3	0	59	0
19:15:15	153	0	0	0	128	0	0	0	0	0	0	0	6	0	0	0	3	0	59	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500004

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	69	69	0	0	0	0	1	1	0	0	0	0	3	3	0	0	0	0
7:00:00	0	0	144	75	0	0	0	0	2	1	0	0	0	0	5	2	0	0	0	0
7:15:00	0	0	209	65	1	1	0	0	5	3	0	0	0	0	9	4	0	0	0	0
7:30:00	0	0	296	87	4	3	0	0	6	1	0	0	0	0	11	2	2	2	0	0
7:45:00	0	0	441	145	16	12	0	0	8	2	0	0	0	0	19	8	3	1	0	0
8:00:00	0	0	618	177	44	28	0	0	10	2	0	0	0	0	44	25	3	0	0	0
8:15:00	0	0	818	200	57	13	0	0	14	4	0	0	0	0	48	4	3	0	0	0
8:30:00	0	0	936	118	66	9	0	0	17	3	0	0	0	0	53	5	3	0	0	0
8:45:00	0	0	1019	83	67	1	0	0	18	1	0	0	0	0	61	8	4	1	0	0
9:00:00	0	0	1132	113	72	5	0	0	20	2	0	0	0	0	66	5	4	0	0	0
9:15:00	0	0	1236	104	75	3	0	0	22	2	0	0	0	0	70	4	4	0	0	0
9:30:00	0	0	1323	87	78	3	0	0	23	1	0	0	0	0	79	9	4	0	0	0
9:45:00	0	0	1416	93	82	4	0	0	23	0	0	0	0	0	82	3	4	0	0	0
10:00:00	0	0	1503	87	83	1	0	0	25	2	0	0	0	0	83	1	4	0	0	0
10:15:00	0	0	1576	73	83	0	0	0	25	0	0	0	0	0	86	3	4	0	0	0
10:30:00	0	0	1667	91	87	4	0	0	25	0	0	0	0	0	91	5	4	0	0	0
10:45:00	0	0	1667	0	87	0	0	0	25	0	0	0	0	0	91	0	4	0	0	0
15:00:00	0	0	1667	0	87	0	0	0	25	0	0	0	0	0	91	0	4	0	0	0
15:15:00	0	0	1775	108	96	9	0	0	26	1	0	0	0	0	96	5	4	0	0	0
15:30:00	0	0	1915	140	103	7	0	0	26	0	0	0	0	0	98	2	4	0	0	0
15:45:00	0	0	2044	129	112	9	0	0	26	0	0	0	0	0	104	6	5	1	0	0
16:00:00	0	0	2185	141	124	12	0	0	26	0	0	0	0	0	108	4	5	0	0	0
16:15:00	0	0	2317	132	130	6	0	0	29	3	0	0	0	0	111	3	5	0	0	0
16:30:00	0	0	2449	132	135	5	0	0	30	1	0	0	0	0	115	4	5	0	0	0
16:45:00	0	0	2567	118	144	9	0	0	31	1	0	0	0	0	121	6	5	0	0	0
17:00:00	0	0	2724	157	151	7	0	0	35	4	0	0	0	0	123	2	5	0	0	0
17:15:00	0	0	2868	144	158	7	0	0	38	3	0	0	0	0	126	3	5	0	0	0
17:30:00	0	0	2979	111	163	5	0	0	38	0	0	0	0	0	130	4	5	0	0	0
17:45:00	0	0	3108	129	170	7	0	0	40	2	0	0	0	0	134	4	5	0	0	0
18:00:00	0	0	3226	118	177	7	0	0	43	3	0	0	0	0	136	2	5	0	0	0
18:15:00	0	0	3326	100	182	5	0	0	44	1	0	0	0	0	137	1	5	0	0	0
18:30:00	0	0	3417	91	187	5	0	0	44	0	0	0	0	0	138	1	5	0	0	0
18:45:00	0	0	3513	96	193	6	0	0	44	0	0	0	0	0	139	1	5	0	0	0
19:00:00	0	0	3616	103	200	7	0	0	44	0	0	0	0	0	140	1	5	0	0	0
19:15:00	0	0	3616	0	200	0	0	0	44	0	0	0	0	0	140	0	5	0	0	0
19:15:15	0	0	3616	0	200	0	0	0	44	0	0	0	0	0	140	0	5	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500004**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500004**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	30	30	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0
7:00:00	0	0	69	39	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	0
7:15:00	0	0	118	49	0	0	0	0	3	3	0	0	0	0	9	3	0	0	0	0
7:30:00	2	2	165	47	0	0	0	0	6	3	0	0	1	1	14	5	0	0	0	0
7:45:00	3	1	258	93	0	0	0	0	8	2	0	0	1	0	20	6	0	0	0	0
8:00:00	5	2	427	169	0	0	0	0	11	3	0	0	1	0	39	19	0	0	0	0
8:15:00	9	4	626	199	0	0	0	0	14	3	0	0	1	0	54	15	0	0	0	0
8:30:00	13	4	750	124	0	0	0	0	19	5	0	0	1	0	61	7	0	0	0	0
8:45:00	15	2	851	101	0	0	0	0	21	2	0	0	1	0	67	6	0	0	0	0
9:00:00	16	1	926	75	0	0	0	0	24	3	0	0	1	0	70	3	0	0	0	0
9:15:00	19	3	995	69	0	0	0	0	26	2	0	0	1	0	76	6	0	0	0	0
9:30:00	22	3	1059	64	0	0	0	0	29	3	0	0	1	0	78	2	0	0	0	0
9:45:00	25	3	1130	71	0	0	0	0	31	2	0	0	1	0	80	2	0	0	0	0
10:00:00	27	2	1176	46	0	0	0	0	32	1	0	0	1	0	85	5	0	0	0	0
10:15:00	30	3	1250	74	0	0	0	0	32	0	0	0	1	0	86	1	0	0	0	0
10:30:00	33	3	1340	90	0	0	0	0	35	3	0	0	1	0	88	2	0	0	0	0
10:45:00	33	0	1340	0	0	0	0	0	35	0	0	0	1	0	88	0	0	0	0	0
15:00:00	33	0	1340	0	0	0	0	0	35	0	0	0	1	0	88	0	0	0	0	0
15:15:00	39	6	1531	191	0	0	0	0	38	3	0	0	3	2	96	8	0	0	0	0
15:30:00	45	6	1662	131	0	0	0	0	41	3	0	0	4	1	99	3	0	0	0	0
15:45:00	47	2	1800	138	0	0	0	0	42	1	0	0	4	0	102	3	0	0	0	0
16:00:00	50	3	1934	134	0	0	0	0	44	2	0	0	4	0	106	4	0	0	0	0
16:15:00	56	6	2121	187	0	0	0	0	48	4	0	0	4	0	109	3	0	0	0	0
16:30:00	61	5	2266	145	0	0	0	0	50	2	0	0	4	0	112	3	0	0	0	0
16:45:00	65	4	2441	175	0	0	0	0	50	0	0	0	4	0	115	3	0	0	0	0
17:00:00	70	5	2582	141	0	0	0	0	50	0	0	0	4	0	120	5	0	0	0	0
17:15:00	78	8	2773	191	0	0	0	0	50	0	0	0	4	0	123	3	0	0	0	0
17:30:00	85	7	2931	158	0	0	0	0	50	0	0	0	4	0	125	2	0	0	0	0
17:45:00	89	4	3076	145	0	0	0	0	51	1	0	0	4	0	127	2	0	0	0	0
18:00:00	92	3	3196	120	0	0	0	0	52	1	0	0	4	0	130	3	0	0	0	0
18:15:00	100	8	3321	125	0	0	0	0	52	0	0	0	4	0	132	2	0	0	0	0
18:30:00	110	10	3429	108	0	0	0	0	53	1	0	0	4	0	135	3	0	0	0	0
18:45:00	112	2	3543	114	0	0	0	0	53	0	0	0	4	0	137	2	0	0	0	0
19:00:00	119	7	3647	104	0	0	0	0	53	0	0	0	4	0	138	1	0	0	0	0
19:15:00	119	0	3647	0	0	0	0	0	53	0	0	0	4	0	138	0	0	0	0	0
19:15:15	119	0	3647	0	0	0	0	0	53	0	0	0	4	0	138	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

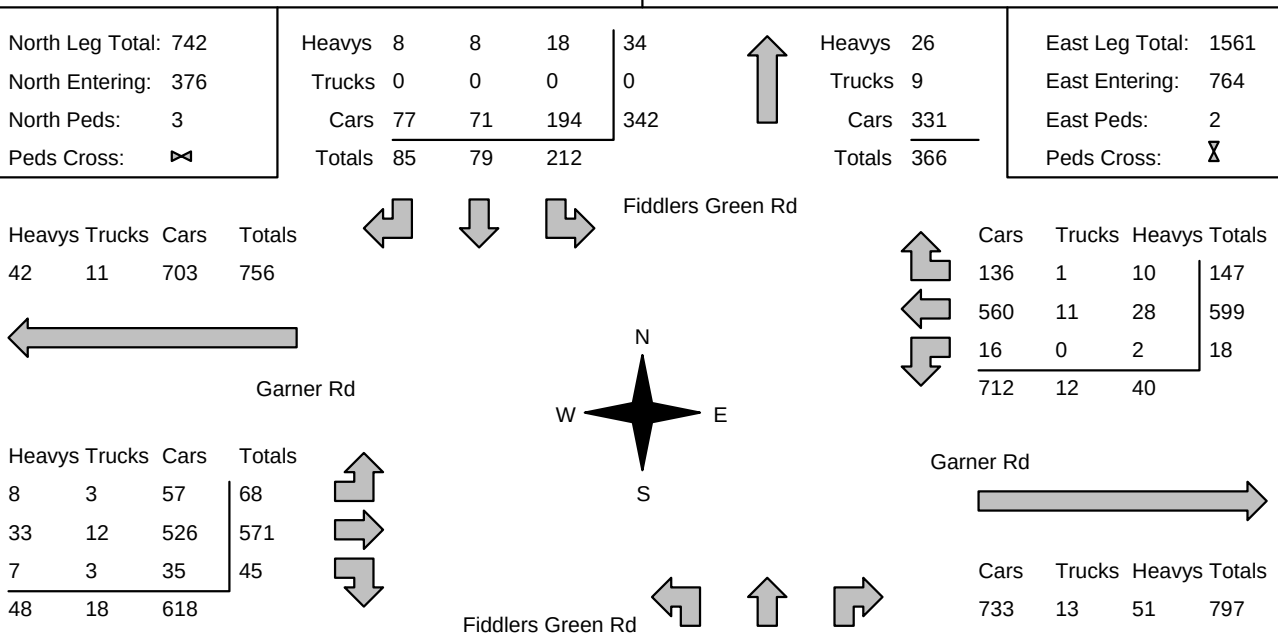
Municipality: Hamilton
Site #: 2109500005
Intersection: Garner Rd & Fiddlers Green Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Hamilton
Site #: 2109500005
Intersection: Garner Rd & Fiddlers Green Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Garner Rd runs W/E

North Leg Total:	717
North Entering:	339
North Peds:	0
Peds Cross:	⋈

Heavys	1	1	1	3
Trucks	0	2	0	2
Cars	44	151	139	334
Totals	45	154	140	

Heavys	4
Trucks	0
Cars	374
Totals	378

East Leg Total:	1501
East Entering:	734
East Peds:	0
Peds Cross:	⧖

Fiddlers Green Rd

Heavys	Trucks	Cars	Totals
15	9	557	581

Cars	Trucks	Heavys	Totals
184	0	3	187
480	9	13	502
45	0	0	45
709	9	16	

Garner Rd

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	62	62
10	0	579	589
3	0	30	33
13	0	671	

Garner Rd

Cars	Trucks	Heavys	Totals
755	1	11	767

Fiddlers Green Rd

Peds Cross:	⧖
West Peds:	2
West Entering:	684
West Leg Total:	1265

Cars	226
Trucks	2
Heavys	4
Totals	232

Cars	33	128	37	198
Trucks	0	0	1	1
Heavys	1	1	0	2
Totals	34	129	38	

Peds Cross:	⋈
South Peds:	0
South Entering:	201
South Leg Total:	433

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

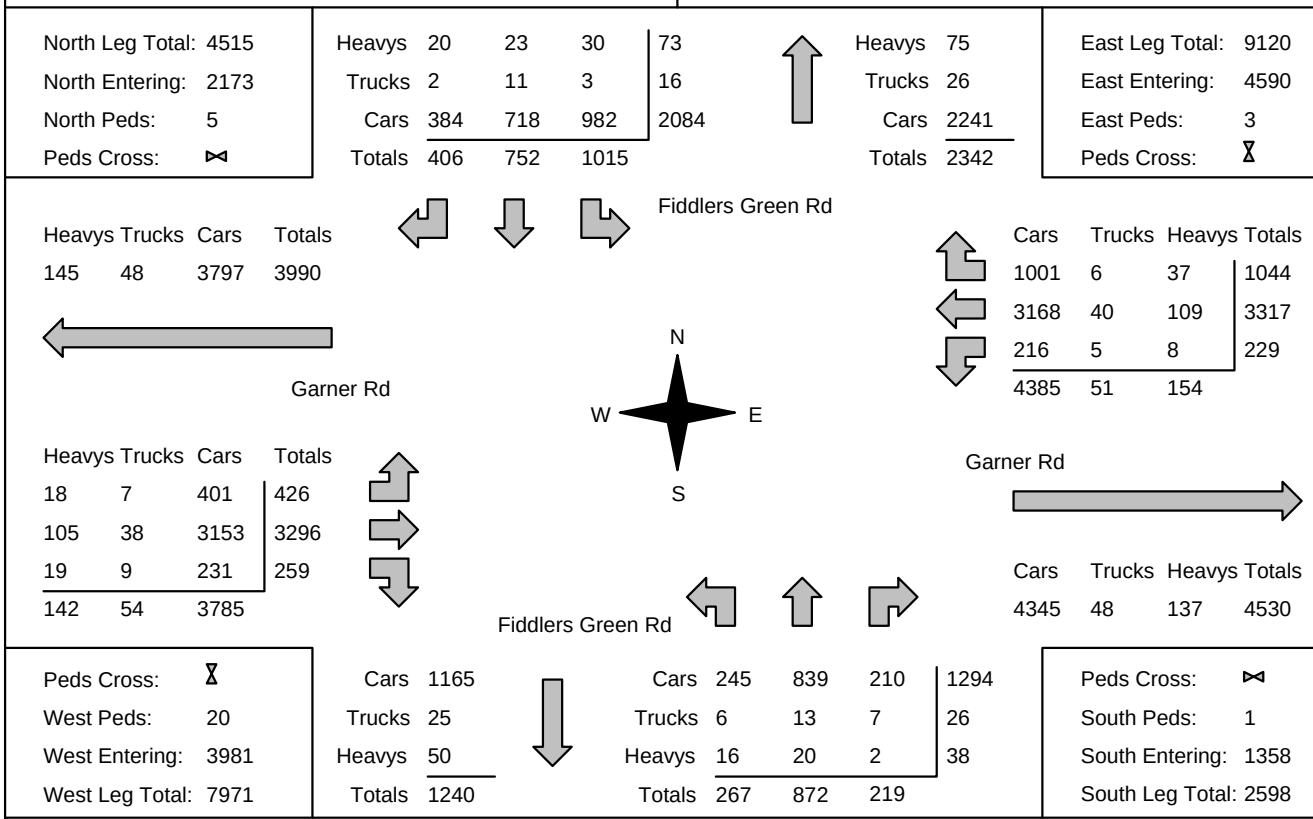
Municipality: Hamilton
Site #: 2109500005
Intersection: Garner Rd & Fiddlers Green Rd
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Garner Rd runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Fiddlers Green Rd | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*6*	*28*	*9*	*43*	*0*
8:00:00	*103*	*53*	*70*	*226*	*1*
9:00:00	*202*	*89*	*48*	*339*	*2*
10:00:00	*92*	*70*	*40*	*202*	*0*
15:00:00	*48*	*28*	*17*	*93*	*0*
16:00:00	*176*	*128*	*69*	*373*	*2*
17:00:00	*121*	*127*	*53*	*301*	*0*
18:00:00	*149*	*151*	*51*	*351*	*0*
19:00:00	*118*	*78*	*49*	*245*	*0*
Totals:	1015	752	406	2173	5

North/South Total Approaches: 3531

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*12*	*28*	*9*	*49*	*0*
8:00:00	*52*	*127*	*12*	*191*	*0*
9:00:00	*45*	*141*	*22*	*208*	*0*
10:00:00	*31*	*100*	*20*	*151*	*0*
15:00:00	*12*	*36*	*19*	*67*	*0*
16:00:00	*30*	*100*	*30*	*160*	*1*
17:00:00	*27*	*109*	*35*	*171*	*0*
18:00:00	*32*	*149*	*40*	*221*	*0*
19:00:00	*26*	*82*	*32*	*140*	*0*
S Totals:	267	872	219	1358	1

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*11*	*130*	*17*	*158*	*0*
8:00:00	*9*	*457*	*87*	*553*	*1*
9:00:00	*22*	*471*	*164*	*657*	*1*
10:00:00	*20*	*325*	*88*	*433*	*1*
15:00:00	*15*	*146*	*59*	*220*	*0*
16:00:00	*38*	*468*	*167*	*673*	*0*
17:00:00	*45*	*518*	*181*	*744*	*0*
18:00:00	*42*	*453*	*171*	*666*	*0*
19:00:00	*27*	*349*	*110*	*486*	*0*
Totals:	229	3317	1044	4590	3

East/West Total Approaches: 8571

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*7*	*64*	*8*	*79*	*0*
8:00:00	*33*	*335*	*25*	*393*	*2*
9:00:00	*69*	*502*	*36*	*607*	*0*
10:00:00	*36*	*232*	*23*	*291*	*1*
15:00:00	*30*	*130*	*15*	*175*	*0*
16:00:00	*55*	*537*	*49*	*641*	*11*
17:00:00	*66*	*586*	*43*	*695*	*3*
18:00:00	*57*	*541*	*33*	*631*	*1*
19:00:00	*73*	*369*	*27*	*469*	*2*
W Totals:	426	3296	259	3981	20

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*285*	*389*	*225*	*96*	*345*	*278*	*333*	*228*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500005**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	5	5	15	15	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0
7:00:00	6	1	27	12	8	6	0	0	0	0	0	0	0	0	1	1	1	0	0	0
7:15:00	13	7	38	11	12	4	0	0	0	0	0	0	0	0	2	1	1	0	0	0
7:30:00	26	13	55	17	18	6	1	1	0	0	0	0	1	1	3	1	2	1	0	0
7:45:00	62	36	61	6	32	14	1	0	0	0	0	0	5	4	3	0	4	2	0	0
8:00:00	103	41	77	16	70	38	1	0	0	0	0	0	5	0	4	1	9	5	1	1
8:15:00	168	65	99	22	90	20	1	0	0	0	0	0	9	4	9	5	9	0	3	2
8:30:00	220	52	126	27	95	5	1	0	0	0	0	0	19	10	11	2	10	1	3	0
8:45:00	260	40	140	14	101	6	2	1	0	0	0	0	21	2	11	0	11	1	3	0
9:00:00	286	26	157	17	114	13	2	0	0	0	0	0	23	2	13	2	13	2	3	0
9:15:00	310	24	171	14	126	12	2	0	2	2	0	0	24	1	15	2	14	1	3	0
9:30:00	334	24	180	9	135	9	2	0	4	2	0	0	24	0	15	0	14	0	3	0
9:45:00	352	18	197	17	144	9	2	0	6	2	0	0	24	0	15	0	14	0	3	0
10:00:00	376	24	218	21	153	9	3	1	7	1	0	0	24	0	15	0	14	0	3	0
10:15:00	397	21	235	17	161	8	3	0	7	0	0	0	24	0	15	0	15	1	3	0
10:30:00	424	27	246	11	168	7	3	0	7	0	0	0	24	0	15	0	16	1	3	0
10:45:00	424	0	246	0	168	0	3	0	7	0	0	0	24	0	15	0	16	0	3	0
15:00:00	424	0	246	0	168	0	3	0	7	0	0	0	24	0	15	0	16	0	3	0
15:15:00	461	37	271	25	183	15	3	0	7	0	0	0	27	3	18	3	16	0	4	1
15:30:00	507	46	305	34	194	11	3	0	7	0	0	0	27	0	18	0	17	1	4	0
15:45:00	544	37	338	33	212	18	3	0	7	0	1	1	28	1	19	1	19	2	5	1
16:00:00	595	51	370	32	233	21	3	0	7	0	1	0	29	1	19	0	19	0	5	0
16:15:00	620	25	399	29	245	12	3	0	7	0	2	1	29	0	20	1	19	0	5	0
16:30:00	662	42	427	28	260	15	3	0	7	0	2	0	29	0	21	1	19	0	5	0
16:45:00	690	28	473	46	272	12	3	0	7	0	2	0	29	0	21	0	19	0	5	0
17:00:00	716	26	493	20	285	13	3	0	8	1	2	0	29	0	22	1	19	0	5	0
17:15:00	753	37	544	51	296	11	3	0	9	1	2	0	29	0	22	0	19	0	5	0
17:30:00	801	48	578	34	304	8	3	0	9	0	2	0	30	1	22	0	20	1	5	0
17:45:00	837	36	612	34	319	15	3	0	9	0	2	0	30	0	22	0	20	0	5	0
18:00:00	864	27	643	31	335	16	3	0	9	0	2	0	30	0	22	0	20	0	5	0
18:15:00	901	37	671	28	351	16	3	0	9	0	2	0	30	0	22	0	20	0	5	0
18:30:00	928	27	687	16	360	9	3	0	10	1	2	0	30	0	22	0	20	0	5	0
18:45:00	952	24	706	19	372	12	3	0	11	1	2	0	30	0	22	0	20	0	5	0
19:00:00	982	30	718	12	384	12	3	0	11	0	2	0	30	0	23	1	20	0	5	0
19:15:00	982	0	718	0	384	0	3	0	11	0	2	0	30	0	23	0	20	0	5	0
19:15:15	982	0	718	0	384	0	3	0	11	0	2	0	30	0	23	0	20	0	5	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500005

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	9	9	59	59	4	4	0	0	1	1	0	0	0	0	1	1	1	1	0	0
7:00:00	11	2	125	66	16	12	0	0	2	1	0	0	0	0	3	2	1	0	0	0
7:15:00	12	1	190	65	27	11	0	0	2	0	0	0	0	0	7	4	2	1	0	0
7:30:00	13	1	268	78	36	9	0	0	3	1	1	1	0	0	9	2	4	2	0	0
7:45:00	16	3	401	133	59	23	0	0	5	2	1	0	0	0	13	4	5	1	1	1
8:00:00	20	4	549	148	94	35	0	0	7	2	2	1	0	0	31	18	8	3	1	0
8:15:00	23	3	721	172	143	49	0	0	11	4	2	0	1	1	34	3	12	4	2	1
8:30:00	29	6	828	107	172	29	0	0	14	3	2	0	2	1	37	3	14	2	2	0
8:45:00	33	4	901	73	205	33	0	0	16	2	3	1	4	2	42	5	15	1	2	0
9:00:00	37	4	997	96	248	43	0	0	18	2	4	1	5	1	43	1	16	1	2	0
9:15:00	41	4	1079	82	277	29	1	1	19	1	4	0	5	0	46	3	18	2	3	1
9:30:00	44	3	1153	74	297	20	1	0	20	1	5	1	6	1	53	7	19	1	3	0
9:45:00	50	6	1232	79	309	12	1	0	20	0	5	0	6	0	56	3	20	1	3	0
10:00:00	55	5	1306	74	331	22	1	0	20	0	5	0	6	0	57	1	20	0	3	0
10:15:00	61	6	1366	60	360	29	2	1	20	0	6	1	6	0	59	2	20	0	3	0
10:30:00	69	8	1445	79	387	27	2	0	21	1	6	0	6	0	63	4	22	2	3	0
10:45:00	69	0	1445	0	387	0	2	0	21	0	6	0	6	0	63	0	22	0	3	0
15:00:00	69	0	1445	0	387	0	2	0	21	0	6	0	6	0	63	0	22	0	3	0
15:15:00	76	7	1539	94	427	40	2	0	21	0	6	0	6	0	68	5	23	1	3	0
15:30:00	87	11	1666	127	468	41	2	0	22	1	6	0	6	0	69	1	25	2	3	0
15:45:00	97	10	1780	114	503	35	2	0	22	0	6	0	6	0	74	5	26	1	3	0
16:00:00	107	10	1898	118	546	43	2	0	22	0	6	0	6	0	77	3	30	4	3	0
16:15:00	120	13	2028	130	587	41	4	2	25	3	6	0	6	0	81	4	30	0	3	0
16:30:00	127	7	2135	107	637	50	5	1	25	0	6	0	6	0	85	4	31	1	3	0
16:45:00	132	5	2249	114	686	49	5	0	27	2	6	0	6	0	90	5	32	1	3	0
17:00:00	149	17	2392	143	724	38	5	0	31	4	6	0	6	0	92	2	33	1	3	0
17:15:00	163	14	2518	126	761	37	5	0	34	3	6	0	6	0	95	3	33	0	3	0
17:30:00	172	9	2615	97	821	60	5	0	34	0	6	0	6	0	98	3	34	1	3	0
17:45:00	177	5	2729	114	861	40	5	0	36	2	6	0	6	0	102	4	34	0	3	0
18:00:00	190	13	2825	96	893	32	5	0	39	3	6	0	7	1	104	2	35	1	3	0
18:15:00	196	6	2908	83	919	26	5	0	40	1	6	0	7	0	105	1	35	0	3	0
18:30:00	206	10	2991	83	951	32	5	0	40	0	6	0	7	0	106	1	36	1	3	0
18:45:00	212	6	3070	79	975	24	5	0	40	0	6	0	7	0	107	1	36	0	3	0
19:00:00	216	4	3168	98	1001	26	5	0	40	0	6	0	8	1	109	2	37	1	3	0
19:15:00	216	0	3168	0	1001	0	5	0	40	0	6	0	8	0	109	0	37	0	3	0
19:15:15	216	0	3168	0	1001	0	5	0	40	0	6	0	8	0	109	0	37	0	3	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500005

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	8	8	14	14	5	5	0	0	0	0	0	0	1	1	1	1	0	0	0	0
7:00:00	11	3	26	12	9	4	0	0	1	1	0	0	1	0	1	0	0	0	0	0
7:15:00	16	5	46	20	12	3	2	2	1	0	0	0	1	0	1	0	0	0	0	0
7:30:00	19	3	69	23	14	2	2	0	1	0	0	0	2	1	4	3	0	0	0	0
7:45:00	27	8	98	29	17	3	2	0	1	0	0	0	5	3	6	2	0	0	0	0
8:00:00	56	29	144	46	21	4	2	0	2	1	0	0	6	1	9	3	0	0	0	0
8:15:00	74	18	174	30	25	4	2	0	6	4	1	1	7	1	11	2	0	0	0	0
8:30:00	85	11	207	33	27	2	2	0	6	0	1	0	8	1	12	1	0	0	0	0
8:45:00	87	2	239	32	36	9	2	0	6	0	1	0	10	2	13	1	0	0	0	0
9:00:00	95	8	277	38	42	6	2	0	6	0	1	0	12	2	13	0	0	0	0	0
9:15:00	103	8	305	28	44	2	2	0	6	0	1	0	12	0	13	0	1	1	0	0
9:30:00	110	7	328	23	49	5	2	0	8	2	4	3	14	2	15	2	1	0	0	0
9:45:00	117	7	353	25	54	5	2	0	8	0	4	0	14	0	15	0	1	0	0	0
10:00:00	122	5	373	20	58	4	4	2	8	0	4	0	14	0	15	0	1	0	0	0
10:15:00	125	3	387	14	69	11	5	1	8	0	4	0	14	0	16	1	1	0	0	0
10:30:00	133	8	408	21	77	8	5	0	8	0	4	0	14	0	16	0	1	0	0	0
10:45:00	133	0	408	0	77	0	5	0	8	0	4	0	14	0	16	0	1	0	0	0
15:00:00	133	0	408	0	77	0	5	0	8	0	4	0	14	0	16	0	1	0	0	0
15:15:00	140	7	435	27	86	9	5	0	8	0	5	1	14	0	17	1	1	0	0	0
15:30:00	148	8	453	18	91	5	5	0	8	0	5	0	14	0	18	1	1	0	0	0
15:45:00	154	6	474	21	101	10	5	0	8	0	5	0	14	0	18	0	1	0	0	0
16:00:00	162	8	505	31	106	5	5	0	9	1	5	0	15	1	18	0	1	0	1	1
16:15:00	169	7	522	17	110	4	5	0	10	1	5	0	15	0	18	0	1	0	1	0
16:30:00	176	7	557	35	122	12	6	1	10	0	6	1	15	0	19	1	1	0	1	0
16:45:00	180	4	591	34	135	13	6	0	10	0	7	1	15	0	19	0	1	0	1	0
17:00:00	188	8	612	21	139	4	6	0	10	0	7	0	15	0	19	0	1	0	1	0
17:15:00	200	12	654	42	147	8	6	0	10	0	7	0	15	0	20	1	1	0	1	0
17:30:00	209	9	685	31	159	12	6	0	10	0	7	0	16	1	20	0	1	0	1	0
17:45:00	215	6	727	42	170	11	6	0	12	2	7	0	16	0	20	0	1	0	1	0
18:00:00	219	4	758	31	179	9	6	0	12	0	7	0	16	0	20	0	1	0	1	0
18:15:00	229	10	786	28	193	14	6	0	12	0	7	0	16	0	20	0	2	1	1	0
18:30:00	236	7	819	33	201	8	6	0	12	0	7	0	16	0	20	0	2	0	1	0
18:45:00	242	6	829	10	207	6	6	0	12	0	7	0	16	0	20	0	2	0	1	0
19:00:00	245	3	839	10	210	3	6	0	13	1	7	0	16	0	20	0	2	0	1	0
19:15:00	245	0	839	0	210	0	6	0	13	0	7	0	16	0	20	0	2	0	1	0
19:15:15	245	0	839	0	210	0	6	0	13	0	7	0	16	0	20	0	2	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500005**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	3	3	28	28	3	3	0	0	0	0	0	0	1	1	2	2	0	0	0	0
7:00:00	6	3	58	30	8	5	0	0	1	1	0	0	1	0	5	3	0	0	0	0
7:15:00	13	7	93	35	12	4	0	0	3	2	0	0	1	0	8	3	0	0	0	0
7:30:00	18	5	134	41	17	5	0	0	7	4	0	0	2	1	12	4	1	1	0	0
7:45:00	24	6	212	78	17	0	1	1	9	2	1	1	3	1	14	2	3	2	0	0
8:00:00	34	10	359	147	26	9	1	0	12	3	2	1	5	2	28	14	5	2	2	2
8:15:00	57	23	539	180	41	15	2	1	14	2	3	1	9	4	35	7	8	3	2	0
8:30:00	75	18	660	121	52	11	3	1	19	5	3	0	10	1	45	10	8	0	2	0
8:45:00	87	12	756	96	53	1	3	0	21	2	3	0	11	1	49	4	8	0	2	0
9:00:00	94	7	825	69	58	5	3	0	24	3	3	0	12	1	52	3	8	0	2	0
9:15:00	101	7	880	55	65	7	3	0	26	2	4	1	13	1	56	4	8	0	2	0
9:30:00	108	7	939	59	69	4	3	0	27	1	5	1	14	1	58	2	8	0	2	0
9:45:00	121	13	1003	64	72	3	4	1	28	1	5	0	14	0	60	2	8	0	3	1
10:00:00	126	5	1041	38	78	6	4	0	29	1	5	0	15	1	63	3	9	1	3	0
10:15:00	137	11	1094	53	86	8	4	0	29	0	5	0	15	0	64	1	9	0	3	0
10:30:00	155	18	1168	74	92	6	5	1	30	1	5	0	15	0	65	1	10	1	3	0
10:45:00	155	0	1168	0	92	0	5	0	30	0	5	0	15	0	65	0	10	0	3	0
15:00:00	155	0	1168	0	92	0	5	0	30	0	5	0	15	0	65	0	10	0	3	0
15:15:00	172	17	1336	168	105	13	5	0	32	2	5	0	17	2	72	7	10	0	6	3
15:30:00	182	10	1463	127	113	8	7	2	32	0	5	0	17	0	75	3	10	0	10	4
15:45:00	196	14	1575	112	129	16	7	0	33	1	5	0	17	0	79	4	10	0	14	4
16:00:00	206	10	1683	108	140	11	7	0	35	2	5	0	17	0	82	3	11	1	14	0
16:15:00	225	19	1859	176	151	11	7	0	37	2	7	2	17	0	84	2	12	1	14	0
16:30:00	240	15	1978	119	162	11	7	0	38	1	8	1	17	0	87	3	12	0	15	1
16:45:00	253	13	2128	150	172	10	7	0	38	0	8	0	17	0	89	2	13	1	15	0
17:00:00	272	19	2255	127	177	5	7	0	38	0	8	0	17	0	93	4	14	1	17	2
17:15:00	285	13	2414	159	183	6	7	0	38	0	8	0	17	0	96	3	14	0	17	0
17:30:00	302	17	2557	143	192	9	7	0	38	0	8	0	17	0	97	1	15	1	17	0
17:45:00	318	16	2686	129	198	6	7	0	38	0	8	0	17	0	98	1	16	1	17	0
18:00:00	329	11	2788	102	207	9	7	0	38	0	9	1	17	0	101	3	16	0	18	1
18:15:00	345	16	2895	107	214	7	7	0	38	0	9	0	17	0	102	1	17	1	20	2
18:30:00	360	15	2982	87	219	5	7	0	38	0	9	0	17	0	103	1	19	2	20	0
18:45:00	375	15	3072	90	229	10	7	0	38	0	9	0	18	1	104	1	19	0	20	0
19:00:00	401	26	3153	81	231	2	7	0	38	0	9	0	18	0	105	1	19	0	20	0
19:15:00	401	0	3153	0	231	0	7	0	38	0	9	0	18	0	105	0	19	0	20	0
19:15:15	401	0	3153	0	231	0	7	0	38	0	9	0	18	0	105	0	19	0	20	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Hamilton
Site #: 2109500006
Intersection: Garner Rd & Anson Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

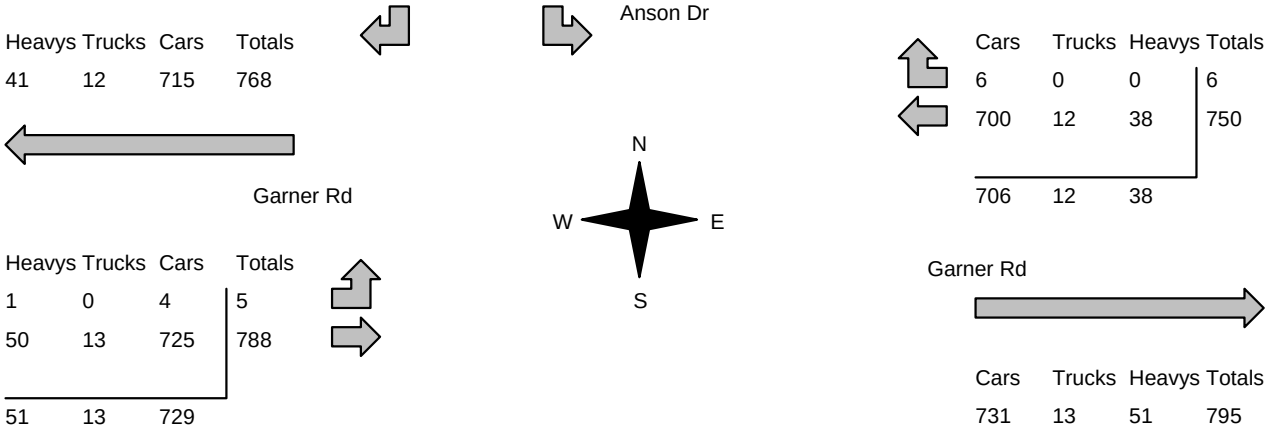
Major Road: Garner Rd runs W/E

North Leg Total: 36
North Entering: 25
North Peds: 0
Peds Cross: ⋈

Heavys	3	1	4
Trucks	0	0	0
Cars	15	6	21
Totals	18	7	

Heavys	1
Trucks	0
Cars	10
Totals	11

East Leg Total: 1551
East Entering: 756
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 1
West Entering: 793
West Leg Total: 1561

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Hamilton
Site #: 2109500006
Intersection: Garner Rd & Anson Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

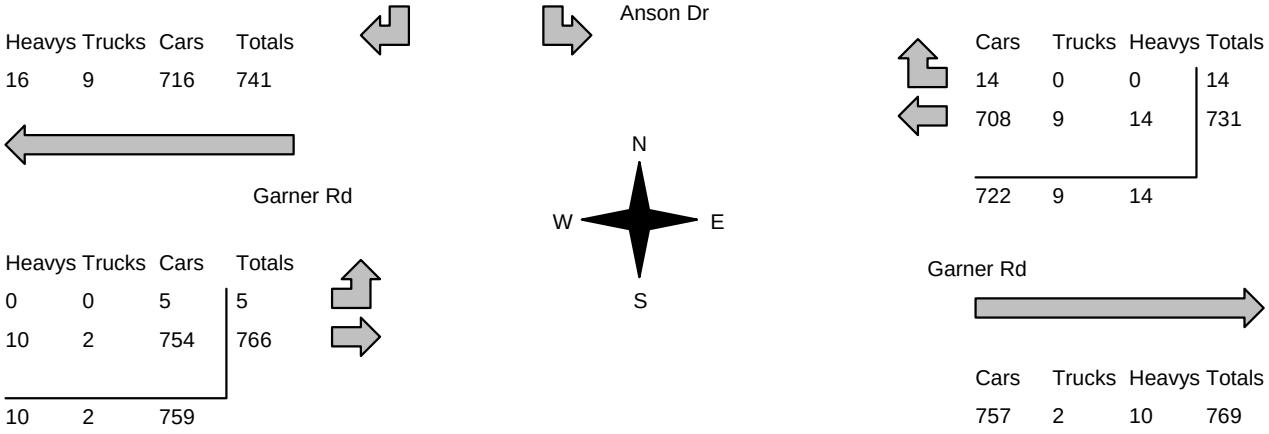
Major Road: Garner Rd runs W/E

North Leg Total: 32
North Entering: 13
North Peds: 0
Peds Cross: ⋈

Heavys	2	0	2
Trucks	0	0	0
Cars	8	3	11
Totals	10	3	

Heavys	0
Trucks	0
Cars	19
Totals	19

East Leg Total: 1514
East Entering: 745
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 1
West Entering: 771
West Leg Total: 1512

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

Municipality: Hamilton
Site #: 2109500006
Intersection: Garner Rd & Anson Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E

North Leg Total: 227
North Entering: 128
North Peds: 1
Peds Cross: ⋈

Heavys	20	2	22
Trucks	0	0	0
Cars	61	45	106
Totals	81	47	

Heavys	3
Trucks	0
Cars	96
Totals	99

East Leg Total: 9117
East Entering: 4571
East Peds: 0
Peds Cross: ⧖

Anson Dr

Heavys	Trucks	Cars	Totals
155	48	4380	4583

Garner Rd

Heavys	Trucks	Cars	Totals
1	0	29	30
140	53	4306	4499
141	53	4335	

Cars	Trucks	Heavys	Totals
67	0	2	69
4319	48	135	4502
4386	48	137	

N
W E
S

Garner Rd

Cars	Trucks	Heavys	Totals
4351	53	142	4546

Peds Cross: ⧖
West Peds: 3
West Entering: 4529
West Leg Total: 9112

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Anson Dr | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*2*	*0*	*3*	*5*	*0*
8:00:00	*4*	*0*	*12*	*16*	*0*
9:00:00	*13*	*0*	*12*	*25*	*0*
10:00:00	*6*	*0*	*13*	*19*	*1*
15:00:00	*4*	*0*	*2*	*6*	*0*
16:00:00	*4*	*0*	*7*	*11*	*0*
17:00:00	*5*	*0*	*14*	*19*	*0*
18:00:00	*4*	*0*	*11*	*15*	*0*
19:00:00	*5*	*0*	*7*	*12*	*0*
Totals:	47	0	81	128	1

North/South Total Approaches: 128

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
S Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*157*	*0*	*157*	*0*
8:00:00	*0*	*560*	*4*	*564*	*0*
9:00:00	*0*	*625*	*4*	*629*	*0*
10:00:00	*0*	*421*	*7*	*428*	*0*
15:00:00	*0*	*222*	*6*	*228*	*0*
16:00:00	*0*	*665*	*10*	*675*	*0*
17:00:00	*0*	*720*	*11*	*731*	*0*
18:00:00	*0*	*652*	*18*	*670*	*0*
19:00:00	*0*	*480*	*9*	*489*	*0*
Totals:	0	4502	69	4571	0

East/West Total Approaches: 9100

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*77*	*0*	*77*	*0*
8:00:00	*5*	*436*	*0*	*441*	*1*
9:00:00	*3*	*733*	*0*	*736*	*0*
10:00:00	*2*	*340*	*0*	*342*	*0*
15:00:00	*2*	*196*	*0*	*198*	*1*
16:00:00	*3*	*741*	*0*	*744*	*0*
17:00:00	*6*	*730*	*0*	*736*	*1*
18:00:00	*5*	*735*	*0*	*740*	*0*
19:00:00	*4*	*511*	*0*	*515*	*0*
W Totals:	30	4499	0	4529	3

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*5*	*13*	*6*	*5*	*4*	*6*	*4*	*5*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500006

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	1	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0
7:00:00	2	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:15:00	3	1	0	0	4	2	0	0	0	0	0	0	0	0	0	0	2	1	0	0
7:30:00	5	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
7:45:00	5	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	3	1	0	0
8:00:00	6	1	0	0	12	6	0	0	0	0	0	0	0	0	0	0	3	0	0	0
8:15:00	8	2	0	0	17	5	0	0	0	0	0	0	0	0	0	0	4	1	0	0
8:30:00	11	3	0	0	19	2	0	0	0	0	0	0	1	1	0	0	5	1	0	0
8:45:00	14	3	0	0	20	1	0	0	0	0	0	0	1	0	0	0	7	2	0	0
9:00:00	18	4	0	0	20	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0
9:15:00	18	0	0	0	20	0	0	0	0	0	0	0	1	0	0	0	8	1	0	0
9:30:00	19	1	0	0	22	2	0	0	0	0	0	0	1	0	0	0	9	1	1	1
9:45:00	20	1	0	0	26	4	0	0	0	0	0	0	2	1	0	0	10	1	1	0
10:00:00	23	3	0	0	30	4	0	0	0	0	0	0	2	0	0	0	10	0	1	0
10:15:00	23	0	0	0	30	0	0	0	0	0	0	0	2	0	0	0	10	0	1	0
10:30:00	27	4	0	0	31	1	0	0	0	0	0	0	2	0	0	0	11	1	1	0
10:45:00	27	0	0	0	31	0	0	0	0	0	0	0	2	0	0	0	11	0	1	0
15:00:00	27	0	0	0	31	0	0	0	0	0	0	0	2	0	0	0	11	0	1	0
15:15:00	27	0	0	0	31	0	0	0	0	0	0	0	2	0	0	0	11	0	1	0
15:30:00	28	1	0	0	33	2	0	0	0	0	0	0	2	0	0	0	12	1	1	0
15:45:00	30	2	0	0	33	0	0	0	0	0	0	0	2	0	0	0	12	0	1	0
16:00:00	31	1	0	0	36	3	0	0	0	0	0	0	2	0	0	0	13	1	1	0
16:15:00	32	1	0	0	37	1	0	0	0	0	0	0	2	0	0	0	13	0	1	0
16:30:00	33	1	0	0	43	6	0	0	0	0	0	0	2	0	0	0	14	1	1	0
16:45:00	36	3	0	0	44	1	0	0	0	0	0	0	2	0	0	0	14	0	1	0
17:00:00	36	0	0	0	48	4	0	0	0	0	0	0	2	0	0	0	15	1	1	0
17:15:00	36	0	0	0	49	1	0	0	0	0	0	0	2	0	0	0	15	0	1	0
17:30:00	36	0	0	0	51	2	0	0	0	0	0	0	2	0	0	0	16	1	1	0
17:45:00	40	4	0	0	52	1	0	0	0	0	0	0	2	0	0	0	17	1	1	0
18:00:00	40	0	0	0	56	4	0	0	0	0	0	0	2	0	0	0	18	1	1	0
18:15:00	42	2	0	0	56	0	0	0	0	0	0	0	2	0	0	0	18	0	1	0
18:30:00	45	3	0	0	58	2	0	0	0	0	0	0	2	0	0	0	19	1	1	0
18:45:00	45	0	0	0	59	1	0	0	0	0	0	0	2	0	0	0	19	0	1	0
19:00:00	45	0	0	0	61	2	0	0	0	0	0	0	2	0	0	0	20	1	1	0
19:15:00	45	0	0	0	61	0	0	0	0	0	0	0	2	0	0	0	20	0	1	0
19:15:15	45	0	0	0	61	0	0	0	0	0	0	0	2	0	0	0	20	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500006

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	72	72	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0
7:00:00	0	0	153	81	0	0	0	0	2	1	0	0	0	0	2	1	0	0	0	0
7:15:00	0	0	228	75	0	0	0	0	2	0	0	0	0	0	6	4	0	0	0	0
7:30:00	0	0	317	89	1	1	0	0	4	2	0	0	0	0	11	5	0	0	0	0
7:45:00	0	0	490	173	2	1	0	0	6	2	0	0	0	0	16	5	0	0	0	0
8:00:00	0	0	673	183	4	2	0	0	8	2	0	0	0	0	36	20	0	0	0	0
8:15:00	0	0	894	221	7	3	0	0	12	4	0	0	0	0	44	8	0	0	0	0
8:30:00	0	0	1017	123	7	0	0	0	16	4	0	0	0	0	49	5	0	0	0	0
8:45:00	0	0	1127	110	8	1	0	0	19	3	0	0	0	0	55	6	0	0	0	0
9:00:00	0	0	1265	138	8	0	0	0	20	1	0	0	0	0	57	2	0	0	0	0
9:15:00	0	0	1385	120	10	2	0	0	22	2	0	0	0	0	62	5	1	1	0	0
9:30:00	0	0	1472	87	11	1	0	0	23	1	0	0	0	0	70	8	1	0	0	0
9:45:00	0	0	1570	98	11	0	0	0	23	0	0	0	0	0	73	3	1	0	0	0
10:00:00	0	0	1665	95	14	3	0	0	23	0	0	0	0	0	75	2	1	0	0	0
10:15:00	0	0	1762	97	16	2	0	0	25	2	0	0	0	0	77	2	1	0	0	0
10:30:00	0	0	1877	115	19	3	0	0	26	1	0	0	0	0	82	5	2	1	0	0
10:45:00	0	0	1877	0	19	0	0	0	26	0	0	0	0	0	82	0	2	0	0	0
15:00:00	0	0	1877	0	19	0	0	0	26	0	0	0	0	0	82	0	2	0	0	0
15:15:00	0	0	2021	144	22	3	0	0	26	0	0	0	0	0	88	6	2	0	0	0
15:30:00	0	0	2195	174	26	4	0	0	26	0	0	0	0	0	91	3	2	0	0	0
15:45:00	0	0	2352	157	26	0	0	0	26	0	0	0	0	0	96	5	2	0	0	0
16:00:00	0	0	2521	169	29	3	0	0	27	1	0	0	0	0	102	6	2	0	0	0
16:15:00	0	0	2698	177	31	2	0	0	31	4	0	0	0	0	106	4	2	0	0	0
16:30:00	0	0	2846	148	32	1	0	0	32	1	0	0	0	0	110	4	2	0	0	0
16:45:00	0	0	3020	174	37	5	0	0	34	2	0	0	0	0	116	6	2	0	0	0
17:00:00	0	0	3213	193	40	3	0	0	38	4	0	0	0	0	119	3	2	0	0	0
17:15:00	0	0	3390	177	46	6	0	0	41	3	0	0	0	0	121	2	2	0	0	0
17:30:00	0	0	3554	164	46	0	0	0	41	0	0	0	0	0	124	3	2	0	0	0
17:45:00	0	0	3714	160	52	6	0	0	43	2	0	0	0	0	127	3	2	0	0	0
18:00:00	0	0	3847	133	58	6	0	0	46	3	0	0	0	0	129	2	2	0	0	0
18:15:00	0	0	3960	113	63	5	0	0	48	2	0	0	0	0	130	1	2	0	0	0
18:30:00	0	0	4082	122	64	1	0	0	48	0	0	0	0	0	131	1	2	0	0	0
18:45:00	0	0	4196	114	66	2	0	0	48	0	0	0	0	0	132	1	2	0	0	0
19:00:00	0	0	4319	123	67	1	0	0	48	0	0	0	0	0	135	3	2	0	0	0
19:15:00	0	0	4319	0	67	0	0	0	48	0	0	0	0	0	135	0	2	0	0	0
19:15:15	0	0	4319	0	67	0	0	0	48	0	0	0	0	0	135	0	2	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500006**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500006**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	35	35	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
7:00:00	0	0	69	34	0	0	0	0	3	3	0	0	0	0	5	3	0	0	0	0
7:15:00	0	0	114	45	0	0	0	0	5	2	0	0	0	0	9	4	0	0	0	0
7:30:00	1	1	169	55	0	0	0	0	10	5	0	0	0	0	15	6	0	0	0	0
7:45:00	2	1	284	115	0	0	0	0	12	2	0	0	1	1	19	4	0	0	1	1
8:00:00	4	2	465	181	0	0	0	0	15	3	0	0	1	0	33	14	0	0	1	0
8:15:00	5	1	716	251	0	0	0	0	18	3	0	0	1	0	44	11	0	0	1	0
8:30:00	5	0	894	178	0	0	0	0	23	5	0	0	1	0	65	21	0	0	1	0
8:45:00	7	2	1034	140	0	0	0	0	27	4	0	0	1	0	71	6	0	0	1	0
9:00:00	7	0	1140	106	0	0	0	0	30	3	0	0	1	0	76	5	0	0	1	0
9:15:00	7	0	1221	81	0	0	0	0	32	2	0	0	1	0	82	6	0	0	1	0
9:30:00	8	1	1308	87	0	0	0	0	36	4	0	0	1	0	84	2	0	0	1	0
9:45:00	9	1	1393	85	0	0	0	0	37	1	0	0	1	0	86	2	0	0	1	0
10:00:00	9	0	1458	65	0	0	0	0	39	2	0	0	1	0	89	3	0	0	1	0
10:15:00	11	2	1540	82	0	0	0	0	39	0	0	0	1	0	91	2	0	0	2	1
10:30:00	11	0	1650	110	0	0	0	0	40	1	0	0	1	0	92	1	0	0	2	0
10:45:00	11	0	1650	0	0	0	0	0	40	0	0	0	1	0	92	0	0	0	2	0
15:00:00	11	0	1650	0	0	0	0	0	40	0	0	0	1	0	92	0	0	0	2	0
15:15:00	12	1	1865	215	0	0	0	0	43	3	0	0	1	0	103	11	0	0	2	0
15:30:00	13	1	2040	175	0	0	0	0	43	0	0	0	1	0	106	3	0	0	2	0
15:45:00	13	0	2201	161	0	0	0	0	44	1	0	0	1	0	112	6	0	0	2	0
16:00:00	14	1	2361	160	0	0	0	0	46	2	0	0	1	0	116	4	0	0	2	0
16:15:00	15	1	2565	204	0	0	0	0	48	2	0	0	1	0	118	2	0	0	2	0
16:30:00	17	2	2729	164	0	0	0	0	50	2	0	0	1	0	121	3	0	0	2	0
16:45:00	19	2	2919	190	0	0	0	0	51	1	0	0	1	0	123	2	0	0	2	0
17:00:00	20	1	3075	156	0	0	0	0	51	0	0	0	1	0	127	4	0	0	3	1
17:15:00	22	2	3280	205	0	0	0	0	52	1	0	0	1	0	129	2	0	0	3	0
17:30:00	22	0	3483	203	0	0	0	0	52	0	0	0	1	0	131	2	0	0	3	0
17:45:00	24	2	3661	178	0	0	0	0	52	0	0	0	1	0	132	1	0	0	3	0
18:00:00	25	1	3801	140	0	0	0	0	52	0	0	0	1	0	135	3	0	0	3	0
18:15:00	28	3	3954	153	0	0	0	0	53	1	0	0	1	0	137	2	0	0	3	0
18:30:00	28	0	4075	121	0	0	0	0	53	0	0	0	1	0	138	1	0	0	3	0
18:45:00	28	0	4192	117	0	0	0	0	53	0	0	0	1	0	139	1	0	0	3	0
19:00:00	29	1	4306	114	0	0	0	0	53	0	0	0	1	0	140	1	0	0	3	0
19:15:00	29	0	4306	0	0	0	0	0	53	0	0	0	1	0	140	0	0	0	3	0
19:15:15	29	0	4306	0	0	0	0	0	53	0	0	0	1	0	140	0	0	0	3	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Hamilton
Site #: 2109500007
Intersection: Garner Rd & Miller Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

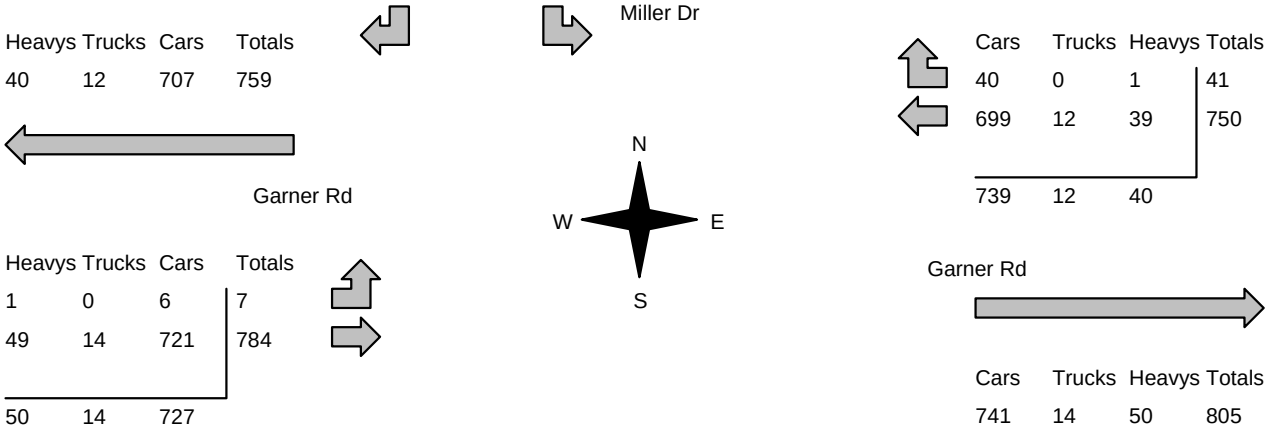
Major Road: Garner Rd runs W/E

North Leg Total: 78
North Entering: 30
North Peds: 0
Peds Cross: ⋈

Heavys	1	1	2
Trucks	0	0	0
Cars	8	20	28
Totals	9	21	

Heavys	2
Trucks	0
Cars	46
Totals	48

East Leg Total: 1596
East Entering: 791
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 791
West Leg Total: 1550

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Hamilton
Site #: 2109500007
Intersection: Garner Rd & Miller Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

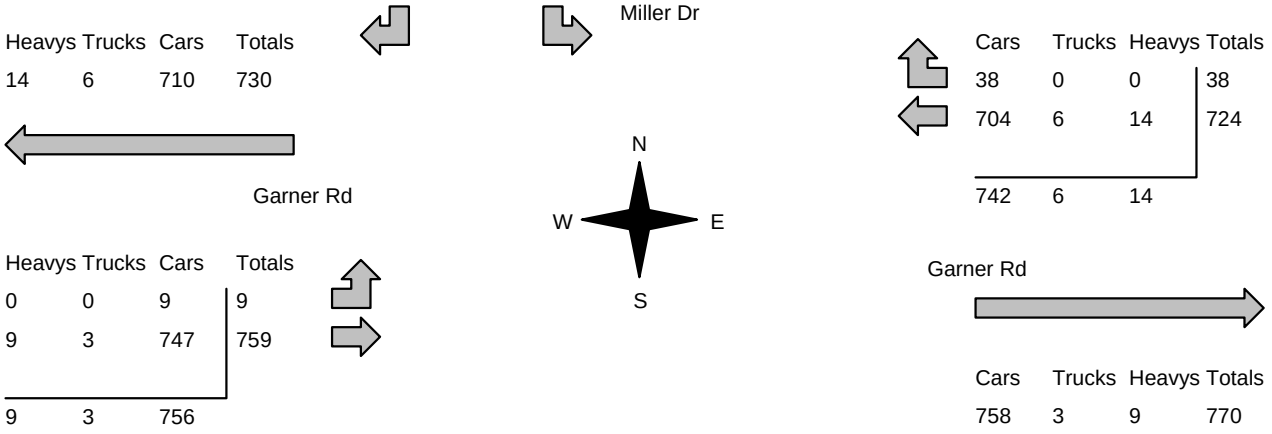
Major Road: Garner Rd runs W/E

North Leg Total: 64
North Entering: 17
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	6	11	17
Totals	6	11	

Heavys	0
Trucks	0
Cars	47
Totals	47

East Leg Total: 1532
East Entering: 762
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 768
West Leg Total: 1498

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

Municipality: Hamilton
Site #: 2109500007
Intersection: Garner Rd & Miller Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E

North Leg Total: 388
North Entering: 172
North Peds: 1
Peds Cross: ⋈

Heavys	3	2	5
Trucks	1	0	1
Cars	38	128	166
Totals	42	130	

Heavys	4
Trucks	0
Cars	212
Totals	216

East Leg Total: 9283
East Entering: 4678
East Peds: 2
Peds Cross: ⧖

Miller Dr

Heavys	Trucks	Cars	Totals
138	50	4359	4547

Garner Rd

Heavys	Trucks	Cars	Totals
2	0	41	43
141	55	4279	4475
143	55	4320	

Cars	Trucks	Heavys	Totals
171	0	2	173
4321	49	135	4505
4492	49	137	

N
W E
S

Garner Rd

Cars	Trucks	Heavys	Totals
4407	55	143	4605

Peds Cross: ⧖
West Peds: 1
West Entering: 4518
West Leg Total: 9065

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Miller Dr | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*8*	*0*	*3*	*11*	*0*
8:00:00	*17*	*0*	*5*	*22*	*0*
9:00:00	*20*	*0*	*5*	*25*	*0*
10:00:00	*19*	*0*	*6*	*25*	*0*
15:00:00	*8*	*0*	*2*	*10*	*1*
16:00:00	*13*	*0*	*7*	*20*	*0*
17:00:00	*18*	*0*	*6*	*24*	*0*
18:00:00	*11*	*0*	*7*	*18*	*0*
19:00:00	*16*	*0*	*1*	*17*	*0*
Totals:	130	0	42	172	1

North/South Total Approaches: *11*, *22*, *25*, *25*, *10*, *20*, *24*, *18*, *17*, 172

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*1*
S Totals:	0	0	0	0	1

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*153*	*3*	*156*	*0*
8:00:00	*0*	*574*	*23*	*597*	*0*
9:00:00	*0*	*609*	*23*	*632*	*0*
10:00:00	*0*	*421*	*11*	*432*	*2*
15:00:00	*0*	*226*	*9*	*235*	*0*
16:00:00	*0*	*666*	*14*	*680*	*0*
17:00:00	*0*	*712*	*32*	*744*	*0*
18:00:00	*0*	*656*	*35*	*691*	*0*
19:00:00	*0*	*488*	*23*	*511*	*0*
Totals:	0	4505	173	4678	2

East/West Total Approaches: *234*, *1032*, *1374*, *775*, *434*, *1425*, *1470*, *1430*, *1022*, 9196

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*78*	*0*	*78*	*0*
8:00:00	*2*	*433*	*0*	*435*	*0*
9:00:00	*6*	*736*	*0*	*742*	*0*
10:00:00	*2*	*341*	*0*	*343*	*0*
15:00:00	*1*	*198*	*0*	*199*	*0*
16:00:00	*7*	*738*	*0*	*745*	*0*
17:00:00	*9*	*717*	*0*	*726*	*0*
18:00:00	*8*	*731*	*0*	*739*	*0*
19:00:00	*8*	*503*	*0*	*511*	*1*
W Totals:	43	4475	0	4518	1

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*10:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*8*	*17*	*20*	*21*	*13*	*18*	*11*	*17*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500007**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	8	3	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	9	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	14	5	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	20	6	0	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	24	4	0	0	7	1	0	0	0	0	0	0	1	1	0	0	1	1	0	0
8:15:00	28	4	0	0	10	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0
8:30:00	34	6	0	0	11	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0
8:45:00	40	6	0	0	11	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
9:00:00	44	4	0	0	12	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0
9:15:00	47	3	0	0	13	1	0	0	0	0	0	0	1	0	0	0	2	1	0	0
9:30:00	55	8	0	0	14	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0
9:45:00	58	3	0	0	14	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
10:00:00	63	5	0	0	17	3	0	0	0	0	0	0	1	0	0	0	2	0	0	0
10:15:00	65	2	0	0	18	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0
10:30:00	71	6	0	0	18	0	0	0	0	0	0	0	1	0	0	0	3	1	1	1
10:45:00	71	0	0	0	18	0	0	0	0	0	0	0	1	0	0	0	3	0	1	0
15:00:00	71	0	0	0	18	0	0	0	0	0	0	0	1	0	0	0	3	0	1	0
15:15:00	72	1	0	0	19	1	0	0	0	0	0	0	1	0	0	0	3	0	1	0
15:30:00	77	5	0	0	21	2	0	0	0	0	1	1	1	0	0	0	3	0	1	0
15:45:00	80	3	0	0	24	3	0	0	0	0	1	0	1	0	0	0	3	0	1	0
16:00:00	84	4	0	0	24	0	0	0	0	0	1	0	1	0	0	0	3	0	1	0
16:15:00	90	6	0	0	25	1	0	0	0	0	1	0	2	1	0	0	3	0	1	0
16:30:00	93	3	0	0	26	1	0	0	0	0	1	0	2	0	0	0	3	0	1	0
16:45:00	98	5	0	0	26	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0
17:00:00	101	3	0	0	30	4	0	0	0	0	1	0	2	0	0	0	3	0	1	0
17:15:00	102	1	0	0	32	2	0	0	0	0	1	0	2	0	0	0	3	0	1	0
17:30:00	104	2	0	0	32	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0
17:45:00	109	5	0	0	34	2	0	0	0	0	1	0	2	0	0	0	3	0	1	0
18:00:00	112	3	0	0	37	3	0	0	0	0	1	0	2	0	0	0	3	0	1	0
18:15:00	116	4	0	0	37	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0
18:30:00	117	1	0	0	38	1	0	0	0	0	1	0	2	0	0	0	3	0	1	0
18:45:00	124	7	0	0	38	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0
19:00:00	128	4	0	0	38	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0
19:15:00	128	0	0	0	38	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0
19:15:15	128	0	0	0	38	0	0	0	0	0	1	0	2	0	0	0	3	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500007

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	72	72	1	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0
7:00:00	0	0	149	77	3	2	0	0	2	1	0	0	0	0	2	1	0	0	0	0
7:15:00	0	0	224	75	4	1	0	0	2	0	0	0	0	0	6	4	0	0	0	0
7:30:00	0	0	315	91	5	1	0	0	3	1	0	0	0	0	11	5	0	0	0	0
7:45:00	0	0	488	173	6	1	0	0	5	2	0	0	0	0	16	5	1	1	0	0
8:00:00	0	0	685	197	25	19	0	0	7	2	0	0	0	0	35	19	1	0	0	0
8:15:00	0	0	891	206	41	16	0	0	11	4	0	0	0	0	44	9	1	0	0	0
8:30:00	0	0	1014	123	45	4	0	0	15	4	0	0	0	0	50	6	1	0	0	0
8:45:00	0	0	1122	108	45	0	0	0	19	4	0	0	0	0	55	5	1	0	0	0
9:00:00	0	0	1259	137	48	3	0	0	20	1	0	0	0	0	57	2	1	0	0	0
9:15:00	0	0	1380	121	52	4	0	0	22	2	0	0	0	0	62	5	1	0	1	1
9:30:00	0	0	1466	86	55	3	0	0	23	1	0	0	0	0	71	9	1	0	2	1
9:45:00	0	0	1564	98	58	3	0	0	23	0	0	0	0	0	73	2	1	0	2	0
10:00:00	0	0	1658	94	59	1	0	0	24	1	0	0	0	0	75	2	1	0	2	0
10:15:00	0	0	1755	97	63	4	0	0	26	2	0	0	0	0	77	2	1	0	2	0
10:30:00	0	0	1874	119	68	5	0	0	27	1	0	0	0	0	82	5	1	0	2	0
10:45:00	0	0	1874	0	68	0	0	0	27	0	0	0	0	0	82	0	1	0	2	0
15:00:00	0	0	1874	0	68	0	0	0	27	0	0	0	0	0	82	0	1	0	2	0
15:15:00	0	0	2020	146	69	1	0	0	27	0	0	0	0	0	88	6	1	0	2	0
15:30:00	0	0	2192	172	70	1	0	0	27	0	0	0	0	0	91	3	1	0	2	0
15:45:00	0	0	2346	154	75	5	0	0	27	0	0	0	0	0	96	5	1	0	2	0
16:00:00	0	0	2518	172	81	6	0	0	28	1	0	0	0	0	103	7	2	1	2	0
16:15:00	0	0	2692	174	90	9	0	0	32	4	0	0	0	0	106	3	2	0	2	0
16:30:00	0	0	2841	149	97	7	0	0	34	2	0	0	0	0	110	4	2	0	2	0
16:45:00	0	0	3020	179	103	6	0	0	34	0	0	0	0	0	116	6	2	0	2	0
17:00:00	0	0	3205	185	113	10	0	0	37	3	0	0	0	0	119	3	2	0	2	0
17:15:00	0	0	3385	180	124	11	0	0	40	3	0	0	0	0	121	2	2	0	2	0
17:30:00	0	0	3545	160	135	11	0	0	40	0	0	0	0	0	124	3	2	0	2	0
17:45:00	0	0	3709	164	143	8	0	0	42	2	0	0	0	0	127	3	2	0	2	0
18:00:00	0	0	3843	134	148	5	0	0	45	3	0	0	0	0	129	2	2	0	2	0
18:15:00	0	0	3963	120	151	3	0	0	47	2	0	0	0	0	130	1	2	0	2	0
18:30:00	0	0	4082	119	160	9	0	0	49	2	0	0	0	0	131	1	2	0	2	0
18:45:00	0	0	4199	117	165	5	0	0	49	0	0	0	0	0	132	1	2	0	2	0
19:00:00	0	0	4321	122	171	6	0	0	49	0	0	0	0	0	135	3	2	0	2	0
19:15:00	0	0	4321	0	171	0	0	0	49	0	0	0	0	0	135	0	2	0	2	0
19:15:15	0	0	4321	0	171	0	0	0	49	0	0	0	0	0	135	0	2	0	2	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500007

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500007**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	36	36	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
7:00:00	0	0	70	34	0	0	0	0	3	3	0	0	0	0	5	3	0	0	0	0
7:15:00	0	0	115	45	0	0	0	0	5	2	0	0	0	0	9	4	0	0	0	0
7:30:00	0	0	172	57	0	0	0	0	9	4	0	0	0	0	15	6	0	0	0	0
7:45:00	0	0	288	116	0	0	0	0	11	2	0	0	0	0	19	4	0	0	0	0
8:00:00	2	2	464	176	0	0	0	0	14	3	0	0	0	0	33	14	0	0	0	0
8:15:00	4	2	713	249	0	0	0	0	18	4	0	0	0	0	44	11	0	0	0	0
8:30:00	6	2	893	180	0	0	0	0	23	5	0	0	1	1	64	20	0	0	0	0
8:45:00	6	0	1031	138	0	0	0	0	27	4	0	0	1	0	71	7	0	0	0	0
9:00:00	7	1	1141	110	0	0	0	0	30	3	0	0	1	0	76	5	0	0	0	0
9:15:00	7	0	1222	81	0	0	0	0	32	2	0	0	1	0	82	6	0	0	0	0
9:30:00	8	1	1309	87	0	0	0	0	36	4	0	0	1	0	84	2	0	0	0	0
9:45:00	8	0	1394	85	0	0	0	0	37	1	0	0	1	0	87	3	0	0	0	0
10:00:00	9	1	1460	66	0	0	0	0	39	2	0	0	1	0	89	2	0	0	0	0
10:15:00	9	0	1539	79	0	0	0	0	39	0	0	0	1	0	92	3	0	0	0	0
10:30:00	10	1	1653	114	0	0	0	0	40	1	0	0	1	0	93	1	0	0	0	0
10:45:00	10	0	1653	0	0	0	0	0	40	0	0	0	1	0	93	0	0	0	0	0
15:00:00	10	0	1653	0	0	0	0	0	40	0	0	0	1	0	93	0	0	0	0	0
15:15:00	13	3	1864	211	0	0	0	0	43	3	0	0	1	0	105	12	0	0	0	0
15:30:00	15	2	2039	175	0	0	0	0	44	1	0	0	1	0	108	3	0	0	0	0
15:45:00	16	1	2199	160	0	0	0	0	46	2	0	0	1	0	114	6	0	0	0	0
16:00:00	17	1	2358	159	0	0	0	0	48	2	0	0	1	0	118	4	0	0	0	0
16:15:00	22	5	2552	194	0	0	0	0	50	2	0	0	1	0	120	2	0	0	0	0
16:30:00	23	1	2713	161	0	0	0	0	52	2	0	0	1	0	123	3	0	0	0	0
16:45:00	25	2	2908	195	0	0	0	0	54	2	0	0	1	0	125	2	0	0	0	0
17:00:00	26	1	3058	150	0	0	0	0	54	0	0	0	1	0	129	4	0	0	0	0
17:15:00	31	5	3262	204	0	0	0	0	55	1	0	0	1	0	131	2	0	0	0	0
17:30:00	32	1	3460	198	0	0	0	0	55	0	0	0	1	0	132	1	0	0	0	0
17:45:00	33	1	3642	182	0	0	0	0	55	0	0	0	2	1	133	1	0	0	0	0
18:00:00	33	0	3781	139	0	0	0	0	55	0	0	0	2	0	136	3	0	0	0	0
18:15:00	37	4	3926	145	0	0	0	0	55	0	0	0	2	0	138	2	0	0	1	1
18:30:00	38	1	4051	125	0	0	0	0	55	0	0	0	2	0	139	1	0	0	1	0
18:45:00	40	2	4165	114	0	0	0	0	55	0	0	0	2	0	140	1	0	0	1	0
19:00:00	41	1	4279	114	0	0	0	0	55	0	0	0	2	0	141	1	0	0	1	0
19:15:00	41	0	4279	0	0	0	0	0	55	0	0	0	2	0	141	0	0	0	1	0
19:15:15	41	0	4279	0	0	0	0	0	55	0	0	0	2	0	141	0	0	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Hamilton
Site #: 2109500008
Intersection: Garner Rd & Silver Maple Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

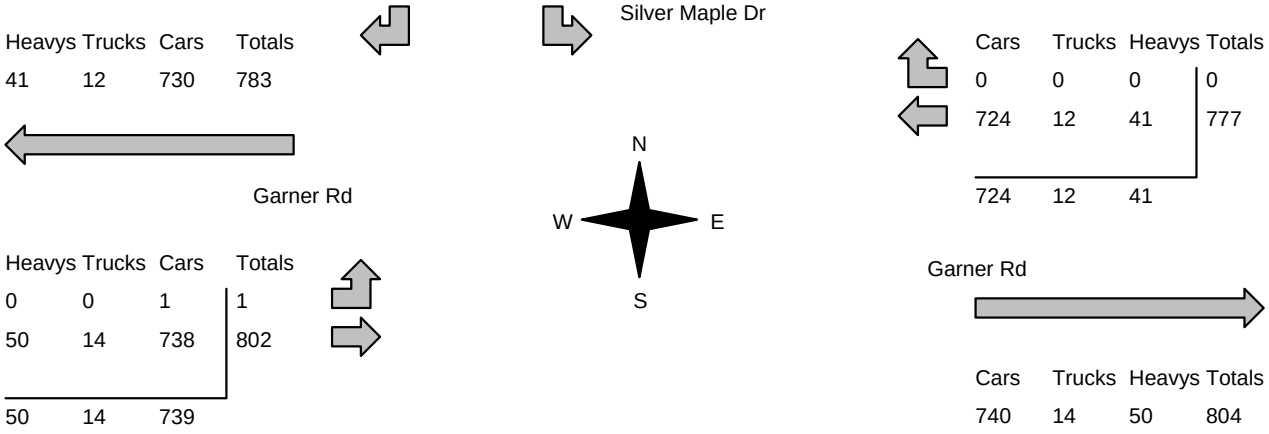
Major Road: Garner Rd runs W/E

North Leg Total: 9
North Entering: 8
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	6	2	8
Totals	6	2	

Heavys	0
Trucks	0
Cars	1
Totals	1

East Leg Total: 1581
East Entering: 777
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 803
West Leg Total: 1586

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Hamilton
Site #: 2109500008
Intersection: Garner Rd & Silver Maple Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

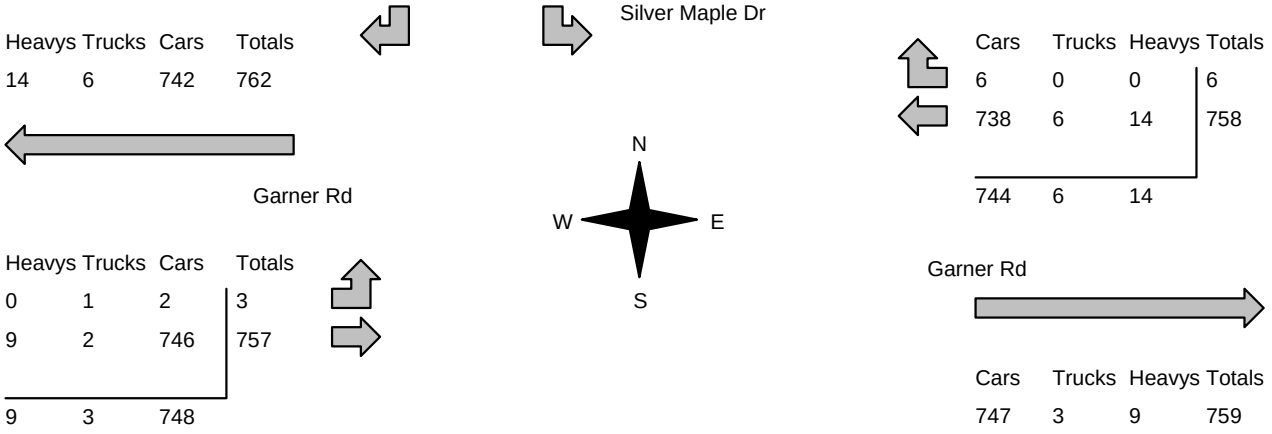
Major Road: Garner Rd runs W/E

North Leg Total: 15
North Entering: 6
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	1	1
Cars	4	1	5
Totals	4	2	

Heavys	0
Trucks	1
Cars	8
Totals	9

East Leg Total: 1523
East Entering: 764
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 760
West Leg Total: 1522

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

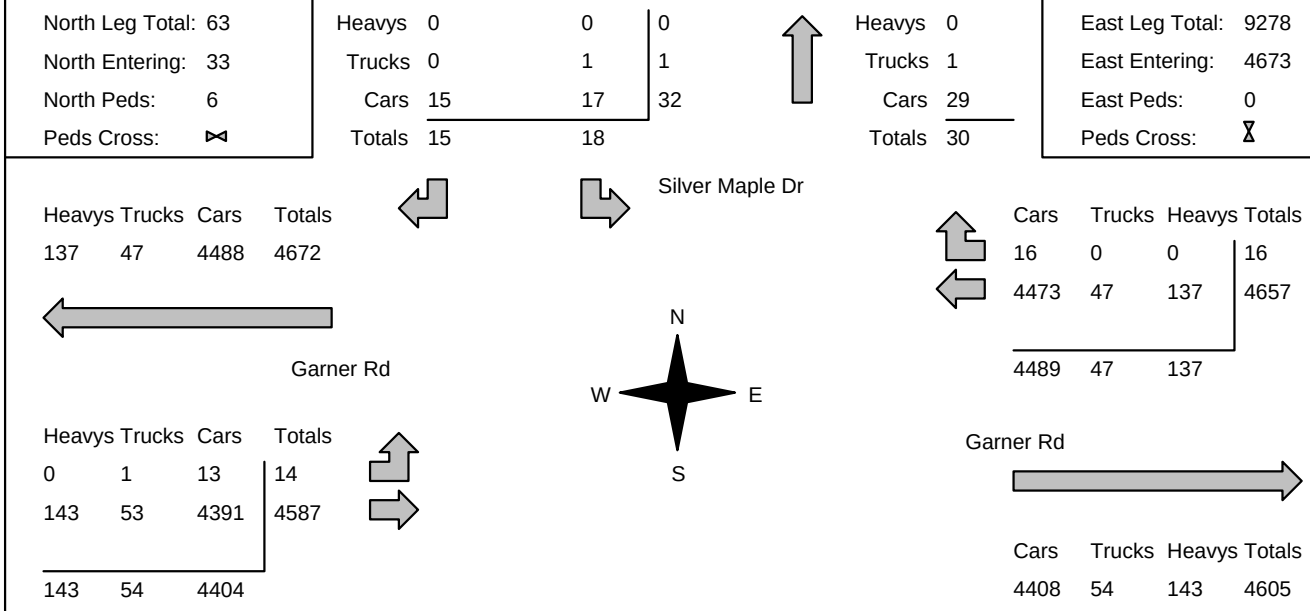
Municipality: Hamilton
Site #: 2109500008
Intersection: Garner Rd & Silver Maple Dr
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E



Peds Cross:
West Peds: 0
West Entering: 4601
West Leg Total: 9273

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & Silver Maple Dr | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*1*	*0*	*0*	*1*	*0*
8:00:00	*2*	*0*	*6*	*8*	*0*
9:00:00	*4*	*0*	*0*	*4*	*0*
10:00:00	*3*	*0*	*1*	*4*	*0*
15:00:00	*2*	*0*	*1*	*3*	*2*
16:00:00	*2*	*0*	*1*	*3*	*1*
17:00:00	*3*	*0*	*5*	*8*	*3*
18:00:00	*0*	*0*	*1*	*1*	*0*
19:00:00	*1*	*0*	*0*	*1*	*0*
Totals:	18	0	15	33	6

North/South Total Approaches: 33

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
S Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*154*	*0*	*154*	*0*
8:00:00	*0*	*612*	*0*	*612*	*0*
9:00:00	*0*	*619*	*0*	*619*	*0*
10:00:00	*0*	*427*	*1*	*428*	*0*
15:00:00	*0*	*233*	*0*	*233*	*0*
16:00:00	*0*	*680*	*4*	*684*	*0*
17:00:00	*0*	*737*	*2*	*739*	*0*
18:00:00	*0*	*687*	*6*	*693*	*0*
19:00:00	*0*	*508*	*3*	*511*	*0*
Totals:	0	4657	16	4673	0

East/West Total Approaches: 9274

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*87*	*0*	*87*	*0*
8:00:00	*1*	*447*	*0*	*448*	*0*
9:00:00	*1*	*758*	*0*	*759*	*0*
10:00:00	*0*	*360*	*0*	*360*	*0*
15:00:00	*1*	*201*	*0*	*202*	*0*
16:00:00	*3*	*754*	*0*	*757*	*0*
17:00:00	*3*	*722*	*0*	*725*	*0*
18:00:00	*3*	*739*	*0*	*742*	*0*
19:00:00	*2*	*519*	*0*	*521*	*0*
W Totals:	14	4587	0	4601	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*19:00*
Crossing Values:	*1*	*2*	*4*	*3*	*2*	*2*	*3*	*1*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500008

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	3	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	3	0	0	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	4	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	6	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	7	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	9	2	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	10	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	10	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	12	2	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
10:45:00	12	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
15:00:00	12	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
15:15:00	13	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
15:30:00	14	1	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
15:45:00	14	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
16:00:00	14	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1
16:15:00	14	0	0	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	5	2
16:30:00	15	1	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1
16:45:00	16	1	0	0	12	2	1	1	0	0	0	0	0	0	0	0	0	0	6	0
17:00:00	16	0	0	0	14	2	1	0	0	0	0	0	0	0	0	0	0	0	6	0
17:15:00	16	0	0	0	14	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
17:30:00	16	0	0	0	14	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
17:45:00	16	0	0	0	15	1	1	0	0	0	0	0	0	0	0	0	0	0	6	0
18:00:00	16	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
18:15:00	16	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
18:30:00	17	1	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
18:45:00	17	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
19:00:00	17	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
19:15:00	17	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
19:15:15	17	0	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500008

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	73	73	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0
7:00:00	0	0	149	76	0	0	0	0	2	1	0	0	0	0	3	2	0	0	0	0
7:15:00	0	0	228	79	0	0	0	0	2	0	0	0	0	0	7	4	0	0	0	0
7:30:00	0	0	327	99	0	0	0	0	3	1	0	0	0	0	12	5	0	0	0	0
7:45:00	0	0	499	172	0	0	0	0	5	2	0	0	0	0	19	7	0	0	0	0
8:00:00	0	0	721	222	0	0	0	0	7	2	0	0	0	0	38	19	0	0	0	0
8:15:00	0	0	924	203	0	0	0	0	11	4	0	0	0	0	47	9	0	0	0	0
8:30:00	0	0	1051	127	0	0	0	0	15	4	0	0	0	0	53	6	0	0	0	0
8:45:00	0	0	1157	106	0	0	0	0	19	4	0	0	0	0	58	5	0	0	0	0
9:00:00	0	0	1303	146	0	0	0	0	20	1	0	0	0	0	62	4	0	0	0	0
9:15:00	0	0	1426	123	1	1	0	0	22	2	0	0	0	0	66	4	0	0	0	0
9:30:00	0	0	1516	90	1	0	0	0	23	1	0	0	0	0	75	9	0	0	0	0
9:45:00	0	0	1615	99	1	0	0	0	23	0	0	0	0	0	76	1	0	0	0	0
10:00:00	0	0	1710	95	1	0	0	0	24	1	0	0	0	0	78	2	0	0	0	0
10:15:00	0	0	1812	102	1	0	0	0	26	2	0	0	0	0	79	1	0	0	0	0
10:30:00	0	0	1934	122	1	0	0	0	27	1	0	0	0	0	84	5	0	0	0	0
10:45:00	0	0	1934	0	1	0	0	0	27	0	0	0	0	0	84	0	0	0	0	0
15:00:00	0	0	1934	0	1	0	0	0	27	0	0	0	0	0	84	0	0	0	0	0
15:15:00	0	0	2080	146	1	0	0	0	27	0	0	0	0	0	90	6	0	0	0	0
15:30:00	0	0	2255	175	2	1	0	0	27	0	0	0	0	0	93	3	0	0	0	0
15:45:00	0	0	2414	159	3	1	0	0	27	0	0	0	0	0	98	5	0	0	0	0
16:00:00	0	0	2591	177	5	2	0	0	28	1	0	0	0	0	106	8	0	0	0	0
16:15:00	0	0	2771	180	5	0	0	0	32	4	0	0	0	0	108	2	0	0	0	0
16:30:00	0	0	2928	157	6	1	0	0	34	2	0	0	0	0	112	4	0	0	0	0
16:45:00	0	0	3111	183	6	0	0	0	34	0	0	0	0	0	118	6	0	0	0	0
17:00:00	0	0	3304	193	7	1	0	0	37	3	0	0	0	0	121	3	0	0	0	0
17:15:00	0	0	3494	190	9	2	0	0	40	3	0	0	0	0	123	2	0	0	0	0
17:30:00	0	0	3666	172	12	3	0	0	40	0	0	0	0	0	126	3	0	0	0	0
17:45:00	0	0	3836	170	13	1	0	0	42	2	0	0	0	0	129	3	0	0	0	0
18:00:00	0	0	3973	137	13	0	0	0	45	3	0	0	0	0	131	2	0	0	0	0
18:15:00	0	0	4100	127	14	1	0	0	47	2	0	0	0	0	132	1	0	0	0	0
18:30:00	0	0	4224	124	14	0	0	0	47	0	0	0	0	0	133	1	0	0	0	0
18:45:00	0	0	4350	126	15	1	0	0	47	0	0	0	0	0	134	1	0	0	0	0
19:00:00	0	0	4473	123	16	1	0	0	47	0	0	0	0	0	137	3	0	0	0	0
19:15:00	0	0	4473	0	16	0	0	0	47	0	0	0	0	0	137	0	0	0	0	0
19:15:15	0	0	4473	0	16	0	0	0	47	0	0	0	0	0	137	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500008**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500008

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	42	42	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
7:00:00	0	0	79	37	0	0	0	0	3	3	0	0	0	0	5	3	0	0	0	0
7:15:00	0	0	125	46	0	0	0	0	5	2	0	0	0	0	9	4	0	0	0	0
7:30:00	1	1	186	61	0	0	0	0	9	4	0	0	0	0	15	6	0	0	0	0
7:45:00	1	0	307	121	0	0	0	0	11	2	0	0	0	0	19	4	0	0	0	0
8:00:00	1	0	486	179	0	0	0	0	14	3	0	0	0	0	34	15	0	0	0	0
8:15:00	1	0	740	254	0	0	0	0	18	4	0	0	0	0	45	11	0	0	0	0
8:30:00	2	1	924	184	0	0	0	0	23	5	0	0	0	0	65	20	0	0	0	0
8:45:00	2	0	1071	147	0	0	0	0	27	4	0	0	0	0	72	7	0	0	0	0
9:00:00	2	0	1185	114	0	0	0	0	30	3	0	0	0	0	77	5	0	0	0	0
9:15:00	2	0	1269	84	0	0	0	0	32	2	0	0	0	0	83	6	0	0	0	0
9:30:00	2	0	1364	95	0	0	0	0	36	4	0	0	0	0	85	2	0	0	0	0
9:45:00	2	0	1452	88	0	0	0	0	37	1	0	0	0	0	88	3	0	0	0	0
10:00:00	2	0	1523	71	0	0	0	0	39	2	0	0	0	0	90	2	0	0	0	0
10:15:00	2	0	1606	83	0	0	0	0	39	0	0	0	0	0	93	3	0	0	0	0
10:30:00	3	1	1719	113	0	0	0	0	40	1	0	0	0	0	94	1	0	0	0	0
10:45:00	3	0	1719	0	0	0	0	0	40	0	0	0	0	0	94	0	0	0	0	0
15:00:00	3	0	1719	0	0	0	0	0	40	0	0	0	0	0	94	0	0	0	0	0
15:15:00	3	0	1931	212	0	0	0	0	43	3	0	0	0	0	106	12	0	0	0	0
15:30:00	4	1	2115	184	0	0	0	0	44	1	0	0	0	0	109	3	0	0	0	0
15:45:00	5	1	2278	163	0	0	0	0	46	2	0	0	0	0	115	6	0	0	0	0
16:00:00	6	1	2440	162	0	0	0	0	48	2	0	0	0	0	119	4	0	0	0	0
16:15:00	6	0	2637	197	0	0	0	0	49	1	0	0	0	0	122	3	0	0	0	0
16:30:00	8	2	2801	164	0	0	0	0	51	2	0	0	0	0	125	3	0	0	0	0
16:45:00	8	0	2999	198	0	0	1	1	52	1	0	0	0	0	127	2	0	0	0	0
17:00:00	8	0	3147	148	0	0	1	0	52	0	0	0	0	0	130	3	0	0	0	0
17:15:00	9	1	3350	203	0	0	1	0	53	1	0	0	0	0	133	3	0	0	0	0
17:30:00	10	1	3547	197	0	0	1	0	53	0	0	0	0	0	134	1	0	0	0	0
17:45:00	10	0	3732	185	0	0	1	0	53	0	0	0	0	0	135	1	0	0	0	0
18:00:00	11	1	3877	145	0	0	1	0	53	0	0	0	0	0	138	3	0	0	0	0
18:15:00	12	1	4025	148	0	0	1	0	53	0	0	0	0	0	140	2	0	0	0	0
18:30:00	13	1	4149	124	0	0	1	0	53	0	0	0	0	0	141	1	0	0	0	0
18:45:00	13	0	4273	124	0	0	1	0	53	0	0	0	0	0	142	1	0	0	0	0
19:00:00	13	0	4391	118	0	0	1	0	53	0	0	0	0	0	143	1	0	0	0	0
19:15:00	13	0	4391	0	0	0	1	0	53	0	0	0	0	0	143	0	0	0	0	0
19:15:15	13	0	4391	0	0	0	1	0	53	0	0	0	0	0	143	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Hamilton
Site #: 2109500009
Intersection: Garner Rd & HWY 403 Eastbound
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

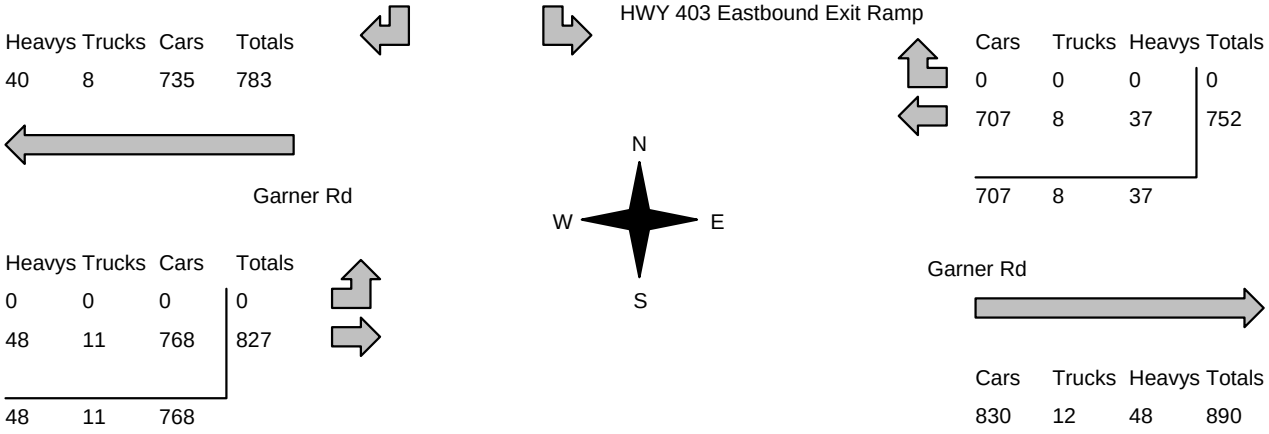
Major Road: Garner Rd runs W/E

North Leg Total: 94
North Entering: 94
North Peds: 0
Peds Cross: ⋈

Heavys	3	0	3
Trucks	0	1	1
Cars	28	62	90
Totals	31	63	

Heavys	0
Trucks	0
Cars	0
Totals	0

East Leg Total: 1642
East Entering: 752
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 827
West Leg Total: 1610

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Hamilton
Site #: 2109500009
Intersection: Garner Rd & HWY 403 Eastbound
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

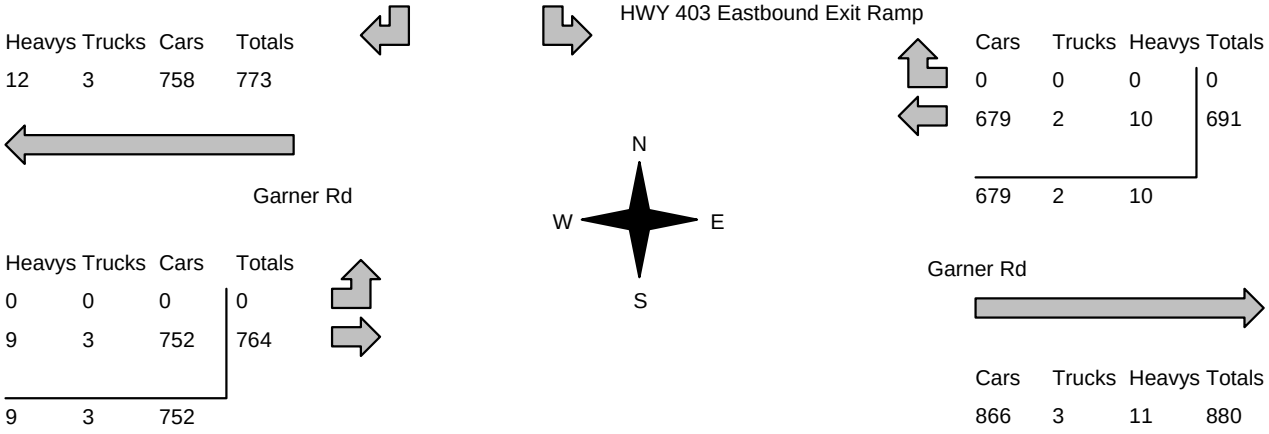
Major Road: Garner Rd runs W/E

North Leg Total: 198
North Entering: 198
North Peds: 0
Peds Cross: ⋈

Heavys	2	2	4
Trucks	1	0	1
Cars	79	114	193
Totals	82	116	

Heavys	0
Trucks	0
Cars	0
Totals	0

East Leg Total: 1571
East Entering: 691
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 764
West Leg Total: 1537

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

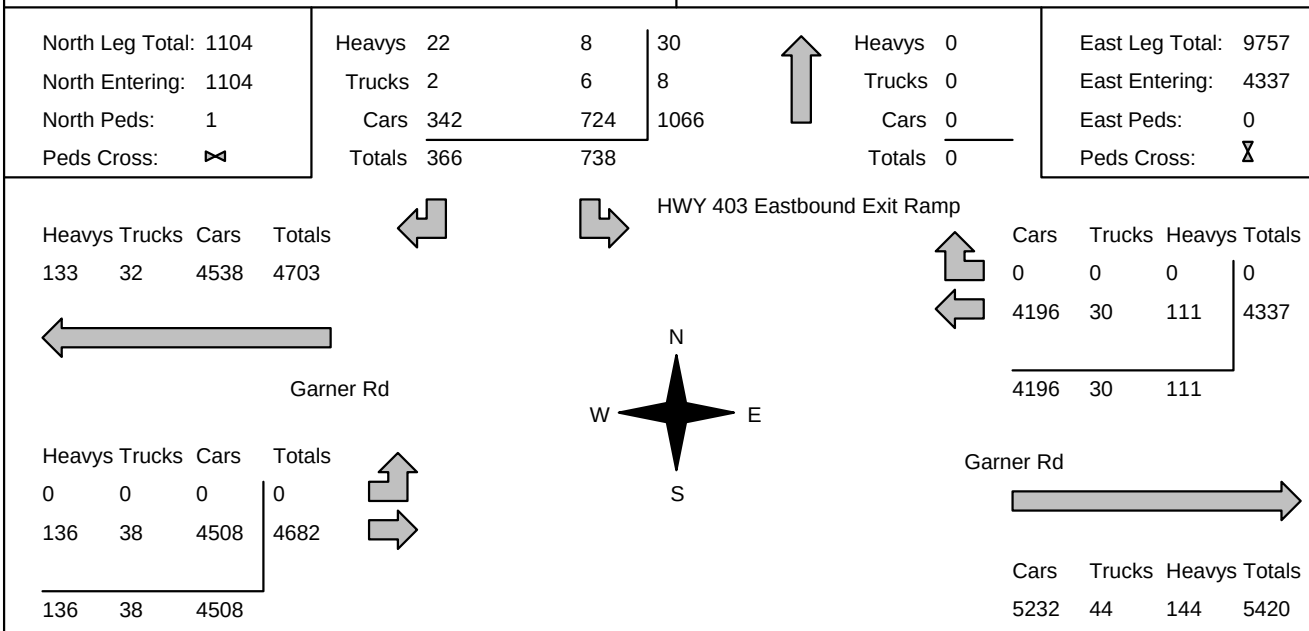
Municipality: Hamilton
Site #: 2109500009
Intersection: Garner Rd & HWY 403 Eastbound
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garner Rd runs W/E



Peds Cross:
West Peds: 0
West Entering: 4682
West Leg Total: 9385

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garner Rd & HWY 403 Eastbound | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*22*	*0*	*12*	*34*	*0*
8:00:00	*32*	*0*	*29*	*61*	*0*
9:00:00	*89*	*0*	*23*	*112*	*0*
10:00:00	*88*	*0*	*31*	*119*	*0*
15:00:00	*22*	*0*	*21*	*43*	*1*
16:00:00	*104*	*0*	*64*	*168*	*0*
17:00:00	*103*	*0*	*62*	*165*	*0*
18:00:00	*128*	*0*	*82*	*210*	*0*
19:00:00	*150*	*0*	*42*	*192*	*0*
Totals:	738	0	366	1104	1

North/South Total Approaches: *34*, *61*, *112*, *119*, *43*, *168*, *165*, *210*, *192*, 1104

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
S Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*143*	*0*	*143*	*0*
8:00:00	*0*	*594*	*0*	*594*	*0*
9:00:00	*0*	*595*	*0*	*595*	*0*
10:00:00	*0*	*399*	*0*	*399*	*0*
15:00:00	*0*	*212*	*0*	*212*	*0*
16:00:00	*0*	*619*	*0*	*619*	*0*
17:00:00	*0*	*696*	*0*	*696*	*0*
18:00:00	*0*	*608*	*0*	*608*	*0*
19:00:00	*0*	*471*	*0*	*471*	*0*
Totals:	0	4337	0	4337	0

East/West Total Approaches: *230*, *1048*, *1387*, *770*, *421*, *1385*, *1434*, *1354*, *990*, 9019

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*87*	*0*	*87*	*0*
8:00:00	*0*	*454*	*0*	*454*	*0*
9:00:00	*0*	*792*	*0*	*792*	*0*
10:00:00	*0*	*371*	*0*	*371*	*0*
15:00:00	*0*	*209*	*0*	*209*	*0*
16:00:00	*0*	*766*	*0*	*766*	*0*
17:00:00	*0*	*738*	*0*	*738*	*0*
18:00:00	*0*	*746*	*0*	*746*	*0*
19:00:00	*0*	*519*	*0*	*519*	*0*
W Totals:	0	4682	0	4682	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*10:00*	*16:00*	*17:00*	*18:00*	*19:00*
Crossing Values:	*22*	*32*	*89*	*88*	*104*	*103*	*128*	*150*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500009**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	9	9	0	0	3	3	0	0	0	0	0	0	1	1	0	0	0	0	0	0
7:00:00	20	11	0	0	12	9	1	1	0	0	0	0	1	0	0	0	0	0	0	0
7:15:00	23	3	0	0	16	4	1	0	0	0	0	0	1	0	0	0	0	0	0	0
7:30:00	30	7	0	0	23	7	1	0	0	0	0	0	1	0	0	0	1	1	0	0
7:45:00	38	8	0	0	30	7	1	0	0	0	0	0	1	0	0	0	2	1	0	0
8:00:00	52	14	0	0	39	9	1	0	0	0	0	0	1	0	0	0	2	0	0	0
8:15:00	72	20	0	0	47	8	1	0	0	0	0	0	1	0	0	0	3	1	0	0
8:30:00	92	20	0	0	51	4	2	1	0	0	0	0	1	0	0	0	4	1	0	0
8:45:00	116	24	0	0	54	3	2	0	0	0	0	0	4	3	0	0	5	1	0	0
9:00:00	137	21	0	0	59	5	2	0	0	0	0	0	4	0	0	0	5	0	0	0
9:15:00	162	25	0	0	66	7	3	1	0	0	0	0	4	0	0	0	5	0	0	0
9:30:00	183	21	0	0	70	4	3	0	0	0	0	0	4	0	0	0	10	5	0	0
9:45:00	204	21	0	0	77	7	4	1	0	0	0	0	4	0	0	0	10	0	0	0
10:00:00	222	18	0	0	84	7	5	1	0	0	0	0	4	0	0	0	11	1	0	0
10:15:00	229	7	0	0	93	9	5	0	0	0	0	0	4	0	0	0	11	0	0	0
10:30:00	244	15	0	0	102	9	5	0	0	0	1	1	4	0	0	0	13	2	1	1
10:45:00	244	0	0	0	102	0	5	0	0	0	1	0	4	0	0	0	13	0	1	0
15:00:00	244	0	0	0	102	0	5	0	0	0	1	0	4	0	0	0	13	0	1	0
15:15:00	272	28	0	0	116	14	5	0	0	0	1	0	4	0	0	0	15	2	1	0
15:30:00	296	24	0	0	133	17	5	0	0	0	1	0	4	0	0	0	16	1	1	0
15:45:00	321	25	0	0	148	15	6	1	0	0	1	0	4	0	0	0	16	0	1	0
16:00:00	346	25	0	0	162	14	6	0	0	0	1	0	5	1	0	0	17	1	1	0
16:15:00	372	26	0	0	176	14	6	0	0	0	1	0	5	0	0	0	17	0	1	0
16:30:00	395	23	0	0	187	11	6	0	0	0	1	0	6	1	0	0	17	0	1	0
16:45:00	423	28	0	0	204	17	6	0	0	0	1	0	7	1	0	0	17	0	1	0
17:00:00	447	24	0	0	223	19	6	0	0	0	2	1	7	0	0	0	17	0	1	0
17:15:00	466	19	0	0	245	22	6	0	0	0	2	0	7	0	0	0	17	0	1	0
17:30:00	509	43	0	0	266	21	6	0	0	0	2	0	8	1	0	0	19	2	1	0
17:45:00	532	23	0	0	287	21	6	0	0	0	2	0	8	0	0	0	20	1	1	0
18:00:00	574	42	0	0	302	15	6	0	0	0	2	0	8	0	0	0	20	0	1	0
18:15:00	608	34	0	0	306	4	6	0	0	0	2	0	8	0	0	0	20	0	1	0
18:30:00	651	43	0	0	316	10	6	0	0	0	2	0	8	0	0	0	20	0	1	0
18:45:00	688	37	0	0	326	10	6	0	0	0	2	0	8	0	0	0	20	0	1	0
19:00:00	724	36	0	0	342	16	6	0	0	0	2	0	8	0	0	0	22	2	1	0
19:15:00	724	0	0	0	342	0	6	0	0	0	2	0	8	0	0	0	22	0	1	0
19:15:15	724	0	0	0	342	0	6	0	0	0	2	0	8	0	0	0	22	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500009

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	69	69	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
7:00:00	0	0	139	70	0	0	0	0	1	1	0	0	0	0	3	2	0	0	0	0
7:15:00	0	0	211	72	0	0	0	0	1	0	0	0	0	0	7	4	0	0	0	0
7:30:00	0	0	305	94	0	0	0	0	3	2	0	0	0	0	11	4	0	0	0	0
7:45:00	0	0	472	167	0	0	0	0	4	1	0	0	0	0	17	6	0	0	0	0
8:00:00	0	0	696	224	0	0	0	0	5	1	0	0	0	0	36	19	0	0	0	0
8:15:00	0	0	888	192	0	0	0	0	8	3	0	0	0	0	42	6	0	0	0	0
8:30:00	0	0	1012	124	0	0	0	0	11	3	0	0	0	0	48	6	0	0	0	0
8:45:00	0	0	1122	110	0	0	0	0	14	3	0	0	0	0	51	3	0	0	0	0
9:00:00	0	0	1262	140	0	0	0	0	15	1	0	0	0	0	55	4	0	0	0	0
9:15:00	0	0	1380	118	0	0	0	0	16	1	0	0	0	0	59	4	0	0	0	0
9:30:00	0	0	1467	87	0	0	0	0	16	0	0	0	0	0	64	5	0	0	0	0
9:45:00	0	0	1557	90	0	0	0	0	16	0	0	0	0	0	65	1	0	0	0	0
10:00:00	0	0	1649	92	0	0	0	0	16	0	0	0	0	0	66	1	0	0	0	0
10:15:00	0	0	1742	93	0	0	0	0	18	2	0	0	0	0	67	1	0	0	0	0
10:30:00	0	0	1856	114	0	0	0	0	18	0	0	0	0	0	69	2	0	0	0	0
10:45:00	0	0	1856	0	0	0	0	0	18	0	0	0	0	0	69	0	0	0	0	0
15:00:00	0	0	1856	0	0	0	0	0	18	0	0	0	0	0	69	0	0	0	0	0
15:15:00	0	0	1989	133	0	0	0	0	18	0	0	0	0	0	74	5	0	0	0	0
15:30:00	0	0	2147	158	0	0	0	0	18	0	0	0	0	0	76	2	0	0	0	0
15:45:00	0	0	2296	149	0	0	0	0	19	1	0	0	0	0	80	4	0	0	0	0
16:00:00	0	0	2455	159	0	0	0	0	20	1	0	0	0	0	87	7	0	0	0	0
16:15:00	0	0	2625	170	0	0	0	0	22	2	0	0	0	0	89	2	0	0	0	0
16:30:00	0	0	2779	154	0	0	0	0	24	2	0	0	0	0	93	4	0	0	0	0
16:45:00	0	0	2947	168	0	0	0	0	24	0	0	0	0	0	99	6	0	0	0	0
17:00:00	0	0	3133	186	0	0	0	0	25	1	0	0	0	0	100	1	0	0	0	0
17:15:00	0	0	3299	166	0	0	0	0	26	1	0	0	0	0	102	2	0	0	0	0
17:30:00	0	0	3458	159	0	0	0	0	26	0	0	0	0	0	103	1	0	0	0	0
17:45:00	0	0	3606	148	0	0	0	0	27	1	0	0	0	0	105	2	0	0	0	0
18:00:00	0	0	3730	124	0	0	0	0	29	2	0	0	0	0	107	2	0	0	0	0
18:15:00	0	0	3859	129	0	0	0	0	30	1	0	0	0	0	108	1	0	0	0	0
18:30:00	0	0	3972	113	0	0	0	0	30	0	0	0	0	0	109	1	0	0	0	0
18:45:00	0	0	4089	117	0	0	0	0	30	0	0	0	0	0	110	1	0	0	0	0
19:00:00	0	0	4196	107	0	0	0	0	30	0	0	0	0	0	111	1	0	0	0	0
19:15:00	0	0	4196	0	0	0	0	0	30	0	0	0	0	0	111	0	0	0	0	0
19:15:15	0	0	4196	0	0	0	0	0	30	0	0	0	0	0	111	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500009**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500009**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	45	45	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
7:00:00	0	0	81	36	0	0	0	0	2	2	0	0	0	0	4	2	0	0	0	0
7:15:00	0	0	134	53	0	0	0	0	3	1	0	0	0	0	6	2	0	0	0	0
7:30:00	0	0	199	65	0	0	0	0	6	3	0	0	0	0	11	5	0	0	0	0
7:45:00	0	0	321	122	0	0	0	0	7	1	0	0	0	0	15	4	0	0	0	0
8:00:00	0	0	504	183	0	0	0	0	9	2	0	0	0	0	28	13	0	0	0	0
8:15:00	0	0	768	264	0	0	0	0	13	4	0	0	0	0	39	11	0	0	0	0
8:30:00	0	0	967	199	0	0	0	0	17	4	0	0	0	0	59	20	0	0	0	0
8:45:00	0	0	1122	155	0	0	0	0	18	1	0	0	0	0	65	6	0	0	0	0
9:00:00	0	0	1240	118	0	0	0	0	21	3	0	0	0	0	72	7	0	0	0	0
9:15:00	0	0	1322	82	0	0	0	0	23	2	0	0	0	0	77	5	0	0	0	0
9:30:00	0	0	1434	112	0	0	0	0	26	3	0	0	0	0	79	2	0	0	0	0
9:45:00	0	0	1519	85	0	0	0	0	27	1	0	0	0	0	82	3	0	0	0	0
10:00:00	0	0	1593	74	0	0	0	0	28	1	0	0	0	0	83	1	0	0	0	0
10:15:00	0	0	1677	84	0	0	0	0	28	0	0	0	0	0	87	4	0	0	0	0
10:30:00	0	0	1796	119	0	0	0	0	29	1	0	0	0	0	88	1	0	0	0	0
10:45:00	0	0	1796	0	0	0	0	0	29	0	0	0	0	0	88	0	0	0	0	0
15:00:00	0	0	1796	0	0	0	0	0	29	0	0	0	0	0	88	0	0	0	0	0
15:15:00	0	0	2014	218	0	0	0	0	30	1	0	0	0	0	98	10	0	0	0	0
15:30:00	0	0	2204	190	0	0	0	0	31	1	0	0	0	0	102	4	0	0	0	0
15:45:00	0	0	2370	166	0	0	0	0	31	0	0	0	0	0	108	6	0	0	0	0
16:00:00	0	0	2534	164	0	0	0	0	33	2	0	0	0	0	112	4	0	0	0	0
16:15:00	0	0	2731	197	0	0	0	0	33	0	0	0	0	0	115	3	0	0	0	0
16:30:00	0	0	2906	175	0	0	0	0	35	2	0	0	0	0	118	3	0	0	0	0
16:45:00	0	0	3108	202	0	0	0	0	37	2	0	0	0	0	120	2	0	0	0	0
17:00:00	0	0	3257	149	0	0	0	0	37	0	0	0	0	0	123	3	0	0	0	0
17:15:00	0	0	3457	200	0	0	0	0	38	1	0	0	0	0	126	3	0	0	0	0
17:30:00	0	0	3658	201	0	0	0	0	38	0	0	0	0	0	127	1	0	0	0	0
17:45:00	0	0	3840	182	0	0	0	0	38	0	0	0	0	0	128	1	0	0	0	0
18:00:00	0	0	3994	154	0	0	0	0	38	0	0	0	0	0	131	3	0	0	0	0
18:15:00	0	0	4140	146	0	0	0	0	38	0	0	0	0	0	133	2	0	0	0	0
18:30:00	0	0	4264	124	0	0	0	0	38	0	0	0	0	0	134	1	0	0	0	0
18:45:00	0	0	4388	124	0	0	0	0	38	0	0	0	0	0	135	1	0	0	0	0
19:00:00	0	0	4508	120	0	0	0	0	38	0	0	0	0	0	136	1	0	0	0	0
19:15:00	0	0	4508	0	0	0	0	0	38	0	0	0	0	0	136	0	0	0	0	0
19:15:15	0	0	4508	0	0	0	0	0	38	0	0	0	0	0	136	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 6:30:00
To: 10:30:00

One Hour Peak
From: 7:45:00
To: 8:45:00

Municipality: Hamilton
Site #: 2109500010
Intersection: Garnier Rd & HWY 403 Eastbound
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garnier Rd runs W/E

North Leg Total: 248
North Entering: 1
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	0	1	1
Totals	0	1	

Heavys	5
Trucks	5
Cars	237
Totals	247

East Leg Total: 1693
East Entering: 850
East Peds: 0
Peds Cross: ⧖

HWY 403 Eastbound Entrance Ramp

Heavys	Trucks	Cars	Totals
34	9	658	701

Garnier Rd

Heavys	Trucks	Cars	Totals
5	3	90	98
47	9	786	842
52	12	876	

Cars	Trucks	Heavys	Totals
147	2	0	149
658	9	34	701
805	11	34	

Garnier Rd

Cars	Trucks	Heavys	Totals
787	9	47	843

N
W E
S

Peds Cross: ⧖
West Peds: 0
West Entering: 940
West Leg Total: 1641

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Hamilton
Site #: 2109500010
Intersection: Garnier Rd & HWY 403 Eastbound
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

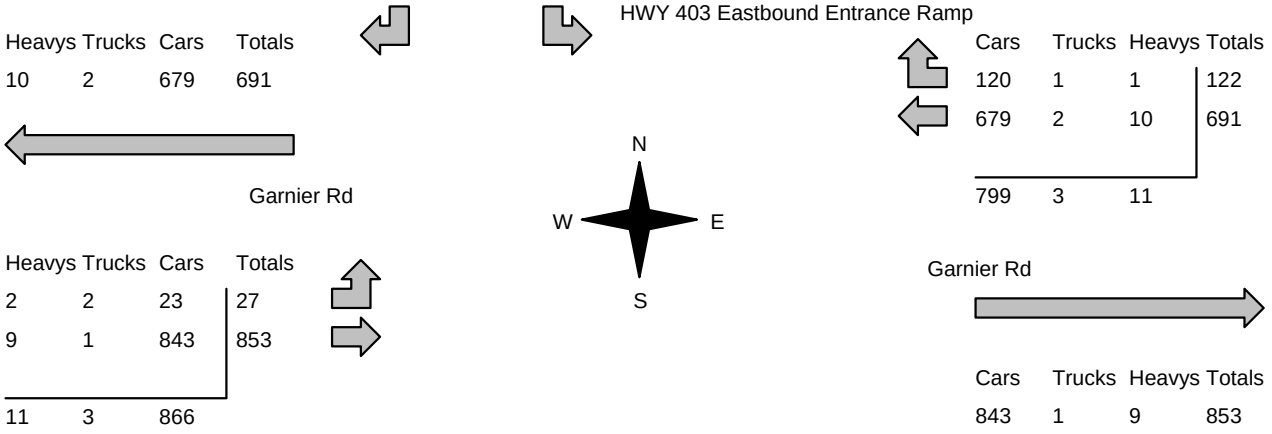
Major Road: Garnier Rd runs W/E

North Leg Total: 149
North Entering: 0
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	0	0	0
Totals	0	0	

Heavys	3
Trucks	3
Cars	143
Totals	149

East Leg Total: 1666
East Entering: 813
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 880
West Leg Total: 1571

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

Municipality: Hamilton
Site #: 2109500010
Intersection: Garnier Rd & HWY 403 Eastbound
TFR File #: 1
Count date: 5-Oct-21

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Garnier Rd runs W/E

North Leg Total: 1344
North Entering: 2
North Peds: 3
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	1	1	2
Totals	1	1	

Heavys	30
Trucks	14
Cars	1298
Totals	1342

East Leg Total: 10390
East Entering: 5324
East Peds: 0
Peds Cross: ⧖

HWY 403 Eastbound Entrance Ramp

Heavys	Trucks	Cars	Totals
111	29	4193	4333

Cars	Trucks	Heavys	Totals
972	7	13	992
4192	29	111	4332
5164	36	124	

Garnier Rd

N
W E
S

Heavys	Trucks	Cars	Totals
17	7	326	350
127	39	4899	5065
144	46	5225	

Garnier Rd

Cars	Trucks	Heavys	Totals
4900	39	127	5066

Peds Cross: ⧖
West Peds: 0
West Entering: 5415
West Leg Total: 9748

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Garnier Rd & HWY 403 Eastboun | **Count Date:** 5-Oct-21 | **Municipality:** Hamilton

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*1*	*0*	*1*	*2*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*1*
16:00:00	*0*	*0*	*0*	*0*	*1*
17:00:00	*0*	*0*	*0*	*0*	*1*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
Totals:	1	0	1	2	3

North/South Total Approaches: *0*, *2*, 0, 0, 0, 0, 0, 0, 0, 0, 2

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*
9:00:00	*0*	*0*	*0*	*0*	*0*
10:00:00	*0*	*0*	*0*	*0*	*0*
15:00:00	*0*	*0*	*0*	*0*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
S Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*143*	*67*	*210*	*0*
8:00:00	*0*	*597*	*139*	*736*	*0*
9:00:00	*0*	*592*	*162*	*754*	*0*
10:00:00	*0*	*399*	*136*	*535*	*0*
15:00:00	*0*	*213*	*49*	*262*	*0*
16:00:00	*0*	*622*	*120*	*742*	*0*
17:00:00	*0*	*693*	*106*	*799*	*0*
18:00:00	*0*	*605*	*119*	*724*	*0*
19:00:00	*0*	*468*	*94*	*562*	*0*
Totals:	0	4332	992	5324	0

East/West Total Approaches: *319*, *1218*, *1634*, *991*, *493*, *1612*, *1641*, *1599*, *1232*, 10739

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*14*	*95*	*0*	*109*	*0*
8:00:00	*35*	*447*	*0*	*482*	*0*
9:00:00	*102*	*778*	*0*	*880*	*0*
10:00:00	*41*	*415*	*0*	*456*	*0*
15:00:00	*17*	*214*	*0*	*231*	*0*
16:00:00	*42*	*828*	*0*	*870*	*0*
17:00:00	*28*	*814*	*0*	*842*	*0*
18:00:00	*33*	*842*	*0*	*875*	*0*
19:00:00	*38*	*632*	*0*	*670*	*0*
W Totals:	350	5065	0	5415	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*10:00*	*15:00*	*16:00*	*17:00*	*18:00*
Crossing Values:	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500010

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
10:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
16:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1
16:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
16:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
17:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
17:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
17:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
17:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
19:00:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
19:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
19:15:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 Site #: 2109500010

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	69	69	40	40	0	0	0	0	0	0	0	0	1	1	0	0	0	0
7:00:00	0	0	139	70	66	26	0	0	1	1	0	0	0	0	3	2	1	1	0	0
7:15:00	0	0	211	72	116	50	0	0	1	0	0	0	0	0	6	3	1	0	0	0
7:30:00	0	0	302	91	153	37	0	0	3	2	0	0	0	0	9	3	2	1	0	0
7:45:00	0	0	468	166	181	28	0	0	4	1	0	0	0	0	16	7	2	0	0	0
8:00:00	0	0	701	233	204	23	0	0	5	1	0	0	0	0	34	18	2	0	0	0
8:15:00	0	0	889	188	240	36	0	0	8	3	0	0	0	0	41	7	2	0	0	0
8:30:00	0	0	1016	127	278	38	0	0	11	3	1	1	0	0	47	6	2	0	0	0
8:45:00	0	0	1126	110	328	50	0	0	13	2	2	1	0	0	50	3	2	0	0	0
9:00:00	0	0	1265	139	362	34	0	0	13	0	4	2	0	0	54	4	2	0	0	0
9:15:00	0	0	1382	117	403	41	0	0	14	1	4	0	0	0	58	4	5	3	0	0
9:30:00	0	0	1470	88	443	40	0	0	14	0	4	0	0	0	63	5	6	1	0	0
9:45:00	0	0	1561	91	470	27	0	0	14	0	4	0	0	0	64	1	6	0	0	0
10:00:00	0	0	1652	91	494	24	0	0	14	0	4	0	0	0	65	1	6	0	0	0
10:15:00	0	0	1746	94	522	28	0	0	16	2	4	0	0	0	66	1	6	0	0	0
10:30:00	0	0	1860	114	542	20	0	0	16	0	4	0	0	0	68	2	7	1	0	0
10:45:00	0	0	1860	0	542	0	0	0	16	0	4	0	0	0	68	0	7	0	0	0
15:00:00	0	0	1860	0	542	0	0	0	16	0	4	0	0	0	68	0	7	0	0	0
15:15:00	0	0	1994	134	574	32	0	0	16	0	4	0	0	0	74	6	9	2	0	0
15:30:00	0	0	2152	158	599	25	0	0	16	0	4	0	0	0	76	2	9	0	0	0
15:45:00	0	0	2301	149	619	20	0	0	17	1	4	0	0	0	80	4	9	0	0	0
16:00:00	0	0	2460	159	657	38	0	0	18	1	5	1	0	0	88	8	11	2	0	0
16:15:00	0	0	2629	169	677	20	0	0	20	2	5	0	0	0	89	1	12	1	0	0
16:30:00	0	0	2780	151	710	33	0	0	22	2	5	0	0	0	93	4	12	0	0	0
16:45:00	0	0	2948	168	738	28	0	0	22	0	5	0	0	0	99	6	13	1	0	0
17:00:00	0	0	3136	188	760	22	0	0	23	1	6	1	0	0	100	1	13	0	0	0
17:15:00	0	0	3299	163	792	32	0	0	24	1	6	0	0	0	102	2	13	0	0	0
17:30:00	0	0	3459	160	830	38	0	0	24	0	6	0	0	0	103	1	13	0	0	0
17:45:00	0	0	3607	148	854	24	0	0	25	1	6	0	0	0	105	2	13	0	0	0
18:00:00	0	0	3730	123	879	25	0	0	27	2	6	0	0	0	107	2	13	0	0	0
18:15:00	0	0	3856	126	901	22	0	0	28	1	6	0	0	0	108	1	13	0	0	0
18:30:00	0	0	3969	113	925	24	0	0	28	0	6	0	0	0	109	1	13	0	0	0
18:45:00	0	0	4085	116	950	25	0	0	28	0	7	1	0	0	110	1	13	0	0	0
19:00:00	0	0	4192	107	972	22	0	0	29	1	7	0	0	0	111	1	13	0	0	0
19:15:00	0	0	4192	0	972	0	0	0	29	0	7	0	0	0	111	0	13	0	0	0
19:15:15	0	0	4192	0	972	0	0	0	29	0	7	0	0	0	111	0	13	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500010**

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 5-Oct-21 **Site #: 2109500010**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
6:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45:00	6	6	47	47	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0
7:00:00	13	7	88	41	0	0	0	0	3	3	0	0	1	0	4	2	0	0	0	0
7:15:00	19	6	138	50	0	0	0	0	4	1	0	0	1	0	6	2	0	0	0	0
7:30:00	25	6	202	64	0	0	0	0	7	3	0	0	1	0	10	4	0	0	0	0
7:45:00	38	13	317	115	0	0	0	0	8	1	0	0	2	1	14	4	0	0	0	0
8:00:00	46	8	506	189	0	0	0	0	10	2	0	0	3	1	26	12	0	0	0	0
8:15:00	88	42	746	240	0	0	1	1	13	3	0	0	4	1	36	10	0	0	0	0
8:30:00	114	26	939	193	0	0	3	2	16	3	0	0	6	2	54	18	0	0	0	0
8:45:00	128	14	1103	164	0	0	3	0	17	1	0	0	7	1	61	7	0	0	0	0
9:00:00	141	13	1232	129	0	0	3	0	20	3	0	0	7	0	68	7	0	0	0	0
9:15:00	149	8	1329	97	0	0	3	0	23	3	0	0	8	1	72	4	0	0	0	0
9:30:00	163	14	1448	119	0	0	3	0	26	3	0	0	8	0	74	2	0	0	0	0
9:45:00	175	12	1540	92	0	0	4	1	28	2	0	0	8	0	77	3	0	0	0	0
10:00:00	180	5	1627	87	0	0	4	0	30	2	0	0	8	0	78	1	0	0	0	0
10:15:00	189	9	1710	83	0	0	4	0	30	0	0	0	9	1	81	3	0	0	0	0
10:30:00	196	7	1836	126	0	0	4	0	31	1	0	0	9	0	82	1	0	0	0	0
10:45:00	196	0	1836	0	0	0	4	0	31	0	0	0	9	0	82	0	0	0	0	0
15:00:00	196	0	1836	0	0	0	4	0	31	0	0	0	9	0	82	0	0	0	0	0
15:15:00	211	15	2068	232	0	0	5	1	31	0	0	0	10	1	91	9	0	0	0	0
15:30:00	218	7	2274	206	0	0	5	0	33	2	0	0	10	0	95	4	0	0	0	0
15:45:00	229	11	2457	183	0	0	5	0	34	1	0	0	11	1	100	5	0	0	0	0
16:00:00	234	5	2637	180	0	0	5	0	36	2	0	0	12	1	104	4	0	0	0	0
16:15:00	242	8	2855	218	0	0	5	0	36	0	0	0	13	1	106	2	0	0	0	0
16:30:00	248	6	3045	190	0	0	5	0	38	2	0	0	14	1	109	3	0	0	0	0
16:45:00	253	5	3269	224	0	0	6	1	39	1	0	0	15	1	111	2	0	0	0	0
17:00:00	257	4	3439	170	0	0	6	0	39	0	0	0	16	1	113	2	0	0	0	0
17:15:00	260	3	3655	216	0	0	7	1	39	0	0	0	16	0	116	3	0	0	0	0
17:30:00	271	11	3888	233	0	0	7	0	39	0	0	0	16	0	118	2	0	0	0	0
17:45:00	280	9	4085	197	0	0	7	0	39	0	0	0	16	0	119	1	0	0	0	0
18:00:00	289	9	4272	187	0	0	7	0	39	0	0	0	16	0	122	3	0	0	0	0
18:15:00	300	11	4440	168	0	0	7	0	39	0	0	0	17	1	123	1	0	0	0	0
18:30:00	306	6	4601	161	0	0	7	0	39	0	0	0	17	0	125	2	0	0	0	0
18:45:00	320	14	4748	147	0	0	7	0	39	0	0	0	17	0	126	1	0	0	0	0
19:00:00	326	6	4899	151	0	0	7	0	39	0	0	0	17	0	127	1	0	0	0	0
19:15:00	326	0	4899	0	0	0	7	0	39	0	0	0	17	0	127	0	0	0	0	0
19:15:15	326	0	4899	0	0	0	7	0	39	0	0	0	17	0	127	0	0	0	0	0

MH Corbin Traffic Analyzer Study
Computer Generated Summary Report
City: City of Hamilton
Street: Garner Rd - EB
Location: 16

A study of vehicle traffic was conducted with the device having serial number 113289. The study was done in the EB lane at Garner Rd - EB in City of Hamilton, ON in btwn Braithwaite & Panabaker county. The study began on 2016-03-30 at 12:00 AM and concluded on 2016-04-02 at 12:00 AM, lasting a total of 72.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 17,261 vehicles passed through the location with a peak volume of 166 on 2016-04-01 at [04:45 PM-05:00 PM] and a minimum volume of 0 on 2016-03-31 at [03:45 AM-04:00 AM]. The AADT count for this study was 5,754.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 60 - 70 KM/H range or lower. The average speed for all classifed vehicles was 69 KM/H with 41.31% vehicles exceeding the posted speed of 70 KM/H. 10.61% percent of the total vehicles were traveling in excess of 89 KM/H. The mode speed for this traffic study was 60KM/H and the 85th percentile was 78.57 KM/H.

< to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	100 to 109	110 to 119	120 to 129	130 to 139	140 to >
0	6	37	34	272	2759	6974	5274	1413	285	52	30	9	10	24

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.

Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 15808 which represents 92 percent of the total classified vehicles. The number of Small Trucks in the study was 803 which represents 5 percent of the total classified vehicles. The number of Trucks/Buses in the study was 444 which represents 3 percent of the total classified vehicles. The number of Tractor Trailers in the study was 124 which represents 1 percent of the total classified vehicles.

< to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.9	13.0 to 15.9	16.0 to 18.9	19.0 to 22.4	22.5 to >							
7810	7998	803	444	62	26	26	10							

CHART 2

HEADWAY

During the peak traffic period, on 2016-04-01 at [04:45 PM-05:00 PM] the average headway between vehicles was 5.389 seconds. During the slowest traffic period, on 2016-03-31 at [03:45 AM-04:00 AM] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 0.00 and 25.00 degrees C.

MH Corbin Traffic Analyzer Study
Computer Generated Summary Report
City: City of Hamilton
Street: Garner Rd - WB
Location: 16

A study of vehicle traffic was conducted with the device having serial number 135173. The study was done in the WB lane at Garner Rd - WB in City of Hamilton, ON in btwn Braithwaite & Panabaker county. The study began on 2016-03-30 at 12:00 AM and concluded on 2016-04-02 at 12:00 AM, lasting a total of 72.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 18,107 vehicles passed through the location with a peak volume of 198 on 2016-03-30 at [07:45 AM-08:00 AM] and a minimum volume of 0 on 2016-03-30 at [02:30 AM-02:45 AM]. The AADT count for this study was 6,036.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 60 - 70 KM/H range or lower. The average speed for all classifed vehicles was 70 KM/H with 45.29% vehicles exceeding the posted speed of 70 KM/H. 11.82% percent of the total vehicles were traveling in excess of 89 KM/H. The mode speed for this traffic study was 60KM/H and the 85th percentile was 79.05 KM/H.

< to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	100 to 109	110 to 119	120 to 129	130 to 139	140 to >
0	10	41	73	162	1824	7645	5967	1421	367	123	67	39	26	65

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.

Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 17004 which represents 95 percent of the total classified vehicles. The number of Small Trucks in the study was 383 which represents 2 percent of the total classified vehicles. The number of Trucks/Buses in the study was 317 which represents 2 percent of the total classified vehicles. The number of Tractor Trailers in the study was 126 which represents 1 percent of the total classified vehicles.

< to 4.9	5.0 to 8.4	8.5 to 9.9	10.0 to 12.9	13.0 to 15.9	16.0 to 18.9	19.0 to 22.4	22.5 to >							
7804	9200	383	317	76	14	17	19							

CHART 2

HEADWAY

During the peak traffic period, on 2016-03-30 at [07:45 AM-08:00 AM] the average headway between vehicles was 4.523 seconds. During the slowest traffic period, on 2016-03-30 at [02:30 AM-02:45 AM] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 0.00 and 24.00 degrees C.

City of Hamilton **TURNING MOVEMENT COUNT** Loc. Code: 1

Intersection: **Garner Road** **at** **Panabaker Drive** Total Vehicles: 6,279 Date: Wednesday
Direction: (East/West) (North/South) M.V.E./Year: 4.355 May 26, 2010
Road Condition: Dry Weather: Clear AWDT Factor: 2.04 Period: 7 hours
Comments:

TOTAL VEHICLES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			Total	Pedestrians N	E	S	W
(Pk.Hr.*)	L	S	R	L	S	R	L	S	R	L	S	R	Veh's	side	side	side	side
7:15	0	0	0	1	50	0	2	0		0	55	4	120	0	0	0	0
7:30	0	0	0	4	55	1	11	0	2	1	58	7	139	2	0	0	0
7:45	0	0	0	8	63	0	13	0	8	1	79	29	201	0	0	0	0
8:00 *	0	0	0	22	56	0	18	0	24	1	94	72	287	0	0	0	0
8:15 *	0	0	1	52	61	0	31	0	48	3	92	106	394	0	0	0	0
8:30 *	0	0	0	21	87	0	29	0	27	1	77	34	276	0	0	0	0
8:45 *	0	0	2	10	91	1	10	0	13	1	77	13	218	0	0	0	0
9:00	0	0	1	3	71	0	7	0	10	0	96	14	202	0	0	0	0
9:15	0	0	0	7	84	0	10	0	5	0	77	9	192	0	0	0	0
9:30	0	0	1	8	66	2	11	0	10	0	81	11	190	0	0	0	0
9:45	0	0	0	7	52	0	23	0	6	0	78	15	181	0	0	0	0
10:00	0	0	0	7	60	1	6	0	15	1	51	6	147	0	0	0	0
13:45	3	0	0	10	63	2	12	0	4	1	79	5	179	0	2	0	0
14:00	0	0	4	6	75	2	19	0	11	2	71	4	194	0	0	0	0
14:15	0	0	2	5	74	0	2	0	2	1	83	6	175	0	0	0	0
14:30	0	0	1	2	79	0	5	0	6	0	87	11	191	0	0	0	0
14:45 *	0	1	0	9	70	0	6	0	6	0	93	26	211	0	0	0	0
15:00 *	0	0	0	16	84	2	54	0	24	2	88	33	303	0	0	0	0
15:15 *	0	0	4	13	94	1	42	0	14	0	88	23	279	0	0	0	3
15:30 *	0	0	1	8	105	0	12	0	5	2	104	13	250	0	0	0	0
16:15	0	0	0	11	104	0	14	0	8	1	80	13	231	0	0	0	0
16:30	1	0	1	10	97	1	8	0	3	1	103	10	235	0	0	0	0
16:45 *	0	0	1	12	119	0	13	0	17	1	105	13	281	0	0	0	0
17:00 *	0	0	2	6	97	0	15	0	13	0	123	16	272	0	0	0	0
17:15 *	0	0	0	10	120	0	4	0	6	0	95	14	249	0	0	0	2
17:30 *	0	0	0	9	110	0	7	0	8	0	88	14	236	0	0	0	0
17:45	0	0	0	7	117	0	3	0	10	2	99	6	244	1	0	0	1
18:00	0	0	3	2	88	0	5	0	9	0	89	6	202	0	0	0	0
TOTAL	4	1	24	286	2,292	13	392	0	322	22	2,390	533		3	2	0	6
APPR.		29			2,591			714			2,945		6,279			11	

TRUCKS & BUSES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			
(Pk.Hr.*)	L	S	R	L	S	R	L	S	R	L	S	R	Total
7:15	0	0	0	0	3	0	0	0	0	0	5	0	8
7:30	0	0	0	0	7	0	0	0	0	0	1	0	8
7:45	0	0	0	2	8	0	2	0	0	0	7	4	23
8:00 *	0	0	0	2	8	0	7	0	4	0	14	9	44
8:15 *	0	0	0	6	3	0	5	0	6	0	8	11	39
8:30 *	0	0	0	0	6	0	1	0	2	0	6	1	16
8:45 *	0	0	0	1	11	1	2	0	1	0	7	2	25
9:00	0	0	0	0	2	0	0	0	0	0	6	1	9
9:15	0	0	0	0	13	0	2	0	0	0	10	4	29
9:30	0	0	0	0	7	1	4	0	0	0	7	0	19
9:45	0	0	0	0	2	0	1	0	0	0	6	0	9
10:00	0	0	0	0	6	0	1	0	0	0	5	0	12
13:45	0	0	0	0	6	0	0	0	0	0	4	0	10
14:00	0	0	0	0	3	0	0	0	0	0	9	0	12
14:15	0	0	0	0	5	0	0	0	0	0	6	0	11
14:30	0	0	0	0	7	0	0	0	0	0	5	1	13
14:45 *	0	0	0	1	2	0	0	0	0	0	8	9	20
15:00 *	0	0	0	2	6	0	8	0	6	0	6	7	35
15:15 *	0	0	0	3	8	0	14	0	2	0	10	5	42
15:30 *	0	0	0	0	7	0	0	0	0	0	8	0	15
16:15	0	0	0	1	7	0	0	0	0	0	4	1	13
16:30	0	0	0	0	6	0	1	0	1	0	9	0	17
16:45 *	0	0	0	0	7	0	0	0	0	0	8	0	15
17:00 *	0	0	0	0	3	0	0	0	0	0	7	0	10
17:15 *	0	0	0	0	3	0	0	0	0	0	3	0	6
17:30 *	0	0	0	0	6	0	0	0	0	0	7	0	13
17:45	0	0	0	0	3	0	0	0	0	0	4	0	7
18:00	0	0	0	0	2	0	0	0	0	0	2	1	5
TOTAL	0	0	0	18	157	2	48	0	22	0	182	56	
APPR.		0			177			70			238		485

TRUCKS

7:15	0	0	0	0	3	0	0	0	0	0	4	0	7
7:30	0	0	0	0	7	0	0	0	0	0	1	0	8
7:45	0	0	0	0	5	0	0	0	0	0	4	0	9
8:00 *	0	0	0	0	7	0	0	0	0	0	7	1	15
8:15 *	0	0	0	0	0	0	0	0	0	0	6	0	6
8:30 *	0	0	0	0	6	0	1	0	0	0	5	1	13
8:45 *	0	0	0	0	4	1	0	0	0	0	6	1	12
9:00	0	0	0	0	1	0	0	0	0	0	5	0	6
9:15	0	0	0	0	12	0	1	0	0	0	9	2	24
9:30	0	0	0	0	7	1	2	0	0	0	7	0	17
9:45	0	0	0	0	1	0	1	0	0	0	4	0	6
10:00	0	0	0	0	6	0	1	0	0	0	5	0	12
13:45	0	0	0	0	6	0	0	0	0	0	4	0	10
14:00	0	0	0	0	3	0	0	0	0	0	9	0	12
14:15	0	0	0	0	5	0	0	0	0	0	6	0	11
14:30	0	0	0	0	7	0	0	0	0	0	3	0	10
14:45 *	0	0	0	1	2	0	0	0	0	0	6	0	9
15:00 *	0	0	0	1	4	0	0	0	0	0	5	0	10
15:15 *	0	0	0	0	7	0	0	0	0	0	4	0	11
15:30 *	0	0	0	0	6	0	0	0	0	0	5	0	11
16:15	0	0	0	1	4	0	0	0	0	0	3	0	8
16:30	0	0	0	0	5	0	1	0	1	0	7	0	14
16:45 *	0	0	0	0	5	0	0	0	0	0	7	0	12
17:00 *	0	0	0	0	3	0	0	0	0	0	6	0	9
17:15 *	0	0	0	0	2	0	0	0	0	0	3	0	5
17:30 *	0	0	0	0	6	0	0	0	0	0	6	0	12
17:45	0	0	0	0	2	0	0	0	0	0	3	0	5
18:00	0	0	0	0	2	0	0	0	0	0	2	0	4
TOTAL	0	0	0	3	128	2	7	0	1	0	142	5	
APPR.		0			133			8			147		288

MTO SIGNAL WARRANT CALCULATIONS

INTERSECTION:	**Panabaker Drive at Garner Road**		
DATE OF COUNT:	**Wednesday, May 26, 2010**	**MINOR/MAJOR CHECK:**	
MINOR STREET:	**Panabaker Drive**	**(MINOR STREET)**	
MAJOR STREET:	**Garner Road**	**(MAJOR STREET)**	
	DIRECTION (E/W OR N/S):	**E/W**	
	INTERSECTION CONFIGURATION (CROSS OR T):	**CROSS**	
	TOTAL NUMBER OF THROUGH LANES ON MAJOR STREET:	**2**	
	FREE FLOW=F OR RESTRICTED=R:	**F**	
	NUMBER OF STREETS WHICH CARRY TWO-WAY TRAFFIC:	**2**	

VOLUME DATA FOR WARRANTS

TIME PER.	Panabaker Drive NORTHBOUND			(MINOR STREET) SOUTHBOUND			Garner Road EASTBOUND			(MAJOR STREET) WESTBOUND			PEDESTRIANS N & S	PEDESTRIANS E & W	WARRANT VOLUMES			
	L	S	R	L	S	R	L	S	R	L	S	R	WALKS	WALKS	1A	1B	2A	2B
7:00- 8:00	0	0	0	44	0	42	35	224	1	3	286	112	2	0	747	86	661	44
8:00- 9:00	0	0	4	77	0	98	86	310	1	5	342	167	0	0	1090	179	911	77
9:00-10:00	0	0	1	50	0	36	29	262	3	1	287	41	0	0	710	87	623	50
1:30- 2:30	3	0	7	38	0	23	23	291	4	4	320	26	0	2	739	71	668	43
2:30- 3:30	0	1	5	114	0	49	46	353	3	4	373	95	0	3	1043	169	874	118
4:00- 5:00	1	0	4	50	0	41	39	417	1	3	411	52	0	0	1019	96	923	51
5:00- 6:00	0	0	3	19	0	33	28	435	0	2	371	40	1	3	931	55	876	22
6:00- 7:00	0	0	3	49	0	40	26	321	1	2	382	45	8	5	869	92	777	54

TRAFFIC SIGNAL WARRANT DETAILS

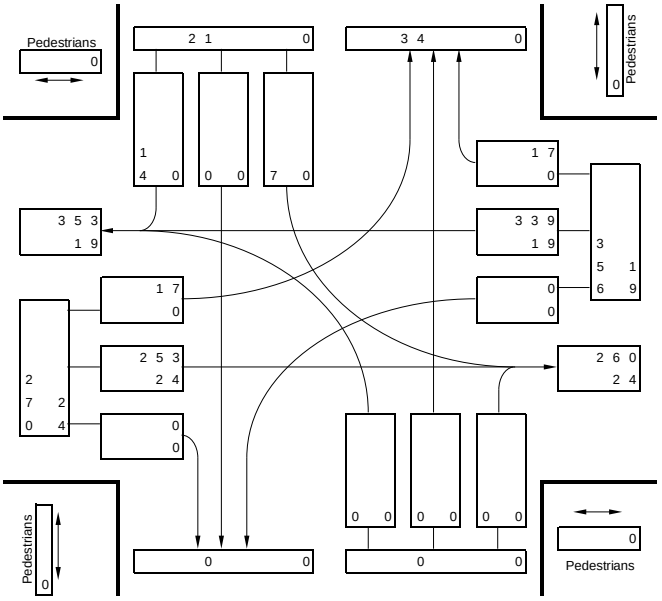
APPLICABLE VOLUME WARRANT		HOUR OF DAY 7:00-8:00	8:00-9:00	9:00-10:00	1:30-2:30	2:30-3:30	4:00-5:00	5:00-6:00	6:00-7:00	COMPLIANCE PERCENTAGE	WARRANT SECTIONAL
1. MINIMUM VEHICULAR VOLUME											
1A) ALL APPROACHES:	480	747	1090	710	739	1043	1019	931	869	100	
PERCENTAGE WARRANT:		100	100	100	100	100	100	100	100		**76**
1B) MINOR STREET:	120	86	179	87	71	169	96	55	92	76	
PERCENTAGE WARRANT:		72	100	73	59	100	80	46	77		
2. DELAY TO CROSS STREET											
2A) MAJOR STREET:	480	661	911	623	668	874	923	876	777	100	
PERCENTAGE WARRANT:		100	100	100	100	100	100	100	100		**88**
2B) MINOR STREET:	50	44	77	50	43	118	51	22	54	88	
PERCENTAGE WARRANT:		80	100	100	80	100	100	44	100		

ACCIDENTS

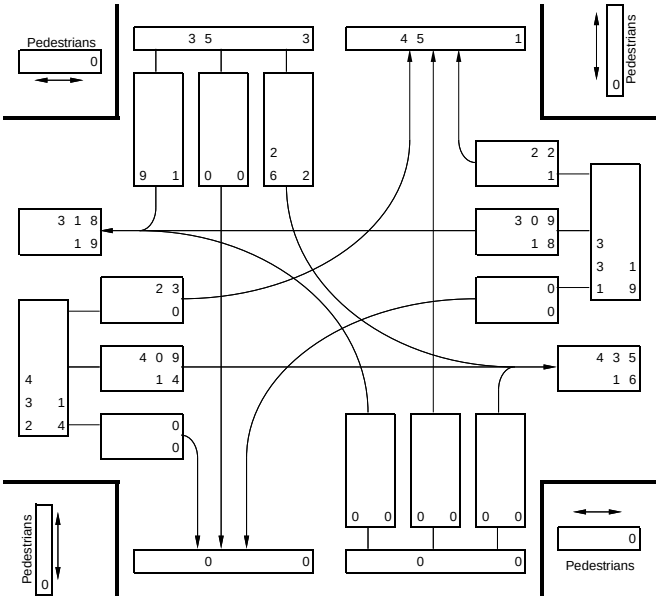
YEAR	TOTAL	PREVEN

City of Hamilton **TURNING MOVEMENT FLOW CHART** Loc. Code: 142

Intersection: **Garner Rd W** **at** **McClure Rd** Total Vehicles: 4,328 Date: Friday
Direction: (East/West) (North/South) M.V.E./Year: 2.766 Dec 4, 2015
Road Condition: Dry Weather: Overcast AWDT Factor: 1.88 Period: 7 hours
Comments:

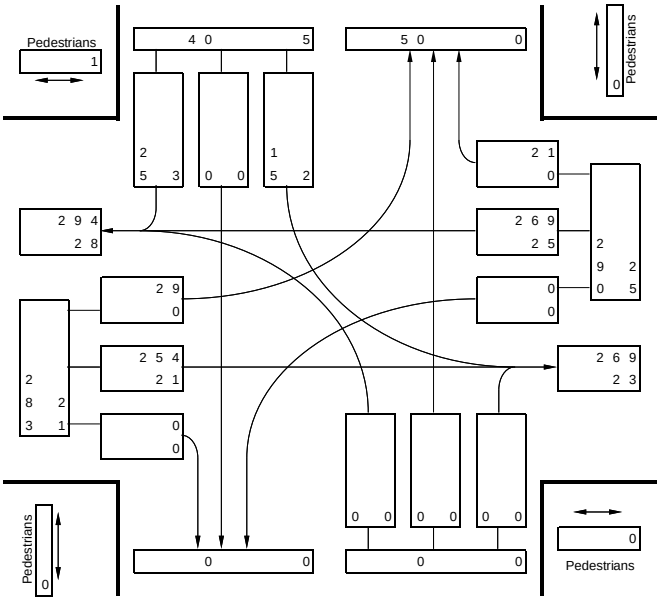


A.M. PEAK HOUR = 7:45 AM - 8:45 AM

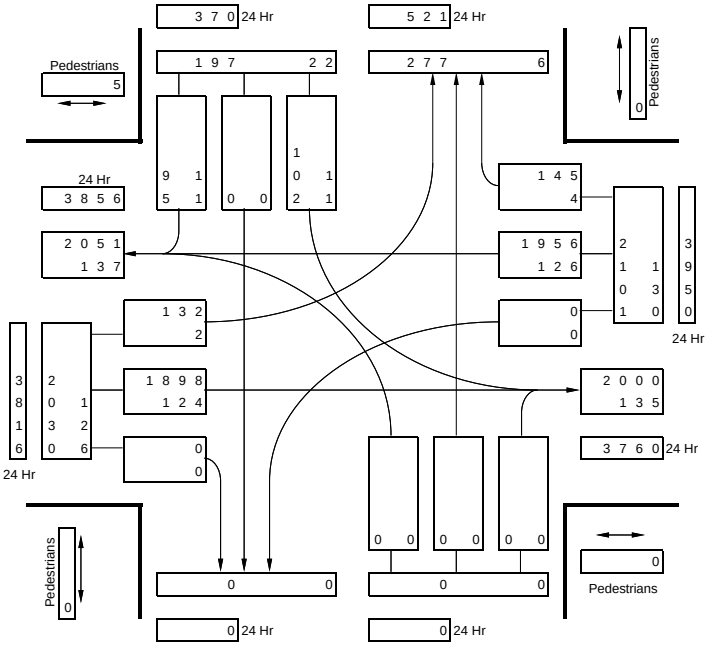


P.M. PEAK HOUR = 5:00 PM - 6:00 PM

N



NORMAL HOUR = 2:15 PM - 3:15 PM



7 Hr & 24 Hr TOTAL VOLUMES

City of Hamilton **TURNING MOVEMENT COUNT** Loc. Code: 142

Intersection: **Garner Rd W** **at** **McClure Rd** Total Vehicles: 4,328 Date: Friday
Direction: (East/West) (North/South) M.V.E./Year: 2.766 Dec 4, 2015
Road Condition: Dry Weather: Overcast AWDT Factor: 1.88 Period: 7 hours
Comments:

TOTAL VEHICLES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			Total	Pedestrians N	E	S	W
(Pk.Hr.*)	L	S	R	L	S	R	L	S	R	L	S	R	Veh's	side	side	side	side
7:15	0	0	0	2	48	0	0	0	4	0	54	3	111	0	0	0	0
7:30	0	0	0	3	69	0	0	0	3	0	62	7	144	0	0	0	0
7:45	0	0	0	1	65	0	2	0	1	0	85	3	157	0	0	0	0
8:00 *	0	0	0	4	65	0	1	0	1	0	110	4	185	0	0	0	0
8:15 *	0	0	0	9	61	0	3	0	3	0	70	5	151	0	0	0	0
8:30 *	0	0	0	1	50	0	3	0	7	0	88	4	153	0	0	0	0
8:45 *	0	0	0	3	77	0	0	0	3	0	71	4	158	0	0	0	0
9:00	0	0	0	4	52	0	0	0	3	0	66	5	130	0	0	0	0
9:15	0	0	0	5	67	0	2	0	6	0	91	4	175	0	0	0	0
9:30	0	0	0	5	55	0	2	0	6	0	75	2	145	0	0	0	0
9:45	0	0	0	2	61	0	0	0	4	0	77	5	149	0	0	0	0
10:00	0	0	0	7	74	0	0	0	3	0	64	7	155	0	0	0	0
13:45	0	0	0	3	69	0	6	0	2	0	74	3	157	0	0	0	0
14:00	0	0	0	3	20	0	0	0	1	0	38	6	68	1	0	0	0
14:15	0	0	0	4	24	0	2	0	5	0	22	3	60	1	0	0	0
14:30 *	0	0	0	6	67	0	4	0	8	0	66	5	156	0	0	0	0
14:45 *	0	0	0	9	56	0	2	0	6	0	73	4	150	1	0	0	0
15:00 *	0	0	0	7	60	0	6	0	6	0	66	5	150	0	0	0	0
15:15 *	0	0	0	7	71	0	3	0	5	0	64	7	157	0	0	0	0
15:30	0	0	0	4	54	0	7	0	1	0	70	5	141	0	0	0	0
16:15	0	0	0	7	113	0	11	0	4	0	68	10	213	1	0	0	0
16:30	0	0	0	6	96	0	12	0	3	0	105	6	228	1	0	0	0
16:45	0	0	0	5	69	0	7	0	0	0	60	9	150	0	0	0	0
17:00	0	0	0	2	46	0	3	0	1	0	28	7	87	0	0	0	0
17:15 *	0	0	0	10	85	0	12	0	1	0	70	3	181	0	0	0	0
17:30 *	0	0	0	5	110	0	4	0	2	0	73	5	199	0	0	0	0
17:45 *	0	0	0	5	107	0	2	0	6	0	97	9	226	0	0	0	0
18:00 *	0	0	0	3	107	0	8	0	0	0	69	5	192	0	0	0	0
TOTAL	0	0	0	132	1,898	0	102	0	95	0	1,956	145		5	0	0	0
APPR.		0			2,030			197			2,101		4,328			5	

TRUCKS & BUSES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			
(Pk.Hr.*)	L	S	R	L	S	R	L	S	R	L	S	R	Total
7:15	0	0	0	0	4	0	0	0	1	0	4	1	10
7:30	0	0	0	0	4	0	0	0	1	0	7	0	12
7:45	0	0	0	0	6	0	0	0	0	0	6	0	12
8:00 *	0	0	0	0	10	0	0	0	0	0	5	0	15
8:15 *	0	0	0	0	4	0	0	0	0	0	4	0	8
8:30 *	0	0	0	0	1	0	0	0	0	0	8	0	9
8:45 *	0	0	0	0	9	0	0	0	0	0	2	0	11
9:00	0	0	0	0	5	0	0	0	1	0	6	1	13
9:15	0	0	0	0	3	0	0	0	0	0	10	0	13
9:30	0	0	0	0	3	0	0	0	0	0	5	0	8
9:45	0	0	0	0	5	0	0	0	1	0	4	0	10
10:00	0	0	0	1	7	0	0	0	1	0	3	0	12
13:45	0	0	0	0	11	0	2	0	0	0	3	0	16
14:00	0	0	0	0	0	0	0	0	0	0	3	0	3
14:15	0	0	0	1	3	0	0	0	2	0	1	0	7
14:30 *	0	0	0	0	5	0	0	0	1	0	5	0	11
14:45 *	0	0	0	0	4	0	0	0	1	0	7	0	12
15:00 *	0	0	0	0	7	0	1	0	0	0	4	0	12
15:15 *	0	0	0	0	5	0	1	0	1	0	9	0	16
15:30	0	0	0	0	2	0	2	0	0	0	0	0	4
16:15	0	0	0	0	4	0	2	0	0	0	3	0	9
16:30	0	0	0	0	5	0	0	0	0	0	6	0	11
16:45	0	0	0	0	1	0	1	0	0	0	1	1	4
17:00	0	0	0	0	2	0	0	0	0	0	2	0	4
17:15 *	0	0	0	0	6	0	1	0	0	0	3	0	10
17:30 *	0	0	0	0	2	0	1	0	0	0	9	1	13
17:45 *	0	0	0	0	2	0	0	0	1	0	4	0	7
18:00 *	0	0	0	0	4	0	0	0	0	0	2	0	6
TOTAL	0	0	0	2	124	0	11	0	11	0	126	4	
APPR.		0			126			22			130		278

TRUCKS

7:15	0	0	0	0	3	0	0	0	1	0	0	1	5
7:30	0	0	0	0	1	0	0	0	1	0	5	0	7
7:45	0	0	0	0	5	0	0	0	0	0	5	0	10
8:00 *	0	0	0	0	6	0	0	0	0	0	1	0	7
8:15 *	0	0	0	0	2	0	0	0	0	0	3	0	5
8:30 *	0	0	0	0	1	0	0	0	0	0	6	0	7
8:45 *	0	0	0	0	6	0	0	0	0	0	2	0	8
9:00	0	0	0	0	5	0	0	0	1	0	4	0	10
9:15	0	0	0	0	2	0	0	0	0	0	7	0	9
9:30	0	0	0	0	3	0	0	0	0	0	4	0	7
9:45	0	0	0	0	4	0	0	0	1	0	2	0	7
10:00	0	0	0	1	7	0	0	0	1	0	2	0	11
13:45	0	0	0	0	10	0	2	0	0	0	3	0	15
14:00	0	0	0	0	0	0	0	0	0	0	2	0	2
14:15	0	0	0	1	1	0	0	0	2	0	1	0	5
14:30 *	0	0	0	0	4	0	0	0	1	0	3	0	8
14:45 *	0	0	0	0	4	0	0	0	1	0	5	0	10
15:00 *	0	0	0	0	5	0	1	0	0	0	4	0	10
15:15 *	0	0	0	0	3	0	0	0	1	0	7	0	11
15:30	0	0	0	0	2	0	2	0	0	0	0	0	4
16:15	0	0	0	0	2	0	2	0	0	0	1	0	5
16:30	0	0	0	0	4	0	0	0	0	0	6	0	10
16:45	0	0	0	0	0	0	1	0	0	0	0	1	2
17:00	0	0	0	0	2	0	0	0	0	0	2	0	4
17:15 *	0	0	0	0	5	0	1	0	0	0	3	0	9
17:30 *	0	0	0	0	2	0	1	0	0	0	7	1	11
17:45 *	0	0	0	0	1	0	0	0	1	0	3	0	5
18:00 *	0	0	0	0	4	0	0	0	0	0	0	0	4
TOTAL	0	0	0	2	94	0	10	0	11	0	88	3	
APPR.		0			96			21			91		208

City of Hamilton **TURNING MOVEMENT COUNT** Loc. Code: 142

Intersection: **Garner Rd W** **at** **McClure Rd** Total Vehicles: 4,933 Date: Friday
Direction: (East/West) (North/South) Dec 4, 2015
Road Condition: Dry Weather: Overcast Period: 8 hours
Comments:

TOTAL VEHICLES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			Total	Pedestrians N side	Pedestrians E side	Pedestrians S side	Pedestrians W side
	L	S	R	L	S	R	L	S	R	L	S	R	Veh's				
7:15	0	0	0	2	48	0	0	0	4	0	54	3	111	0	0	0	0
7:30	0	0	0	3	69	0	0	0	3	0	62	7	144	0	0	0	0
7:45	0	0	0	1	65	0	2	0	1	0	85	3	157	0	0	0	0
8:00	0	0	0	4	65	0	1	0	1	0	110	4	185	0	0	0	0
8:15	0	0	0	9	61	0	3	0	3	0	70	5	151	0	0	0	0
8:30	0	0	0	1	50	0	3	0	7	0	88	4	153	0	0	0	0
8:45	0	0	0	3	77	0	0	0	3	0	71	4	158	0	0	0	0
9:00	0	0	0	4	52	0	0	0	3	0	66	5	130	0	0	0	0
9:15	0	0	0	5	67	0	2	0	6	0	91	4	175	0	0	0	0
9:30	0	0	0	5	55	0	2	0	6	0	75	2	145	0	0	0	0
9:45	0	0	0	2	61	0	0	0	4	0	77	5	149	0	0	0	0
10:00	0	0	0	7	74	0	0	0	3	0	64	7	155	0	0	0	0
13:45	0	0	0	3	69	0	6	0	2	0	74	3	157	0	0	0	0
14:00	0	0	0	3	20	0	0	0	1	0	38	6	68	1	0	0	0
14:15	0	0	0	4	24	0	2	0	5	0	22	3	60	1	0	0	0
14:30	0	0	0	6	67	0	4	0	8	0	66	5	156	0	0	0	0
14:45	0	0	0	9	56	0	2	0	6	0	73	4	150	1	0	0	0
15:00	0	0	0	7	60	0	6	0	6	0	66	5	150	0	0	0	0
15:15	0	0	0	7	71	0	3	0	5	0	64	7	157	0	0	0	0
15:30	0	0	0	4	54	0	7	0	1	0	70	5	141	0	0	0	0
16:15	0	0	0	7	113	0	11	0	4	0	68	10	213	1	0	0	0
16:30	0	0	0	6	96	0	12	0	3	0	105	6	228	1	0	0	0
16:45	0	0	0	5	69	0	7	0	0	0	60	9	150	0	0	0	0
17:00	0	0	0	2	46	0	3	0	1	0	28	7	87	0	0	0	0
17:15	0	0	0	10	85	0	12	0	1	0	70	3	181	0	0	0	0
17:30	0	0	0	5	110	0	4	0	2	0	73	5	199	0	0	0	0
17:45	0	0	0	5	107	0	2	0	6	0	97	9	226	0	0	0	0
18:00	0	0	0	3	107	0	8	0	0	0	69	5	192	0	0	0	0
18:15	0	0	0	2	86	0	3	0	3	0	77	1	172	0	0	0	0
18:30	0	0	0	3	63	0	8	0	5	0	81	3	163	0	0	0	0
18:45	0	0	0	6	67	0	0	0	5	0	56	2	136	0	0	0	0
19:00	0	0	0	4	53	0	5	0	4	0	64	4	134	0	0	0	0
TOTAL	0	0	0	147	2,167	0	118	0	112	0	2,234	155		5	0	0	0
APPR.		0			2,314			230			2,389		4,933			5	

TRUCKS & BUSES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			Total
	L	S	R	L	S	R	L	S	R	L	S	R	
7:15	0	0	0	0	4	0	0	0	1	0	4	1	10
7:30	0	0	0	0	4	0	0	0	1	0	7	0	12
7:45	0	0	0	0	6	0	0	0	0	0	6	0	12
8:00	0	0	0	0	10	0	0	0	0	0	5	0	15
8:15	0	0	0	0	4	0	0	0	0	0	4	0	8
8:30	0	0	0	0	1	0	0	0	0	0	8	0	9
8:45	0	0	0	0	9	0	0	0	0	0	2	0	11
9:00	0	0	0	0	5	0	0	0	1	0	6	1	13
9:15	0	0	0	0	3	0	0	0	0	0	10	0	13
9:30	0	0	0	0	3	0	0	0	0	0	5	0	8
9:45	0	0	0	0	5	0	0	0	1	0	4	0	10
10:00	0	0	0	1	7	0	0	0	1	0	3	0	12
13:45	0	0	0	0	11	0	2	0	0	0	3	0	16
14:00	0	0	0	0	0	0	0	0	0	0	3	0	3
14:15	0	0	0	1	3	0	0	0	2	0	1	0	7
14:30	0	0	0	0	5	0	0	0	1	0	5	0	11
14:45	0	0	0	0	4	0	0	0	1	0	7	0	12
15:00	0	0	0	0	7	0	1	0	0	0	4	0	12
15:15	0	0	0	0	5	0	1	0	1	0	9	0	16
15:30	0	0	0	0	2	0	2	0	0	0	0	0	4
16:15	0	0	0	0	4	0	2	0	0	0	3	0	9
16:30	0	0	0	0	5	0	0	0	0	0	6	0	11
16:45	0	0	0	0	1	0	1	0	0	0	1	1	4
17:00	0	0	0	0	2	0	0	0	0	0	2	0	4
17:15	0	0	0	0	6	0	1	0	0	0	3	0	10
17:30	0	0	0	0	2	0	1	0	0	0	9	1	13
17:45	0	0	0	0	2	0	0	0	1	0	4	0	7
18:00	0	0	0	0	4	0	0	0	0	0	2	0	6
18:15	0	0	0	0	3	0	0	0	0	0	3	0	6
18:30	0	0	0	0	1	0	0	0	1	0	1	0	3
18:45	0	0	0	0	3	0	0	0	0	0	2	0	5
19:00	0	0	0	0	1	0	1	0	0	0	0	0	2
TOTAL	0	0	0	2	132	0	12	0	12	0	132	4	
APPR.		0			134			24			136		294

TRUCKS

7:15	0	0	0	0	3	0	0	0	1	0	0	1	5
7:30	0	0	0	0	1	0	0	0	1	0	5	0	7
7:45	0	0	0	0	5	0	0	0	0	0	5	0	10
8:00	0	0	0	0	6	0	0	0	0	0	1	0	7
8:15	0	0	0	0	2	0	0	0	0	0	3	0	5
8:30	0	0	0	0	1	0	0	0	0	0	6	0	7
8:45	0	0	0	0	6	0	0	0	0	0	2	0	8
9:00	0	0	0	0	5	0	0	0	1	0	4	0	10
9:15	0	0	0	0	2	0	0	0	0	0	7	0	9
9:30	0	0	0	0	3	0	0	0	0	0	4	0	7
9:45	0	0	0	0	4	0	0	0	1	0	2	0	7
10:00	0	0	0	1	7	0	0	0	1	0	2	0	11
13:45	0	0	0	0	10	0	2	0	0	0	3	0	15
14:00	0	0	0	0	0	0	0	0	0	0	2	0	2
14:15	0	0	0	1	1	0	0	0	2	0	1	0	5
14:30	0	0	0	0	4	0	0	0	1	0	3	0	8
14:45	0	0	0	0	4	0	0	0	1	0	5	0	10
15:00	0	0	0	0	5	0	1	0	0	0	4	0	10
15:15	0	0	0	0	3	0	0	0	1	0	7	0	11
15:30	0	0	0	0	2	0	2	0	0	0	0	0	4
16:15	0	0	0	0	2	0	2	0	0	0	1	0	5
16:30	0	0	0	0	4	0	0	0	0	0	6	0	10
16:45	0	0	0	0	0	0	1	0	0	0	0	1	2
17:00	0	0	0	0	2	0	0	0	0	0	2	0	4
17:15	0	0	0	0	5	0	1	0	0	0	3	0	9
17:30	0	0	0	0	2	0	1	0	0	0	7	1	11
17:45	0	0	0	0	1	0	0	0	1	0	3	0	5
18:00	0	0	0	0	4	0	0	0	0	0	0	0	4
18:15	0	0	0	0	2	0	0	0	0	0	3	0	5
18:30	0	0	0	0	1	0	0	0	1	0	0	0	2
18:45	0	0	0	0	2	0	0	0	0	0	0	0	2
19:00	0	0	0	0	1	0	1	0	0	0	0	0	2
TOTAL	0	0	0	2	100	0	11	0	12	0	91	3	
APPR.		0			102			23			94		219

MTO SIGNAL WARRANT CALCULATIONS

INTERSECTION:	**McClure Rd at Garner Rd W**		
DATE OF COUNT:	**Friday, Dec 4, 2015**	**MINOR/MAJOR CHECK:**	
MINOR STREET:	**McClure Rd**	**(MINOR STREET)**	
MAJOR STREET:	**Garner Rd W**	**(MAJOR STREET)**	
DIRECTION (E/W OR N/S):		**E/W**	
INTERSECTION CONFIGURATION (CROSS OR T):		**T**	
TOTAL NUMBER OF THROUGH LANES ON MAJOR STREET:		**2**	
FREE FLOW=F OR RESTRICTED=R:		**F**	
NUMBER OF STREETS WHICH CARRY TWO-WAY TRAFFIC:		**2**	

VOLUME DATA FOR WARRANTS

TIME PER.	McClure Rd (MINOR STREET) NORTHBOUND L	S	R	SOUTHBOUND L	S	R	Garner Rd W (MAJOR STREET) EASTBOUND L	S	R	WESTBOUND L	S	R	PEDESTRIANS N & S WALKS	E & W WALKS	WARRANT VOLUMES 1A	1B	2A	2B
7:00- 8:00	0	0	0	3	0	9	10	247	0	0	311	17	0	0	597	12	585	3
8:00- 9:00	0	0	0	6	0	16	17	240	0	0	295	18	0	0	592	22	570	6
9:00-10:00	0	0	0	4	0	19	19	257	0	0	307	18	0	0	624	23	601	4
1:30- 2:30	0	0	0	12	0	16	16	180	0	0	200	17	2	0	441	28	413	12
2:30- 3:30	0	0	0	18	0	18	27	241	0	0	273	21	1	0	598	36	562	18
4:00- 5:00	0	0	0	33	0	8	20	324	0	0	261	32	2	0	678	41	637	33
5:00- 6:00	0	0	0	26	0	9	23	409	0	0	309	22	0	0	798	35	763	26
6:00- 7:00	0	0	0	16	0	17	15	269	0	0	278	10	0	0	605	33	572	16

TRAFFIC SIGNAL WARRANT DETAILS

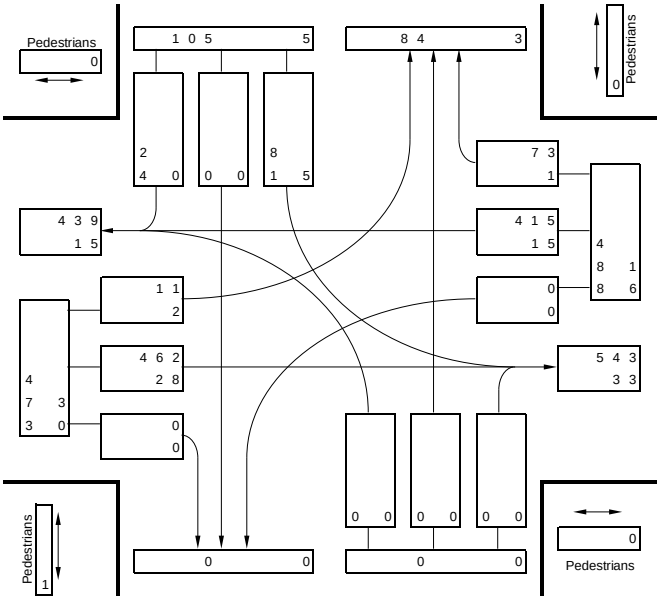
APPLICABLE VOLUME WARRANT		HOUR OF DAY 7:00-8:00	8:00-9:00	9:00-10:00	1:30-2:30	2:30-3:30	4:00-5:00	5:00-6:00	6:00-7:00	COMPLIANCE PERCENTAGE	WARRANT SECTIONAL
1. MINIMUM VEHICULAR VOLUME											
1A) ALL APPROACHES:	480	597	592	624	441	598	678	798	605	98	
PERCENTAGE WARRANT:		100	100	100	80	100	100	100	100		
1B) MINOR STREET:	180	12	22	23	28	36	41	35	33	16	
PERCENTAGE WARRANT:		7	12	13	16	20	23	19	18		
2. DELAY TO CROSS STREET											
2A) MAJOR STREET:	480	585	570	601	413	562	637	763	572	98	
PERCENTAGE WARRANT:		100	100	100	80	100	100	100	100		**30**
2B) MINOR STREET:	50	3	6	4	12	18	33	26	16	30	
PERCENTAGE WARRANT:		6	12	8	24	36	66	52	32		

ACCIDENTS

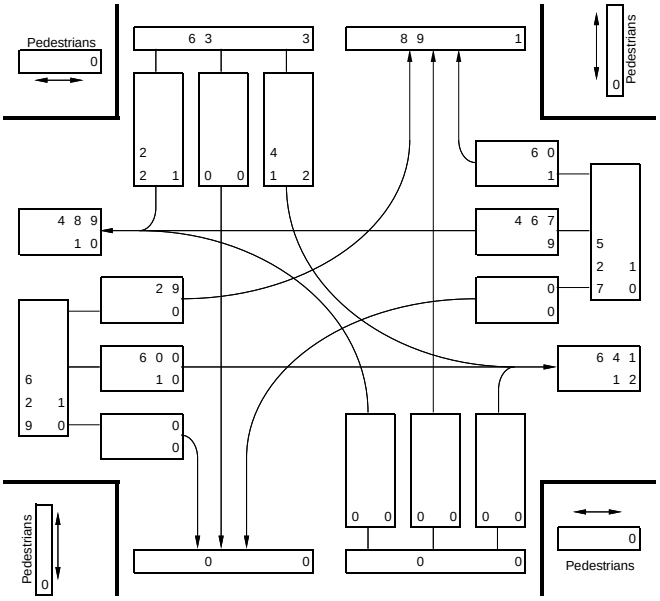
YEAR	TOTAL	PREVEN

City of Hamilton **TURNING MOVEMENT FLOW CHART** Loc. Code: 224

Intersection: **Garner Rd W** **at** **Hamilton Dr** Total Vehicles: 6,418 Date: Tuesday
Direction: (East/West) (North/South) M.V.E./Year: 4.473 Sep 25, 2018
Road Condition: Wet Weather: Overcast AWDT Factor: 2.05 Period: 7 hours
Comments:

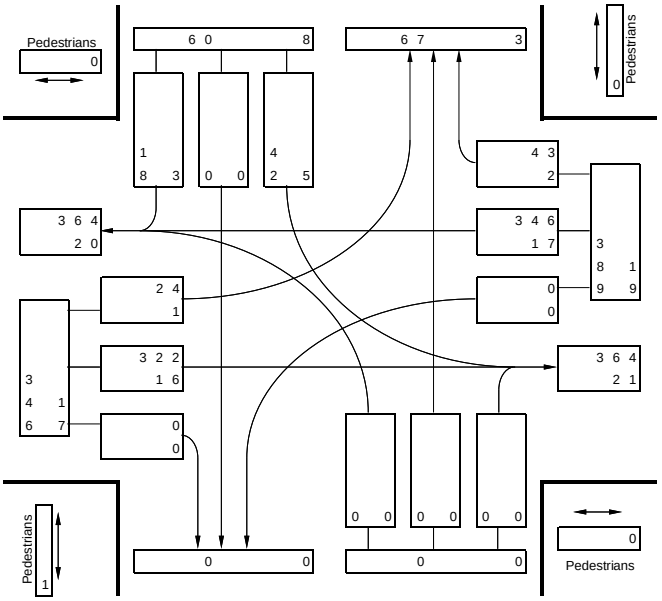


A.M. PEAK HOUR = 8:00 AM - 9:00 AM

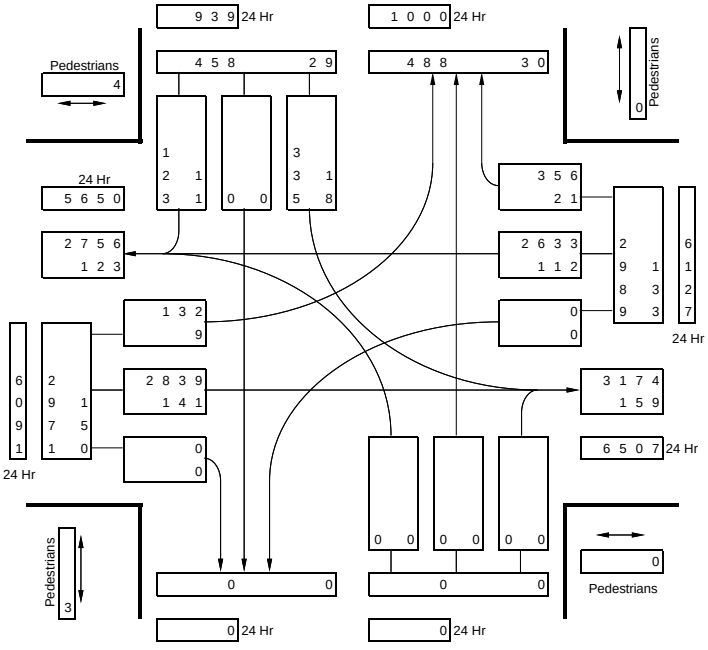


P.M. PEAK HOUR = 4:45 PM - 5:45 PM

N



NORMAL HOUR = 2:30 PM - 3:30 PM



7 Hr & 24 Hr TOTAL VOLUMES

City of Hamilton **TURNING MOVEMENT COUNT** Loc. Code: 224

Intersection: **Garner Rd W** **at** **Hamilton Dr** Total Vehicles: 6,418 Date: Tuesday
Direction: (East/West) (North/South) M.V.E./Year: 4.473 Sep 25, 2018
Road Condition: Wet Weather: Overcast AWDT Factor: 2.05 Period: 7 hours
Comments:

TOTAL VEHICLES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			Total	Pedestrians N	E	S	W
(Pk.Hr.*)	L	S	R	L	S	R	L	S	R	L	S	R	Veh's	side	side	side	side
7:15	0	0	0	3	63	0	6	0	4	0	64	6	146	0	0	0	0
7:30	0	0	0	2	89	0	11	0	2	0	101	12	217	0	0	0	0
7:45	0	0	0	2	106	0	20	0	4	0	89	12	233	0	0	0	0
8:00	0	0	0	5	94	0	31	0	1	0	111	19	261	0	0	0	0
8:15 *	0	0	0	1	93	0	26	0	7	0	116	33	276	0	0	0	0
8:30 *	0	0	0	0	83	0	23	0	3	0	97	17	223	0	0	0	1
8:45 *	0	0	0	3	163	0	14	0	3	0	90	16	289	0	0	0	0
9:00 *	0	0	0	7	123	0	18	0	11	0	112	7	278	0	0	0	0
9:15	0	0	0	4	96	0	9	0	6	0	101	10	226	1	0	0	0
9:30	0	0	0	0	87	0	13	0	4	0	86	7	197	0	0	0	0
9:45	0	0	0	1	65	0	7	0	5	0	67	8	153	0	0	0	0
10:00	0	0	0	4	63	0	8	0	5	0	66	8	154	0	0	0	0
13:45	0	0	0	4	68	0	4	0	5	0	96	8	185	1	0	0	0
14:00	0	0	0	9	77	0	9	0	2	0	89	8	194	0	0	0	1
14:15	0	0	0	4	72	0	11	0	2	0	67	5	161	0	0	0	0
14:30	0	0	0	1	72	0	8	0	1	0	82	16	180	0	0	0	0
14:45 *	0	0	0	6	85	0	8	0	6	0	87	12	204	0	0	0	1
15:00 *	0	0	0	5	68	0	12	0	0	0	80	11	176	0	0	0	0
15:15 *	0	0	0	8	77	0	9	0	11	0	94	5	204	0	0	0	0
15:30 *	0	0	0	5	92	0	13	0	1	0	85	15	211	0	0	0	0
16:15	0	0	0	10	129	0	8	0	1	0	101	11	260	0	0	0	0
16:30	0	0	0	8	124	0	9	0	9	0	120	17	287	1	0	0	0
16:45	0	0	0	6	135	0	6	0	3	0	87	15	252	0	0	0	0
17:00 *	0	0	0	5	163	0	11	0	6	0	133	14	332	0	0	0	0
17:15 *	0	0	0	6	144	0	8	0	3	0	116	18	295	0	0	0	0
17:30 *	0	0	0	10	148	0	13	0	5	0	114	11	301	0	0	0	0
17:45 *	0	0	0	8	145	0	9	0	8	0	104	17	291	0	0	0	0
18:00	0	0	0	5	115	0	11	0	5	0	78	18	232	1	0	0	0
TOTAL	0	0	0	132	2,839	0	335	0	123	0	2,633	356		4	0	0	3
APPR.		0			2,971			458			2,989		6,418			7	

TRUCKS & BUSES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			
(Pk.Hr.*)	L	S	R	L	S	R	L	S	R	L	S	R	Total
7:15	0	0	0	0	3	0	1	0	0	0	4	0	8
7:30	0	0	0	0	12	0	0	0	0	0	5	2	19
7:45	0	0	0	2	10	0	1	0	1	0	2	1	17
8:00	0	0	0	2	7	0	3	0	0	0	6	7	25
8:15 *	0	0	0	0	5	0	1	0	0	0	4	1	11
8:30 *	0	0	0	0	5	0	2	0	0	0	3	0	10
8:45 *	0	0	0	2	10	0	2	0	0	0	5	0	19
9:00 *	0	0	0	0	8	0	0	0	0	0	3	0	11
9:15	0	0	0	0	14	0	1	0	0	0	9	1	25
9:30	0	0	0	0	4	0	0	0	1	0	4	0	9
9:45	0	0	0	0	7	0	0	0	1	0	6	1	15
10:00	0	0	0	2	5	0	0	0	0	0	4	0	11
13:45	0	0	0	0	4	0	0	0	0	0	5	1	10
14:00	0	0	0	0	3	0	0	0	0	0	6	0	9
14:15	0	0	0	0	6	0	0	0	0	0	2	0	8
14:30	0	0	0	0	3	0	0	0	0	0	5	2	10
14:45 *	0	0	0	0	2	0	1	0	1	0	7	2	13
15:00 *	0	0	0	0	3	0	1	0	0	0	1	0	5
15:15 *	0	0	0	0	7	0	2	0	2	0	4	0	15
15:30 *	0	0	0	1	4	0	1	0	0	0	5	0	11
16:15	0	0	0	0	4	0	0	0	1	0	3	0	8
16:30	0	0	0	0	3	0	0	0	3	0	3	2	11
16:45	0	0	0	0	1	0	0	0	0	0	4	0	5
17:00 *	0	0	0	0	3	0	1	0	1	0	3	0	8
17:15 *	0	0	0	0	4	0	0	0	0	0	1	1	6
17:30 *	0	0	0	0	3	0	1	0	0	0	2	0	6
17:45 *	0	0	0	0	0	0	0	0	0	0	3	0	3
18:00	0	0	0	0	1	0	0	0	0	0	3	0	4
TOTAL	0	0	0	9	141	0	18	0	11	0	112	21	
APPR.		0			150			29			133		312

TRUCKS

7:15	0	0	0	0	2	0	1	0	0	0	3	0	6
7:30	0	0	0	0	9	0	0	0	0	0	4	1	14
7:45	0	0	0	0	8	0	0	0	0	0	2	1	11
8:00	0	0	0	0	5	0	0	0	0	0	1	1	7
8:15 *	0	0	0	0	3	0	1	0	0	0	2	0	6
8:30 *	0	0	0	0	4	0	1	0	0	0	3	0	8
8:45 *	0	0	0	0	7	0	2	0	0	0	4	0	13
9:00 *	0	0	0	0	2	0	0	0	0	0	3	0	5
9:15	0	0	0	0	12	0	0	0	0	0	4	0	16
9:30	0	0	0	0	4	0	0	0	1	0	3	0	8
9:45	0	0	0	0	5	0	0	0	1	0	3	1	10
10:00	0	0	0	2	5	0	0	0	0	0	4	0	11
13:45	0	0	0	0	3	0	0	0	0	0	4	1	8
14:00	0	0	0	0	3	0	0	0	0	0	5	0	8
14:15	0	0	0	0	4	0	0	0	0	0	1	0	5
14:30	0	0	0	0	3	0	0	0	0	0	3	0	6
14:45 *	0	0	0	0	2	0	1	0	0	0	4	0	7
15:00 *	0	0	0	0	1	0	1	0	0	0	1	0	3
15:15 *	0	0	0	0	5	0	0	0	2	0	3	0	10
15:30 *	0	0	0	1	3	0	1	0	0	0	2	0	7
16:15	0	0	0	0	3	0	0	0	0	0	2	0	5
16:30	0	0	0	0	2	0	0	0	0	0	2	0	4
16:45	0	0	0	0	1	0	0	0	0	0	1	0	2
17:00 *	0	0	0	0	1	0	1	0	0	0	3	0	5
17:15 *	0	0	0	0	1	0	0	0	0	0	0	1	2
17:30 *	0	0	0	0	2	0	1	0	0	0	1	0	4
17:45 *	0	0	0	0	0	0	0	0	0	0	1	0	1
18:00	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	0	0	0	3	100	0	10	0	4	0	70	6	
APPR.		0			103			14			76		193

City of Hamilton **TURNING MOVEMENT COUNT** Loc. Code: 224

Intersection: **Garner Rd W** **at** **Hamilton Dr** Total Vehicles: 7,222 Date: Tuesday
Direction: (East/West) (North/South) Sep 25, 2018
Road Condition: Wet Weather: Overcast Period: 8 hours
Comments:

TOTAL VEHICLES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			Total	Pedestrians N side	Pedestrians E side	Pedestrians S side	Pedestrians W side
	L	S	R	L	S	R	L	S	R	L	S	R	Veh's				
7:15	0	0	0	3	63	0	6	0	4	0	64	6	146	0	0	0	0
7:30	0	0	0	2	89	0	11	0	2	0	101	12	217	0	0	0	0
7:45	0	0	0	2	106	0	20	0	4	0	89	12	233	0	0	0	0
8:00	0	0	0	5	94	0	31	0	1	0	111	19	261	0	0	0	0
8:15	0	0	0	1	93	0	26	0	7	0	116	33	276	0	0	0	0
8:30	0	0	0	0	83	0	23	0	3	0	97	17	223	0	0	0	1
8:45	0	0	0	3	163	0	14	0	3	0	90	16	289	0	0	0	0
9:00	0	0	0	7	123	0	18	0	11	0	112	7	278	0	0	0	0
9:15	0	0	0	4	96	0	9	0	6	0	101	10	226	1	0	0	0
9:30	0	0	0	0	87	0	13	0	4	0	86	7	197	0	0	0	0
9:45	0	0	0	1	65	0	7	0	5	0	67	8	153	0	0	0	0
10:00	0	0	0	4	63	0	8	0	5	0	66	8	154	0	0	0	0
13:45	0	0	0	4	68	0	4	0	5	0	96	8	185	1	0	0	0
14:00	0	0	0	9	77	0	9	0	2	0	89	8	194	0	0	0	1
14:15	0	0	0	4	72	0	11	0	2	0	67	5	161	0	0	0	0
14:30	0	0	0	1	72	0	8	0	1	0	82	16	180	0	0	0	0
14:45	0	0	0	6	85	0	8	0	6	0	87	12	204	0	0	0	1
15:00	0	0	0	5	68	0	12	0	0	0	80	11	176	0	0	0	0
15:15	0	0	0	8	77	0	9	0	11	0	94	5	204	0	0	0	0
15:30	0	0	0	5	92	0	13	0	1	0	85	15	211	0	0	0	0
16:15	0	0	0	10	129	0	8	0	1	0	101	11	260	0	0	0	0
16:30	0	0	0	8	124	0	9	0	9	0	120	17	287	1	0	0	0
16:45	0	0	0	6	135	0	6	0	3	0	87	15	252	0	0	0	0
17:00	0	0	0	5	163	0	11	0	6	0	133	14	332	0	0	0	0
17:15	0	0	0	6	144	0	8	0	3	0	116	18	295	0	0	0	0
17:30	0	0	0	10	148	0	13	0	5	0	114	11	301	0	0	0	0
17:45	0	0	0	8	145	0	9	0	8	0	104	17	291	0	0	0	0
18:00	0	0	0	5	115	0	11	0	5	0	78	18	232	1	0	0	0
18:15	0	0	0	7	100	0	10	0	6	0	82	12	217	0	0	0	0
18:30	0	0	0	7	95	0	18	0	8	0	84	16	228	0	0	0	0
18:45	0	0	0	3	86	0	4	0	4	0	85	10	192	1	0	0	0
19:00	0	0	0	4	77	0	9	0	5	0	65	7	167	0	0	0	0
TOTAL	0	0	0	153	3,197	0	376	0	146	0	2,949	401		5	0	0	3
APPR.		0			3,350			522			3,350		7,222			8	

TRUCKS & BUSES

15 mins. Ending	North Bd. on N/S			East Bd. on E/W			South Bd. on N/S			West Bd. on E/W			
	L	S	R	L	S	R	L	S	R	L	S	R	Total
7:15	0	0	0	0	3	0	1	0	0	0	4	0	8
7:30	0	0	0	0	12	0	0	0	0	0	5	2	19
7:45	0	0	0	2	10	0	1	0	1	0	2	1	17
8:00	0	0	0	2	7	0	3	0	0	0	6	7	25
8:15	0	0	0	0	5	0	1	0	0	0	4	1	11
8:30	0	0	0	0	5	0	2	0	0	0	3	0	10
8:45	0	0	0	2	10	0	2	0	0	0	5	0	19
9:00	0	0	0	0	8	0	0	0	0	0	3	0	11
9:15	0	0	0	0	14	0	1	0	0	0	9	1	25
9:30	0	0	0	0	4	0	0	0	1	0	4	0	9
9:45	0	0	0	0	7	0	0	0	1	0	6	1	15
10:00	0	0	0	2	5	0	0	0	0	0	4	0	11
13:45	0	0	0	0	4	0	0	0	0	0	5	1	10
14:00	0	0	0	0	3	0	0	0	0	0	6	0	9
14:15	0	0	0	0	6	0	0	0	0	0	2	0	8
14:30	0	0	0	0	3	0	0	0	0	0	5	2	10
14:45	0	0	0	0	2	0	1	0	1	0	7	2	13
15:00	0	0	0	0	3	0	1	0	0	0	1	0	5
15:15	0	0	0	0	7	0	2	0	2	0	4	0	15
15:30	0	0	0	1	4	0	1	0	0	0	5	0	11
16:15	0	0	0	0	4	0	0	0	1	0	3	0	8
16:30	0	0	0	0	3	0	0	0	3	0	3	2	11
16:45	0	0	0	0	1	0	0	0	0	0	4	0	5
17:00	0	0	0	0	3	0	1	0	1	0	3	0	8
17:15	0	0	0	0	4	0	0	0	0	0	1	1	6
17:30	0	0	0	0	3	0	1	0	0	0	2	0	6
17:45	0	0	0	0	0	0	0	0	0	0	3	0	3
18:00	0	0	0	0	1	0	0	0	0	0	3	0	4
18:15	0	0	0	0	2	0	0	0	0	0	0	0	2
18:30	0	0	0	0	3	0	0	0	1	0	0	1	5
18:45	0	0	0	0	2	0	0	0	0	0	1	0	3
19:00	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	0	0	0	9	148	0	18	0	12	0	114	22	
APPR.		0			157			30			136		323

TRUCKS

7:15	0	0	0	0	2	0	1	0	0	0	3	0	6
7:30	0	0	0	0	9	0	0	0	0	0	4	1	14
7:45	0	0	0	0	8	0	0	0	0	0	2	1	11
8:00	0	0	0	0	5	0	0	0	0	0	1	1	7
8:15	0	0	0	0	3	0	1	0	0	0	2	0	6
8:30	0	0	0	0	4	0	1	0	0	0	3	0	8
8:45	0	0	0	0	7	0	2	0	0	0	4	0	13
9:00	0	0	0	0	2	0	0	0	0	0	3	0	5
9:15	0	0	0	0	12	0	0	0	0	0	4	0	16
9:30	0	0	0	0	4	0	0	0	1	0	3	0	8
9:45	0	0	0	0	5	0	0	0	1	0	3	1	10
10:00	0	0	0	2	5	0	0	0	0	0	4	0	11
13:45	0	0	0	0	3	0	0	0	0	0	4	1	8
14:00	0	0	0	0	3	0	0	0	0	0	5	0	8
14:15	0	0	0	0	4	0	0	0	0	0	1	0	5
14:30	0	0	0	0	3	0	0	0	0	0	3	0	6
14:45	0	0	0	0	2	0	1	0	0	0	4	0	7
15:00	0	0	0	0	1	0	1	0	0	0	1	0	3
15:15	0	0	0	0	5	0	0	0	2	0	3	0	10
15:30	0	0	0	1	3	0	1	0	0	0	2	0	7
16:15	0	0	0	0	3	0	0	0	0	0	2	0	5
16:30	0	0	0	0	2	0	0	0	0	0	2	0	4
16:45	0	0	0	0	1	0	0	0	0	0	1	0	2
17:00	0	0	0	0	1	0	1	0	0	0	3	0	5
17:15	0	0	0	0	1	0	0	0	0	0	0	1	2
17:30	0	0	0	0	2	0	1	0	0	0	1	0	4
17:45	0	0	0	0	0	0	0	0	0	0	1	0	1
18:00	0	0	0	0	0	0	0	0	0	0	1	0	1
18:15	0	0	0	0	1	0	0	0	0	0	0	0	1
18:30	0	0	0	0	3	0	0	0	1	0	0	1	5
18:45	0	0	0	0	1	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	0	0	0	3	105	0	10	0	5	0	71	7	
APPR.		0			108			15			78		201

MTO SIGNAL WARRANT CALCULATIONS

INTERSECTION:	**Hamilton Dr at Garner Rd W**		
DATE OF COUNT:	**Tuesday, Sep 25, 2018**	**MINOR/MAJOR CHECK:**	
MINOR STREET:	**Hamilton Dr**	**(MINOR STREET)**	
MAJOR STREET:	**Garner Rd W**	**(MAJOR STREET)**	
DIRECTION (E/W OR N/S):		**E/W**	
INTERSECTION CONFIGURATION (CROSS OR T):		**T**	
TOTAL NUMBER OF THROUGH LANES ON MAJOR STREET:		**2**	
FREE FLOW=F OR RESTRICTED=R:		**R**	
NUMBER OF STREETS WHICH CARRY TWO-WAY TRAFFIC:		**2**	

VOLUME DATA FOR WARRANTS

TIME PER.	Hamilton Dr (MINOR STREET) NORTHBOUND L	S	R	SOUTHBOUND L	S	R	Garner Rd W (MAJOR STREET) EASTBOUND L	S	R	WESTBOUND L	S	R	PEDESTRIANS N & S WALKS	E & W WALKS	WARRANT VOLUMES 1A	1B	2A	2B
7:00- 8:00	0	0	0	68	0	11	12	352	0	0	365	49	0	0	857	79	778	68
8:00- 9:00	0	0	0	81	0	24	11	462	0	0	415	73	0	1	1066	105	961	82
9:00-10:00	0	0	0	37	0	20	9	311	0	0	320	33	1	0	730	57	673	37
1:30- 2:30	0	0	0	32	0	10	18	289	0	0	334	37	1	1	720	42	678	33
2:30- 3:30	0	0	0	42	0	18	24	322	0	0	346	43	0	1	795	60	735	43
4:00- 5:00	0	0	0	34	0	19	29	551	0	0	441	57	1	0	1131	53	1078	34
5:00- 6:00	0	0	0	41	0	21	29	552	0	0	412	64	1	0	1119	62	1057	41
6:00- 7:00	0	0	0	41	0	23	21	358	0	0	316	45	1	0	804	64	740	41

TRAFFIC SIGNAL WARRANT DETAILS

APPLICABLE VOLUME WARRANT		HOUR OF DAY 7:00-8:00	8:00-9:00	9:00-10:00	1:30-2:30	2:30-3:30	4:00-5:00	5:00-6:00	6:00-7:00	COMPLIANCE PERCENTAGE	WARRANT SECTIONAL
1. MINIMUM VEHICULAR VOLUME											
1A) ALL APPROACHES:	720	857	1066	730	720	795	1131	1119	804	100	
PERCENTAGE WARRANT:		100	100	100	100	100	100	100	100		
1B) MINOR STREET:	255	79	105	57	42	60	53	62	64	26	
PERCENTAGE WARRANT:		31	41	22	16	24	21	24	25		
2. DELAY TO CROSS STREET											
2A) MAJOR STREET:	720	778	961	673	678	735	1078	1057	740	95	
PERCENTAGE WARRANT:		100	100	80	80	100	100	100	100		**61**
2B) MINOR STREET:	75	68	82	37	33	43	34	41	41	61	
PERCENTAGE WARRANT:		80	100	49	44	57	45	55	55		

ACCIDENTS

YEAR	TOTAL	PREVEN

APPENDIX B:
SIGNAL TIMING PLANS

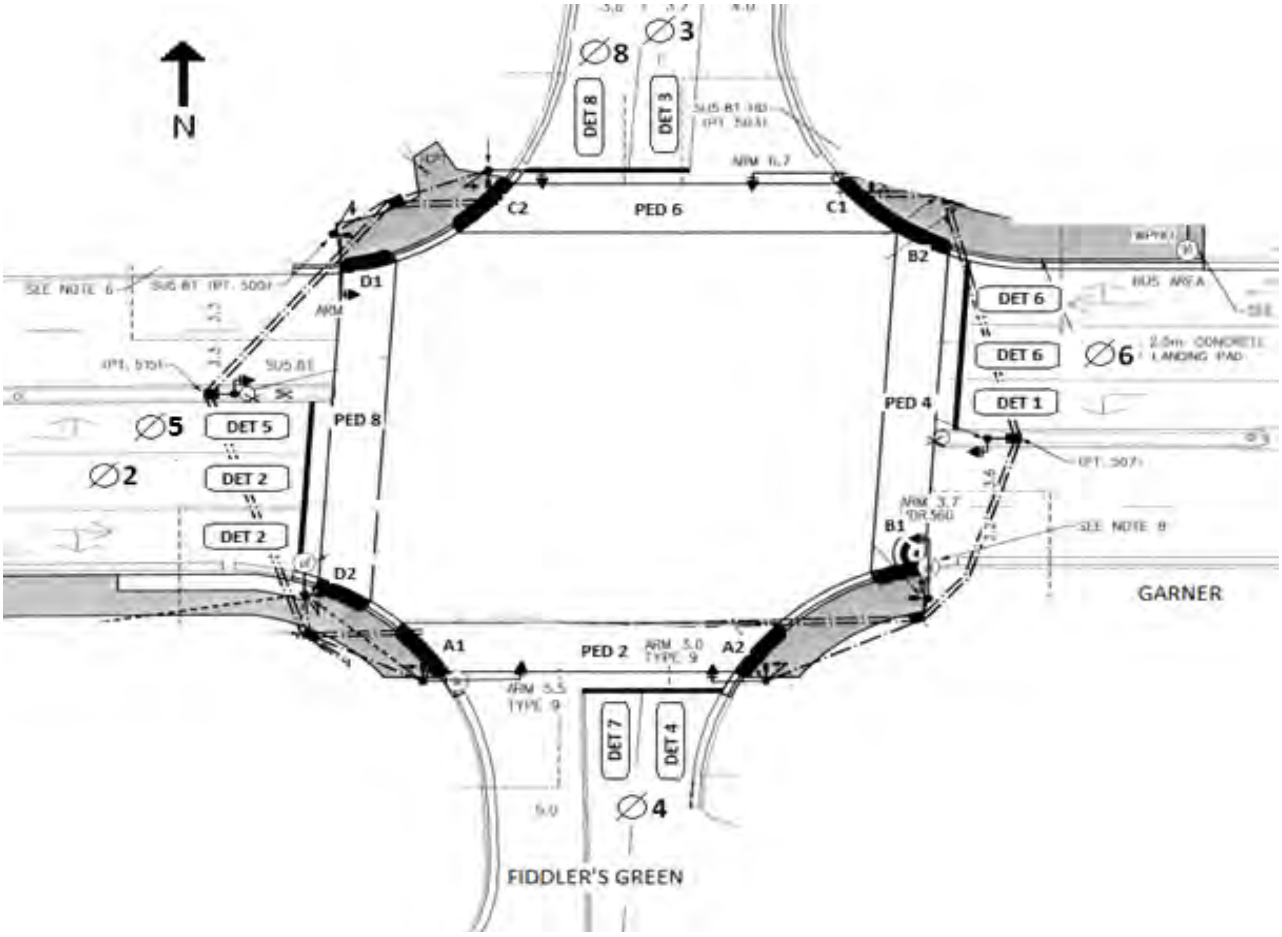
City of Hamilton - Traffic
Traffic Signal Controller Timing Data

Intersection: **Fiddler's Green & Garner**

Controller Type: **3000E** Page **1** of **14**

Programmed By: **JC** Installed By:

Date: **April 24/17** Date:



ϕ1:
ϕ2: **Garner - EB, South Xwalk**
ϕ3: **Fiddler's Green - SBLT**
ϕ4: **Fiddler's Green - NB, East Xwalk**
ϕ5: **Garner - EBLT**
ϕ6: **Garner - WB, North Xwalk**
ϕ7:
ϕ8: **Fiddler's Green - SB, West Xwalk**

Flash Operation: **Red: Garner**
Red: Fiddler's Green

SEQUENCE/START-UP (MM-3-1-1)

START-UP PHASES/INTERVAL/SEQUENCE

(X = Enable for start-up phases. Must be compatible if more than one)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
START-UP	Phases				X				X								
	Interval	0	(0=Red, 1=Yel, 2= Grn, determines color of selected phases above on start-up)														
	Flash	10	(0-255 seconds start-up flash time)														
	Red	5.0	(0-25.5 secs = length of first red after start-up if start-up in yellow or red)														
	Sequence	3	(2=single ring, 3=dual ring, 4=123/567+48, 5=12/56+3478, 6=1234/56+78, 7=1234/5678, 8=dual quad, 9=12ph														

PHASE RING ASSIGNMENTS

X = Phase assigned to ring (if used). Phases in different rings but same co-phase group can time together.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
RING	Ring 1		X	X	X												
	Ring 2					X	X		X								
	Ring 3																
	Ring 4																

CO-PHASE GRP 1-4 ASSIGNMENTS

X = phase assigned to co-phase group. All ph's assigned to rings must be assigned to co-phase group.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CO-PHASE	CO PH 1		X			X	X										
	CO PH 2			X	X				X								
	CO PH 3																
	CO PH 4																

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PHASE RECALLS/MODES; MIN, MAX, etc. (MM-3-1-2-1-PGDN, etc.) **USE 1 TO ALL 4 TIMING PLANS**

TP1 PHASE RECALLS (X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL		X				X										
	SOFT REC																
	NON-LOCK		X	X	X	X	X		X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

TP2 PHASE RECALLS (X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL		X				X										
	SOFT REC																
	NON-LOCK		X	X	X	X	X		X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

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CONTROLLER DATA

TP3 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL		X				X										
	SOFT REC																
	NON-LOCK		X	X	X	X	X		X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

TP4 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL		X				X										
	SOFT REC																
	NON-LOCK		X		X		X		X								
	VEH OMIT			X		X											
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

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CONTROLLER DATA

PHASE RECALLS/MODES; CNA, INH MAX, PED OPTIONS, etc. (MM-3-1-2-2) ONLY 1 PLAN PER UNIT

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	CNA 1																
	CNA 2																
	CNA 3																
	CNA 4																
	WRM																
	INH MAX																
	PED RECY		X				X										
	FL WALK																
	FDW->YEL																
	FDW->RED																
	COND PED																

PHASE TIMES (MM-3-1-3-PGDN, etc.) USE 1 TO ALL 4 TIMING PLANS

		TP1															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		**26**	**5**	**10**	**5**	**26**		**10**								
	Passage		**4.0**	**2.0**	**3.0**	**2.0**	**4.0**		**3.0**								
	Yellow		**4.2**	**3.0**	**4.2**	**3.0**	**4.2**		**4.2**								
	Red		**2.7**	**0.0**	**2.5**	**0.0**	**2.7**		**2.5**								
	Walk		**12**		**12**		**12**		**12**								
	Ped Clr		**14**		**13**		**14**		**13**								
	Max 1		**40**	**7**	**30**	**7**	**40**		**30**								
	Max 2																
	Mx 3 Lim																
	Mx 3 Adh																
	TBR																
	TTR																
	Min Gap																
	AI/Act																
	Max In																

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CONTROLLER DATA

TP2

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		**30**	**5**	**10**	**5**	**30**		**10**								
	Passage		**4.0**	**2.0**	**3.0**	**2.0**	**4.0**		**3.0**								
	Yellow		**4.2**	**3.0**	**4.2**	**3.0**	**4.2**		**4.2**								
	Red		**2.7**	**0.0**	**2.5**	**0.0**	**2.7**		**2.5**								
	Walk		**12**		**12**		**12**		**12**								
	Ped Clr		**14**		**13**		**14**		**13**								
	Max 1		**50**	**7**	**30**	**7**	**50**		**30**								
	Max 2																
	Mx 3 Lim																
	Mx 3 Adh																
	TBR																
	TTR																
	Min Gap																
	AI/Act																
	Max In																

TP3

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		**30**	**5**	**10**	**5**	**30**		**10**								
	Passage		**4.0**	**2.0**	**3.0**	**2.0**	**4.0**		**3.0**								
	Yellow		**4.2**	**3.0**	**4.2**	**3.0**	**4.2**		**4.2**								
	Red		**2.7**	**0.0**	**2.5**	**0.0**	**2.7**		**2.5**								
	Walk		**12**		**12**		**12**		**12**								
	Ped Clr		**14**		**13**		**14**		**13**								
	Max 1		**50**	**7**	**30**	**7**	**50**		**30**								
	Max 2																
	Mx 3 Lim																
	Mx 3 Adh																
	TBR																
	TTR																
	Min Gap																
	AI/Act																
	Max In																

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CONTROLLER DATA

		TP4															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		**30**		**10**		**30**		**10**								
	Passage		**4.0**		**3.0**		**4.0**		**3.0**								
	Yellow		**4.2**		**4.2**		**4.2**		**4.2**								
	Red		**2.7**		**2.5**		**2.7**		**2.5**								
	Walk		**12**		**12**		**12**		**12**								
	Ped Clr		**14**		**13**		**14**		**13**								
	Max 1		**30**		**30**		**30**		**30**								
	Max 2																
	Mx 3 Lim																
	Mx 3 Adh																
	TBR																
	TTR																
	Min Gap																
	AI/Act																
	Max In																

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DUAL ENTRY (MM-3-1-6)

DUAL ENTRY ENABLE:	Y	Y/N: Y=Enable Dual Entry. Note this is only one setting even though it appears on each controller screen.

PG1	PH/CALLS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DUAL	1																
ENTRY	2						X										
ASSIGN-	3								X								
MENTS	4								X								
	5		X														
	6		X														
	7																
	8				X												

VEHICLE DETECTOR ASSIGNMENTS (MM-3-1-4-1, PGDN etc.)

(X = ASSIGN VEH DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH	1						X										
DET	2		X														
ASSIGN-	3			X													
MENTS	4				X												
	5					X											
	6						X										
	7				X												
	8								X								
	9																

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PED DETECTOR ASSIGNMENTS (MM-3-1-4-2)

(X = ASSIGN PED DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED	1																
DET	2		X				X										
ASSIGN-	3																
MENTS	4				X												
	5																
	6		X				X										
	7																
	8								X								

DETECTOR MODES (MM-3-1-4-3)

	DET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET	Mode	**0**	**0**	**2**	**2**	**0**	**0**	**2**	**2**								
MODES																	

DETECTOR TIMES (MM-3-1-4-4)

	DET	1	2	3	4	5	6	7	8
DET	Delay	**0**	**0**	**1**	**5**	**0**	**0**	**1**	**5**
TIMES	Str/Stp								

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DETECTOR SWITCH AND COPY (MM-3-1-4-6-PGDN, etc.)

Detector Switching Enable	**Y**	Y/N; Y= Enable, detector switching per plans 1-16 is enabled
Detector Copy Group 1 Enable		Y/N; Y = Enable, detector copy per plans 1-16 is enabled
Detector Copy Group 2 Input Eneble		Y/N; Y = Enable, the goupr 2 input is enabled. GP2 will then become selected copy group if input is active

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DET	Ph Grns																
SWITCH	Switch (TS1)																
& COPY	G1 Copy																
1 of 16	G2 Copy																

	Swtch	G1C	G2C
From Ph:	**3**		
To Ph:	**8**		

Notes: 1. Phase greens on "Switch" row apply to TS1 only, do not use for TS2

TS2 Det Switching requires "From" and "To" phases only -->

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DET	Ph Grns																
SWITCH	Switch (TS1)																
& COPY	G1 Copy																
2 of 16	G2 Copy																

	Swtch	G1C	G2C
From Ph:	**5**		
To Ph:	**2**		

Notes: 1. Phase greens on "Switch" row apply to TS1 only, do not use for TS2

TS2 Det Switching requires "From" and "To" phases only -->

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ENHANCED OPTIONS

DYNAMIC OMITS (MM-3-1-9-1-1)

DYNAM OMITS GP1 ENABLE:	**Y**	Y/N: Y=Enable. Note: This is one setting but appears on each screen. No input rquired for GP1.

(X = ENABLE)

GRP1-1	FUNC/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DYNAM.	OMIT PHS			**X**													
OMITS	IF PH ON				**X**				**X**								
ASSIGN-	OR O/L	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MENTS	GRN																

(X = ENABLE)

GRP1-2	FUNC/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DYNAM.	OMIT PHS					**X**											
OMITS	IF PH ON		**X**				**X**										
ASSIGN-	OR O/L	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MENTS	GRN																

DYNAMIC RECALLS (MM-3-1-9-1-2)

DYN. RECALL GP1 ENABLE:	**Y**	Y/N: Y=Enable. Note: This is one setting but appears on each screen. No input rquired for GP1.

(X = ENABLE)

GRP1-1	FUNC/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DYNAM.	RCL PHS				**X**				**X**								
RECALLS	IF PH ON			**X**													
ASSIGN-	OR O/L	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MENTS	GRN																

(X = ENABLE)

GRP1-1	FUNC/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DYNAM.	RCL PHS		**X**				**X**										
RECALLS	IF PH ON					**X**											
ASSIGN-	OR O/L	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
MENTS	GRN																

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DAY PLANS (MM-3-3-1-#)

	HH	MM	CIRCUIT PLAN	C	O	S	CKT	ON/OFF
1	**00**	**00**					**11(FRE)**	**ON**
	00	**00**					**16(TP4)**	**ON**
	08	**00**					**16(TP4)**	**OFF**
	20	**00**					**16(TP4)**	**ON**
2	**00**	**00**					**11(FRE)**	**ON**
	00	**00**					**16(TP4)**	**ON**
	06	**30**					**16(TP4)**	**OFF**
	06	**30**					**14(TP2)**	**ON**
	09	**30**					**14(TP2)**	**OFF**
	14	**30**					**15(TP3)**	**ON**
	18	**30**					**15(TP3)**	**OFF**
	22	**00**					**16(TP4)**	**ON**

WEEK PLANS (MM-3-3-3)

Plan	SUN	MON	TUE	WED	THU	FRI	SAT
1	**1**	**2**	**2**	**2**	**2**	**2**	**1**
2							
3							
4							
5							

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CIRCUIT OVERRIDES (MM-3-3-6)

For each ciruit specify TOD (time of day controlled), or manually ON or OFF. Default = TOD

CIRCUIT OVER-RIDES	Circuit	81	82	83	84	85	86	**87**	**88**
	Function	TIA	TIB	TIC	N/U	N/U	N/U	**PR1**	**PR2**
	State							**ON**	**ON**
	Circuit	89	90	91	92	93	94	95	96
	Function	OR1	OR2	RR1	RR2	M21	M22	DM3	GR2
	State								
CIRCUIT OVER-RIDES	Circuit	113	114	115	116	117	118	119	120
	Function	UD1	UD2	UD3	UD4	UD5	UD6	UD7	UD8
	State								
	Circuit	121	122	123	124	**125**	**126**	127	128
	Function	PH2	DP2	DP3	3CD	**EVL**	**EML**	ASC	DCP
	State					**ON**	**ON**		

DAYLIGHT SAVINGS (MM-3-3-7)

DAY LIGHT SAVINGS	Spring		Fall	
	(0-12)	(0-5)	(0-12)	(0-5)
	Month	WOM	Month	WOM
	3	**2**	**11**	**1**

Enter Month and Week of Month for Spring Forward and Fall Back days (typical 4 - 1 and 10 - 5). Unit will adjust at 2AM on Sunday of week specified. Enter zero (or leave blank) if Daylight Savings not used.

SYNC REFERENCE MODE (MM-3-3-8)

Mode:	**0**	0 = Time dependent, 1 = C/O/S Event

	HH	MM	
Time Clock Reset:	**00**	**00**	TOD clock reset to by TBC input
Interrupter:		**N**	Y/N; Y = Interrupter pulses provided
Pulses:		**0**	0-6 = Number of interrupter pulses

TIME DEPENDENT CYCLE REFERENCES		HH	MM		HH	MM		HH	MM
	CYC 1:	**00**	**00**	CYC 2:	**00**	**00**	CYC 3:	**00**	**00**
	CYC 4:	**00**	**00**	CYC 5:	**00**	**00**	CYC 6:	**00**	**00**

When mode = Time dependent, enter reference times of day for each cycle. Default = 00:00 = midnight = most commonly used reference.
When mode = C/O/S Event, cycle restarts on each COS change. Only use this mode for specific reasons. Time dependent most common used mode.

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CLOSED LOOP ID (MM-3-5-1)

CLOSED LOOP ID	Master Type:		0 = None, 1 = 3000 Series Master, 2 = 3800 EL master
	Intersection ID		0-255
	Master Identification		0-255
	Allow Comm Xfer Between Ports 2 & 3		Y/N: Y = Incoming signal on Master port (2 or 3), gets echo'd on other port

COMM SET-UP (MM-3-5-2)

PG1 PORT ASSIGN	Master (CL) Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used to receive Master Comm)
	Monitor Port		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Monitor Data Upload)
	Central Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Direct Dial-up Modem)

PG2 PORT 2 SETUP	Data Rate:	**9600**	1200, 2400, 4800, 9600, 14400, 19200
	Parity	**0**	0 = None, 1 = Odd, 2=Even
	Data bits	**1**	0 = 7 bits, 1 = 8 bits

PG3 PORT 3 SETUP	Data Rate:	**1200**	1200, 2400, 4800, 9600, 14400, 19200
	Parity	**0**	0 = None, 1 = Odd, 2=Even
	Data bits	**1**	0 = 7 bits, 1 = 8 bits

PG4	Modem Set-up String:		Up to 40 charaters; A-Z, or # @ = , ! ; % \ &

PHONE NUMBERS (MM-3-5-3)

PHONE NUM-BERS	Tone:		Y/N
	Phone 1:		Number & control characters (W , ; # ' / T P) if used
	Phone 2:		Number & control characters (W , ; # ' / T P) if used

LOG DATA (MM-3-5-5)

PG1 SAMPLE	Volume Log Sample period:	**60**	0, 6, 10, 15, 20, 30, 60 minutes, Enabled by TOD Ckt. 125 (EVL)
	MOE Log Sample period:	**60**	0, 6, 10, 15, 20, 30, 60 minutes, Enabled by TOD Ckt. 126 (EML)

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WORK ORDER
PUBLIC WORKS
TRAFFIC SECTION
CITY OF HAMILTON

Priority
1= Emergency
2= Priority(date)
3= Regular

ISSUE DATE: 08 (DD) 02 (MM) 2010 (YY)

SIGNS	SIGNALS	PAINTING
R :	S :	P :

HANSEN CUSTOMER SERVICE NUMBER: _____

DISTRICT: SIGNALS

LOCATION: GARNER & WILSON

ACTIVITY: _____

WORK TO BE DONE: REPLACE CABINET + TIMER WITH ITS CABINET + 3000 E TIMER TIMINGS ATTACHED

SPECIAL PROJECT WORK ORDER NO: 407. TSR 10-

OPERATIONS CENTER: TO INIT.

- ☐ _____ SUPT
- ☐ SIGNS FOREMEN
- ☐ SIGNAL FOREMEN
- ☐ MARKING FOREMEN
- ☐ _____ UPDATE INVENTORY
- ☒ TO LOCATION FILE (OPERATIONS CENTRE)

ISSUED BY: Rob (Crew initials)

AUTHORIZED BY: ____

DATE REQ'D: _____

☐ FROM ENGINEERING SECTION

_____

☐ MAINTENANCE/OTHER ORIGIN:

_____

☐ TROUBLE CALL

RECEIVED BY: _____

TIME (24 HR): _____

DISPATCHED (24 HR): _____

☐ BY-LAW

NUMBER: _____

DATE APP'D: _____ 20

NORTH

CALL ROB (4555) When Ready at TOC.

UNDERGROUND UTILITIES

NOTE: NO POUNDING, DIGGING OR EXCAVATING UNTIL ALL UTILITIES HAVE BEEN CHECKED.

NOTE: _____

Hydro: _____

Bell Tell: _____

Union Gas: _____

CATV: _____

Other: _____

FIELD REMARKS (CONDITION FOUND & ACTION TAKEN FOR TROUBLE CALL)

- ☐ TRAFFIC ENGINEERING
- ☐ PARKING OPERATIONS
- ☐ HSR

ATTENTION: _____

COMMENTS: _____

ARRIVAL (TROUBLE CALL)

DATE: _____ (DD MM YY)

TIME: _____ (24 HR CLOCK)

WORK COMPLETE

BY: _____

DATE: _____ 20 (DD MM YY)

TIME: _____ (24 HOUR CLOCK)

☐ TO LOCATION FILE

YELLOW COPY - Operations Centre Location File **WHITE COPY** - Traffic Operations Engineer **PINK COPY** - Author Revised Mar 2009

CITY OF HAMILTON TRAFFIC DIVISION
TRAFFIC SIGNAL CONTROLLER TIMING DATA

INTERSECTION GARNER / MASON & WILSON

CONTROLLER TYPE 3000E

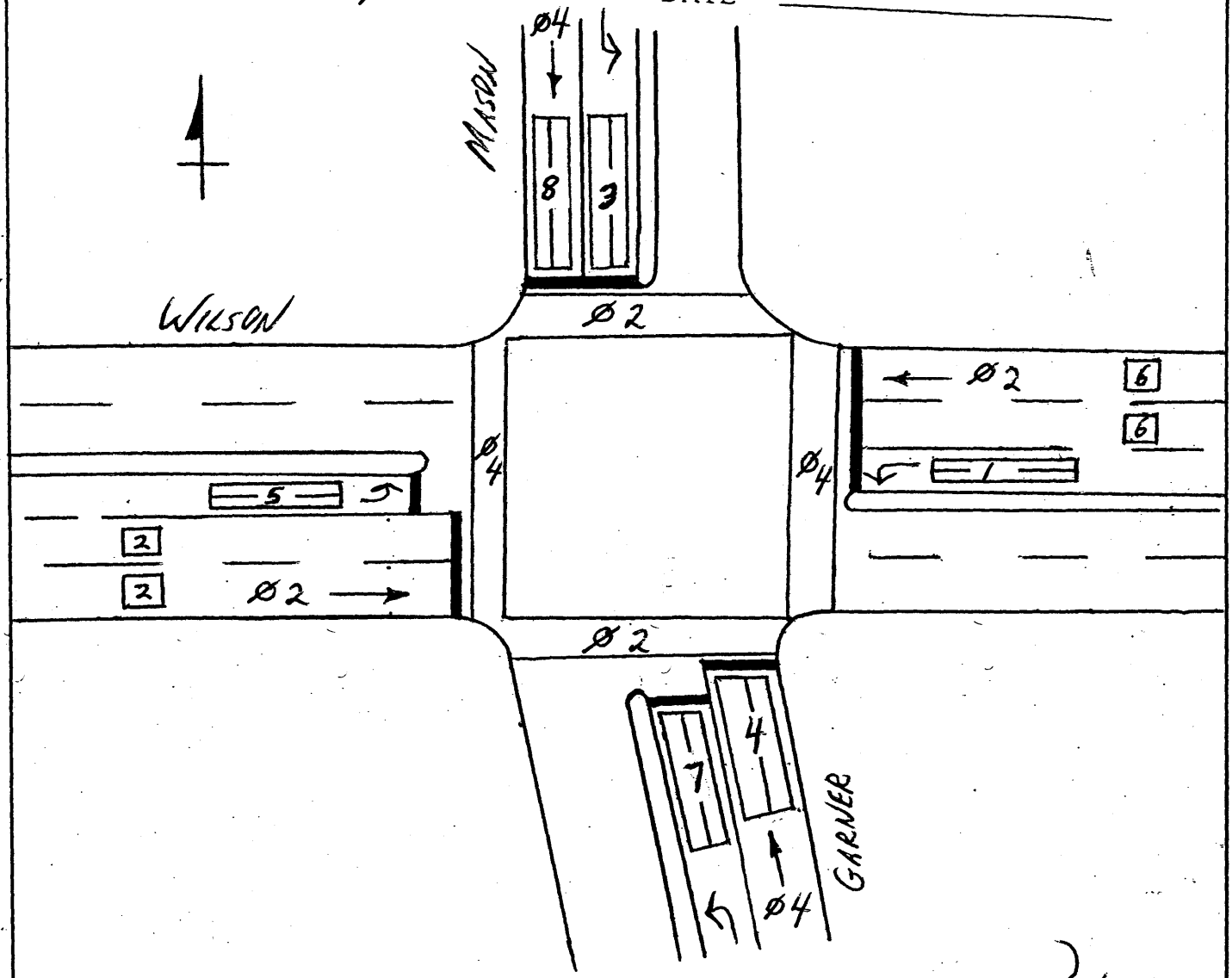
PROGRAMMED BY RDC

DATE FEB 8/10

PAGE 1 OF 12

INSTALLED BY

DATE



Ø2 - WB / EB AND NORTH / SOUTH X-WALKS } LOOPS & PB's

Ø4 - NB / SB AND EAST / WEST X-WALKS }

FLASHING OPERATION: RED ON GARNER / MASON
RED ON WILSON

SEQUENCE/START-UP (MM-3-1-1)

START-UP PHASES/INTERVAL/SEQUENCE

(X = Enable for start-up phases. Must be compatible if more than one)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
START-UP	Phases		X														
	Interval	2	(0=Red, 1=Yel, 2= Grn, determines color of selected phases above on start-up)														
	Flash	10	(0-255 seconds start-up flash time)														
	Red	0	(0-25.5 secs = length of first red after start-up if start-up in yellow or red)														
	Sequence	2	(2=single ring, 3=dual ring, 4=123/567+48, 5=12/56+3478, 6=1234/56+78, 7=1234/5678, 8=dual quad, 9=12ph														

PHASE RING ASSIGNMENTS

X = Phase assigned to ring (if used). Phases in different rings but same co-phase group can time together.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
RING	Ring 1		X		X												
	Ring 2																
	Ring 3																
	Ring 4																

CO-PHASE GRP 1-4 ASSIGNMENTS

X = phase assigned to co-phase group. All ph's assigned to rings must be assigned to co-phase group.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CO-PHASE	CO PH 1		X														
	CO PH 2				X												
	CO PH 3																
	CO PH 4																

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CONTROLLER DATA

PHASE RECALLS/MODES; MIN, MAX, etc. (MM-3-1-2-1-PGDN, etc.) USE 1 TO ALL 4 TIMING PLANS

(X = ENABLE) **TP1 PHASE RECALLS**

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X														
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK		X		X												
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

PHASE RECALLS/MODES; CNA, INH MAX, PED OPTIONS, etc. (MM-3-1-2-2) ONLY 1 PLAN PER UNIT

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	CNA 1																
	CNA 2																
	CNA 3																
	CNA 4																
	WRM																
	INH MAX																
	PED RECY		X														
	FL WALK																
	FDW->YEL																
	FDW->RED																
	COND PED																

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CONTROLLER DATA

PHASE TIMES (MM-3-1-3-PGDN, etc.)

USE 1 TO ALL 4 TIMING PLANS

		TP1															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		20		10												
	Passage		3.0		2.0												
	Yellow		4.6		4.6												
	Red		1.8		1.8												
	Walk		7		7												
	Ped Clr		18		20												
	Max 1		30		30												
	Max 2																
	Mx 3 Lim																
	Mx 3 Adh																
	TBR																
	TTR																
	Min Gap																
	Al/Act																
	Max In																

VEHICLE DETECTOR ASSIGNMENTS (MM-3-1-4-1, PGDN etc.)

(X = ASSIGN VEH DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET ASSIGN-MENTS	1		X														
	2		X														
	3				X												
	4				X												
	5		X														
	6		X														
	7				X												
	8				X												

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CONTROLLER DATA

PED DETECTOR ASSIGNMENTS (MM-3-1-4-2)

(X = ASSIGN PED DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED DET ASSIGN-MENTS	1																
	2		X														
	3																
	4				X												
	5																
	6																
	7																
	8																

DETECTOR MODES (MM-3-1-4-3)

	DET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET MODES	Mode	0	0	0	0	0	0	0	2								

DETECTOR TIMES (MM-3-1-4-4)

USE 1 TO ALL 3 DETECTOR TIMING PLANS

		TP1							
	DET	1	2	3	4	5	6	7	8
DET TIMES	Delay								5
	Str/Stp								

Detector Plans selected by TOD or cycle/split association. Plan 1 = default

DELAY = Amount of time during phase red that phase call is delayed before it is registered.

STR/STP = If DET mode = 2, this value is stretch time. If DET mode = 4, this is stop bar disconnect time (I.e. passage for stop bar)

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SELECTION SOURCE (MM-3-2-2)

Entries determine how parameters get selected

Cycle Source:	0	0=TOD, 1=CL, 2=INT
Split Source:	0	0=TOD, 1=CL, 2=INT
Offset Source:	0	0=TOD, 1=CL, 2=INT

Free Source:	0	0=TOD, 1=CL, 2=INT
Flash Source:	0	0=TOD, 1=CL, 2=INT
Inter-TOD Revert:	255	0-255 SECS

TOD = Time of day control by internal clock, CL = Closed loop (comm), INT = Interconnect. Inter-TOD Revert is time allowed after failed interconnect before unit reverts to TOD (Time Base) control.

COORD BASIC OPTIONS (MM-3-2-3)

Reference to End (vs. begin) of Main St:	N	Y/N: Y = Offset references to end of main st. green. N = Beginning of Main st. green.
Use % (vs. secs) for Phase Allocation:	N	Y/N: Y = Phase allocations loaded as percent of 100. N = Allocations in seconds.
Use % (vs. secs) for Offset Entry:	N	Y/N: Y = Offset loaded as percent of 100. N = Offset loaded in seconds.
Use Fixed (vs. floating) Force Offs:	Y	Y/N: Y = Force offs are fixed to cycle. N=Force offs like max times, begin with green.
Permissive Type:	1	0-2: 0=Yield, 1= Single, 2= Multiple. See Permissives note below

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C/S TO TIMING PLAN (MM-3-2-9-6)

USE THIS CHART WHEN 4 SPLITS/CYCLE = Y

	CYCLE	1	2	3	4	5	6
SPLIT TO TIME PLAN	SPLIT 1	1					
	SPLIT 2						
	SPLIT 3						
	SPLIT 4						

(0-4 = TIME PLAN IMPLEMENTED WHEN SPLIT IN EFFECT)

CYCLES & OFFSETS (MM-3-2-4)

NOTE: FIRST SPECIFY OFSET SEEKING MODE AND 4 SPLITS CYCLE MODE (ENHANCED OPTIONS, OPERATING MODES)

	Cycle #	1/1	2/1	3/1	4/1		
CYCLE & OFFSETS	Length	80					
	Offset 1	0					
	Offset 2						
	Offset 3						
	Offset 4						
	Offset 5						
	Max Dwell	32					

COORD PHASES (MM-3-2-5)

	CYCLE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COORD PHASES	1-1		X														

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OFFSET SEEKING MODE (MM-3-2-7)

Offset Seeeling Mode:	1

Mode

0 Add only, cycle times 20% slow only to get in sync

1 Dwell, cycle timer stops at cycle 0 up to max dwell time to get in step

2 Short Route, cycle times 20% fast or slow--whichever gets in step fastest

ENHANCED OPTIONS

OPERATING OPTIONS (MM-3-2-9-1)

Enhanced Perm:	Y	Y/N: See note	Invert Free In:	N	Y/N: See note
Central Override:	N	Y/N: See note	Split Matrix:	N	Y/N: See note
No PCL Offset Adjust:	N	Y/N: See note	4 Splits/Cycle:	Y	Y/N: See note
			No Early Coord Ped:	N	Y/N: See note

Yell Percent	0	0-10%: See note
EGB%	0	0-100%: See note
RGB%	0	0-100%: See note
# Cycles to out of step:	0	0-255: 0=Disable

CYCLE SYNC OPTIONS (MM-3-2-9-2)

Sync Source:	0	0-2, 0=TOD/CL/Interconnect, 1= City Zero, 2= Absolute

Charts below only For City Zero offfsets or Absolute (0's). These are not daily reference times for Sync Source Option 0 (see TOD).

Cycle 1:	0	Cycle 2:	0	Cycle 3:	0
Cycle 4:	0	Cycle 5:	0	Cycle 6:	0

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MANUAL/AUTO FORCE OFFS & PERMS

SET MANUAL MODE (MM-3-2-9-3-1)

Auto Perm and FO:	N	Y/N: Y = Perms & Force offs auto-calculated from phase allocations. N = Manually entered
Ped Perm:	0	0-255: 0 = Auto calculated. 1-255 = secs each ped perm, starting with vehicle permissives

LOAD MANUAL PERMISSIVES (MM-3-2-9-3-2) ONLY USED IF AUTO PERM & FO MODE = N

Cycle 1	Split 1/PH	1	2	3	4	5	6	7	8
MANUAL PERMS	Start				25				
	End				56				
	Split 2/PH	1	2	3	4	5	6	7	8
	Start								
	End								

LOAD MANUAL FORCE OFFS (MM-3-2-9-3-3) ONLY USED IF AUTO PERM & FO MODE = N

Cycle 1	PHASE	1	2	3	4	5	6	7	8
FO's	SPLIT 1		35		73				
	PHASE	1	2	3	4	5	6	7	8
	SPLIT 2								

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CONTROLLER DATA

DAY PLANS (MM-3-3-1-#)

	HH	MM	CIRCUIT PLAN	C	O	S	CKT	ON/OFF
1	00	00					11(FRE)	ON
	08	00					11(FRE)	OFF
	08	00		1	1	1		
	22	00					11(FRE)	ON
2	00	00					11(FRE)	ON
	06	00					11(FRE)	OFF
	06	00		1	1	1		
	22	00					11(FRE)	ON

WEEK PLANS (MM-3-3-3)

Plan	SUN	MON	TUE	WED	THU	FRI	SAT
1	1	2	2	2	2	2	1
2							
3							
4							
5							

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CIRCUIT OVERRIDES (MM-3-3-6)

For each ciruit specify TOD (time of day controlled), or manually ON or OFF. Default = TOD

CIRCUIT OVER-RIDES	Circuit	81	82	83	84	85	86	87	88
	Function	TIA	TIB	TIC	N/U	N/U	N/U	**PR1**	PR2
	State							**ON**	
	Circuit	89	90	91	92	93	94	95	96
	Function	OR1	OR2	RR1	RR2	M21	M22	DM3	GR2
	State								

DAYLIGHT SAVINGS (MM-3-3-7)

DAY LIGHT SAVINGS	Spring		Fall	
	(0-12)	(0-5)	(0-12)	(0-5)
	Month	WOM	Month	WOM
	3	**2**	**11**	**1**

Enter Month and Week of Month for Spring Forward and Fall Back days (typical 4 - 1 and 10 - 5). Unit will adjust at 2AM on Sunday of week specified. Enter zero (or leave blank) if Daylight Savings not used.

SYNC REFERENCE MODE (MM-3-3-8)

Mode:	**0**	0 = Time dependent, 1 = C/O/S Event

	HH	MM	
Time Clock Reset:	**00**	**00**	TOD clock reset to by TBC input
Interrupter:		**N**	Y/N; Y = Interrupter pulses provided
Pulses:		**0**	0-6 = Number of interrupter pulses

TIME DEPENDENT CYCLE REFERENCES	HH	MM	HH	MM	HH	MM
	CYC 1: **00**	**00**	CYC 2: **00**	**00**	CYC 3: **00**	**00**
	CYC 4:		CYC 5:		CYC 6:	

When mode = Time dependent, enter reference times of day for each cycle. Default = 00:00 = midnight = most commonly used reference.
When mode = C/O/S Event, cycle restarts on each COS change. Only use this mode for specific reasons. Time dependent most common used mode.

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CLOSED LOOP ID (MM-3-5-1)

CLOSED LOOP ID	Master Type:	1	0 = None, 1 = 3000 Series Master, 2 = 3800 EL master
	Intersection ID		0-255
	Master Identification		0-255
	Allow Comm Xfer Between Ports 2 & 3		Y/N: Y = Incoming signal on Master port (2 or 3), gets echo'd on other port

COMM SET-UP (MM-3-5-2)

PG1 PORT ASSIGN	Master (CL) Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used to receive Master Comm)
	Monitor Port		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Monitor Data Upload)
	Central Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Direct Dial-up Modem)

PG2 PORT 2 SETUP	Data Rate:		1200, 2400, 4800, 9600, 14400, 19200
	Parity		0 = None, 1 = Odd, 2=Even
	Data bits		0 = 7 bits, 1 = 8 bits

PG3 PORT 3 SETUP	Data Rate:		1200, 2400, 4800, 9600, 14400, 19200
	Parity		0 = None, 1 = Odd, 2=Even
	Data bits		0 = 7 bits, 1 = 8 bits

PG4	Modem Set-up String:		Up to 40 charaters; A-Z, or # @ = , ! ; % \ &

PHONE NUMBERS (MM-3-5-3)

PHONE NUM-BERS	Tone:		Y/N
	Phone 1:		Number & control characters (W , ; # ' / T P) if used
	Phone 2:		Number & control characters (W , ; # ' / T P) if used

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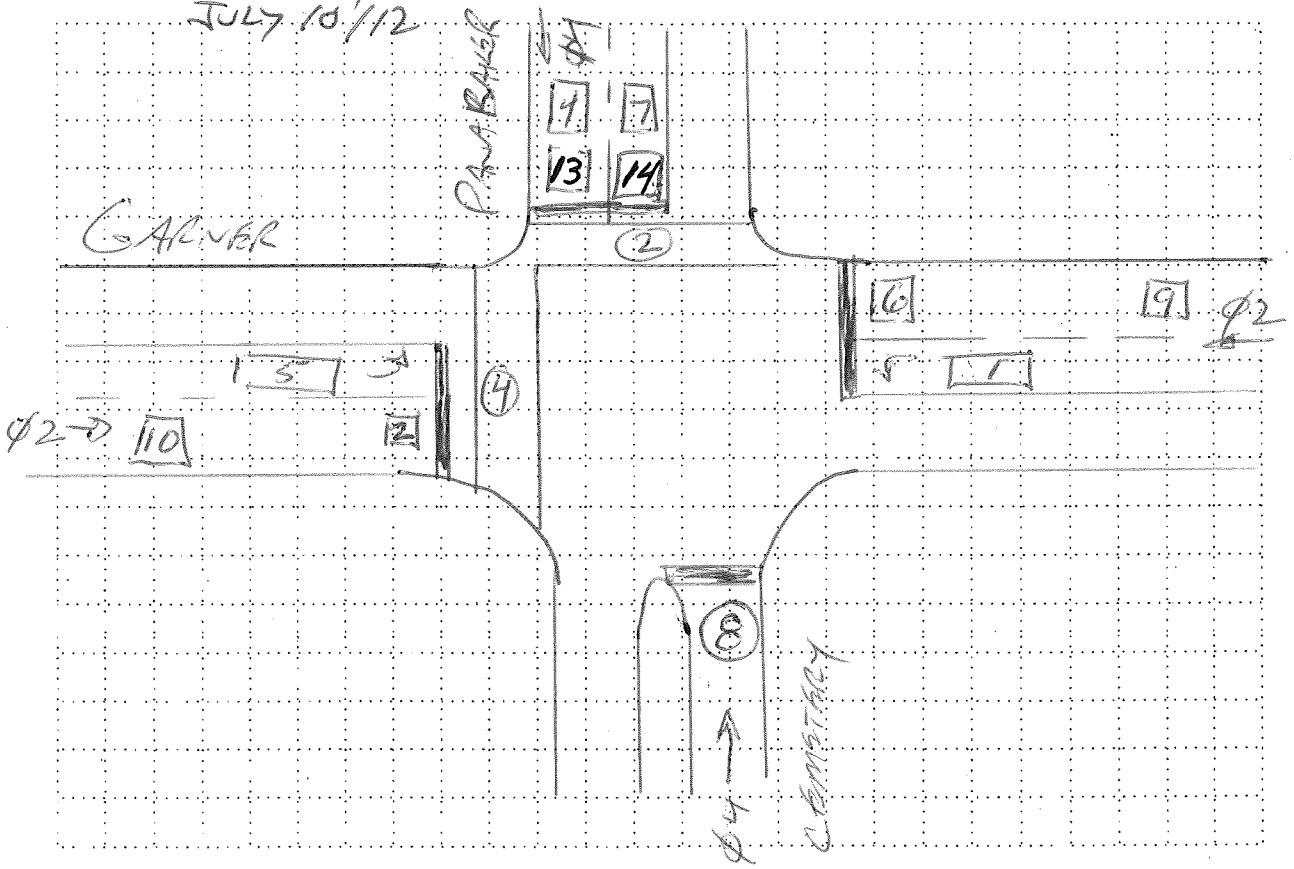
CITY OF HAMILTON TRAFFIC DIVISION
TRAFFIC SIGNAL CONTROLLER TIMING DATA

INTERSECTION GARNER + PANABAKER

CONTROLLER TYPE 3000E PAGE 1 OF 10

PROGRAMMED BY ROG INSTALLED BY

DATE APR 24/12 DATE
JULY 10/12



Ø2 - EB/WB GARNER N X-WALK

Ø4 NB/SB PANABAKER/CEMETERY W X-WALK

FLASH OPERATION RED: PANABAKER/CEMETERY
AMBER: GARNER

SEQUENCE/START-UP (MM-3-1-1)

START-UP PHASES/INTERVAL/SEQUENCE

(X = Enable for start-up phases. Must be compatible if more than one)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
START-UP	Phases		X														
	Interval	0	(0=Red, 1=Yel, 2= Grn, determines color of selected phases above on start-up)														
	Flash	10	(0-255 seconds start-up flash time)														
	Red	0	(0-25.5 secs = length of first red after start-up if start-up in yellow or red)														
	Sequence	2	(2=single ring, 3=dual ring, 4=123/567+48, 5=12/56+3478, 6=1234/56+78, 7=1234/5678, 8=dual quad, 9=12ph														

PHASE RING ASSIGNMENTS

X = Phase assigned to ring (if used). Phases in different rings but same co-phase group can time together.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
RING	Ring 1		X		X												
	Ring 2																
	Ring 3																
	Ring 4																

CO-PHASE GRP 1-4 ASSIGNMENTS

X = phase assigned to co-phase group. All ph's assigned to rings must be assigned to co-phase group.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CO-PHASE	CO PH 1		X														
	CO PH 2				X												
	CO PH 3																
	CO PH 4																

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PHASE RECALLS/MODES; MIN, MAX, etc. (MM-3-1-2-1-PGDN, etc.) USE 1 TO ALL 4 TIMING PLANS

TP1 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X														
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK		X		X												
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

TP2 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X														
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK		X		X												
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

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TP3 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X														
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK		X		X												
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

PHASE RECALLS/MODES; CNA, INH MAX, PED OPTIONS, etc. (MM-3-1-2-2) ONLY 1 PLAN PER UNIT

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	CNA 1																
	CNA 2																
	CNA 3																
	CNA 4																
	WRM																
	INH MAX																
	PED RECY																
	FL WALK																
	FDW->YEL																
	FDW->RED																
	COND PED																

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CONTROLLER DATA

2012.04.24

PHASE TIMES (MM-3-1-3-PGDN, etc.)

USE 1 TO ALL 4 TIMING PLANS

		TP1															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		**25**		**10**												
	Passage		**2.0**		**1.0**												
	Yellow		**4.2**		**3.3**												
	Red		**2.0**		**2.4**												
	Walk		**7**		**7**												
	Ped Clr		**10**		**8**												
	Max 1		**35**		**20**												
	Max 2		**55**		**30**												
	Mx 3 Lim																
	Mx 3 Adh																
	TBR																
	TTR																
	Min Gap																
	AI/Act																
	Max In																

PASSAGE ϕ2

2.0 + 3.1 (STRETCH FROM DETECTOR 9, 10) = 5.1 SECONDS

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VEHICLE DETECTOR ASSIGNMENTS (MM-3-1-4-1, PGDN etc.)

(X = ASSIGN VEH DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET ASSIGN-MENTS	1		X														
	2		X														
	3				X												
	4				X												
	5		X														
	6		X														
	7				X												
	8				X												
VEH DET ASSIGN-MENTS	9		X														
	10		X														
	11																
	12																
	13				X												
	14				X												
	15																
	16																

PED DETECTOR ASSIGNMENTS (MM-3-1-4-2)

(X = ASSIGN PED DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED DET ASSIGN-MENTS	1																
	2		X														
	3																
	4				X												
	5																
	6																
	7																
	8																

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DETECTOR MODES (MM-3-1-4-3)

	DET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET	Mode				2			2	2	2	2		-	2	2		
MODES																	

DETECTOR TIMES (MM-3-1-4-4) USE 1 TO ALL 3 DETECTOR TIMING PLANS

		TP1							
	DET	1	2	3	4	5	6	7	8
DET	Delay				1			1	1
TIMES	Str/Stp								
	DET	9	10	11	12	13	14	15	16
DET	Delay					1	1		
TIMES	Str/Stp	3.1	3.1						

DET 9/10
3.1 STR + PASSAGE ON
PHASE Ø2 = 5.1 SECONDS

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DAY PLANS (MM-3-3-1-#)

	HH	MM	CIRCUIT PLAN	C	O	S	CKT	ON/OFF
1	00	00					11(FRE)	ON
2	00	00					11(FRE)	ON
	06	30					93(M21)	ON
	09	30					93(M21)	OFF
	15	30					93(M21)	ON
	18	00					93(M21)	OFF

WEEK PLANS (MM-3-3-3)

Plan	SUN	MON	TUE	WED	THU	FRI	SAT
1	1	2	2	2	2	2	1
2							
3							
4							
5							

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CIRCUIT OVERRIDES (MM-3-3-6)

For each ciruit specify TOD (time of day controlled), or manually ON or OFF. Default = TOD

CIRCUIT OVER-RIDES	Circuit	113	114	115	116	117	118	119	120
	Function	UD1	UD2	UD3	UD4	UD5	UD6	UD7	UD8
	State								
	Circuit	121	122	123	124	**125**	**126**	127	128
	Function	PH2	DP2	DP3	3CD	**EVL**	**EML**	ASC	DCP
	State					**ON**	**ON**		

DAYLIGHT SAVINGS (MM-3-3-7)

DAY LIGHT SAVINGS	Spring		Fall	
	(0-12)	(0-5)	(0-12)	(0-5)
	Month	WOM	Month	WOM
	3	**2**	**11**	**1**

Enter Month and Week of Month for Spring Forward and Fall Back days (typical 4 - 1 and 10 - 5). Unit will adjust at 2AM on Sunday of week specified. Enter zero (or leave blank) if Daylight Savings not used.

SYNC REFERENCE MODE (MM-3-3-8)

Mode:	**0**	0 = Time dependent, 1 = C/O/S Event

	HH	MM	
Time Clock Reset:	**00**	**00**	TOD clock reset to by TBC input
Interrupter:		**N**	Y/N; Y = Interrupter pulses provided
Pulses:		**0**	0-6 = Number of interrupter pulses

TIME DEPENDENT CYCLE REFERENCES		HH	MM
	CYC 1:	**00**	**00**
	CYC 2:	**00**	**00**
	CYC 3:	**00**	**00**
	CYC 4:		
	CYC 5:		
	CYC 6:		

When mode = Time dependent, enter reference times of day for each cycle. Default = 00:00 = midnight = most commonly used reference.
When mode = C/O/S Event, cycle restarts on each COS change. Only use this mode for specific reasons. Time dependent most common used mode.

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CLOSED LOOP ID (MM-3-5-1)

CLOSED LOOP ID	Master Type:	1	0 = None, 1 = 3000 Series Master, 2 = 3800 EL master
	Intersection ID		0-255
	Master Identification		0-255
	Allow Comm Xfer Between Ports 2 & 3		Y/N: Y = Incoming signal on Master port (2 or 3), gets echo'd on other port

COMM SET-UP (MM-3-5-2)

PG1 PORT ASSIGN	Master (CL) Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used to receive Master Comm)
	Monitor Port		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Monitor Data Upload)
	Central Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Direct Dial-up Modem)

PG2 PORT 2 SETUP	Data Rate:		1200, 2400, 4800, 9600, 14400, 19200
	Parity		0 = None, 1 = Odd, 2=Even
	Data bits		0 = 7 bits, 1 = 8 bits

PG3 PORT 3 SETUP	Data Rate:		1200, 2400, 4800, 9600, 14400, 19200
	Parity		0 = None, 1 = Odd, 2=Even
	Data bits		0 = 7 bits, 1 = 8 bits

PG4	Modem Set-up String:		Up to 40 charaters; A-Z, or # @ = , ! ; % \ &

PHONE NUMBERS (MM-3-5-3)

PHONE NUM-BERS	Tone:		Y/N
	Phone 1:		Number & control characters (W , ; # ' / T P) if used
	Phone 2:		Number & control characters (W , ; # ' / T P) if used

LOG DATA (MM-3-5-5)

PG1 SAMPLE	Volume Log Sample period:	60	0, 6, 10, 15, 20, 30, 60 minutes, Enabled by TOD Ckt. 125 (EVL)
	MOE Log Sample period:	60	0, 6, 10, 15, 20, 30, 60 minutes, Enabled by TOD Ckt. 126 (EML

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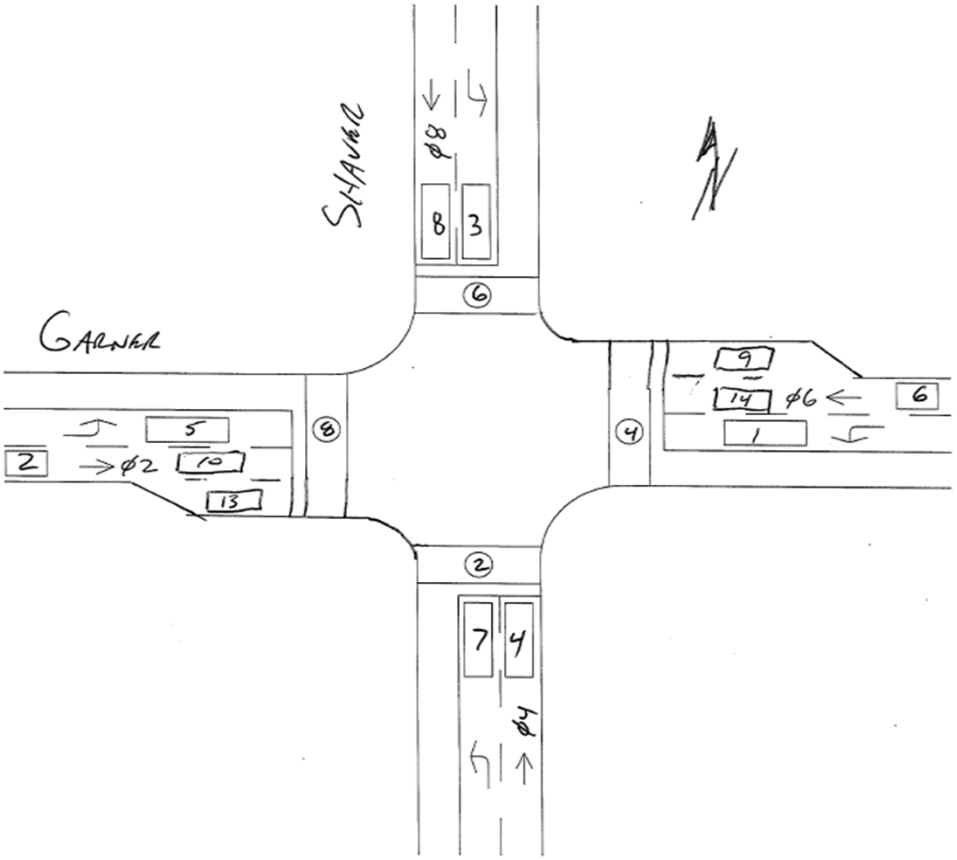
City of Hamilton - Traffic
Traffic Signal Controller Timing Data

Intersection: **Garner & Shaver**

Controller Type: **3000E** Page **1** of **14**

Programmed By: **RDG** Installed By:

Date: **June 9/15** Date:



φ1:
φ2: **Garner - EB, South Xwalk**
φ3:
φ4: **Shaver - NB, East Xwalk**
φ5:
φ6: **Garner - WB, North Xwalk**
φ7:
φ8: **Shaver - SB, West Xwalk**

Flash Operation: **Red: Shaver**
Red: Garner

SEQUENCE/START-UP (MM-3-1-1)

START-UP PHASES/INTERVAL/SEQUENCE

(X = Enable for start-up phases. Must be compatible if more than one)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
START-UP	Phases				X				X								
	Interval	0	(0=Red, 1=Yel, 2= Grn, determines color of selected phases above on start-up)														
	Flash	10	(0-255 seconds start-up flash time)														
	Red	5.0	(0-25.5 secs = length of first red after start-up if start-up in yellow or red)														
	Sequence	3	(2=single ring, 3=dual ring, 4=123/567+48, 5=12/56+3478, 6=1234/56+78, 7=1234/5678, 8=dual quad, 9=12ph														

PHASE RING ASSIGNMENTS

X = Phase assigned to ring (if used). Phases in different rings but same co-phase group can time together.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
RING	Ring 1		X		X												
	Ring 2						X		X								
	Ring 3																
	Ring 4																

CO-PHASE GRP 1-4 ASSIGNMENTS

X = phase assigned to co-phase group. All ph's assigned to rings must be assigned to co-phase group.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CO-PHASE	CO PH 1		X				X										
	CO PH 2				X				X								
	CO PH 3																
	CO PH 4																

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CONTROLLER DATA

PHASE RECALLS/MODES; MIN, MAX, etc. (MM-3-1-2-1-PGDN, etc.) USE 1 TO ALL 4 TIMING PLANS

TP1 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK				X				X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

TP2 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK				X				X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

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TP3 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK				X				X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

TP4 PHASE RECALLS

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	MIN RCL		X				X										
	MAX RCL																
	PED RCL																
	SOFT REC																
	NON-LOCK				X				X								
	VEH OMIT																
	PED OMIT																
	WLK REST																
	MAX II																
	RED REST																
	NO SKIP																

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CONTROLLER DATA

PHASE RECALLS/MODES; CNA, INH MAX, PED OPTIONS, etc. (MM-3-1-2-2) ONLY 1 PLAN PER UNIT

(X = ENABLE)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE RECALLS	CNA 1																
	CNA 2																
	CNA 3																
	CNA 4																
	WRM																
	INH MAX																
	PED RECY		X				X										
	FL WALK																
	FDW->YEL																
	FDW->RED																
	COND PED																

PHASE TIMES (MM-3-1-3-PGDN, etc.) USE 1 TO ALL 4 TIMING PLANS

		TP1															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		35		10		35		10								
	Passage		5.2		3.0		5.2		3.0								
	Yellow		4.2		3.3		4.2		3.3								
	Red		1.9		2.9		1.9		2.9								
	Walk		12		12		12		12								
	Ped Clr		14		14		9		12								
	Max 1		35		25		35		25								
	Max 2																
	Mx 3 Lim		45		30		45		30								
	Mx 3 Adh		2		2		2		2								
	TBR		25				25										
	TTR		10				10										
	Min Gap		3.0				3.0										
	AI/Act																
	Max In																

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CONTROLLER DATA

TP2

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		35		10		35		10								
	Passage		5.2		3.0		5.2		3.0								
	Yellow		4.2		3.3		4.2		3.3								
	Red		1.9		2.9		1.9		2.9								
	Walk		12		12		12		12								
	Ped Clr		14		14		9		12								
	Max 1		35		25		35		25								
	Max 2																
	Mx 3 Lim		55		30		55		30								
	Mx 3 Adh		2		2		2		2								
	TBR		25				25										
	TTR		10				10										
	Min Gap		3.0				3.0										
	AI/Act																
	Max In																

TP3

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		35		10		35		10								
	Passage		5.2		3.0		5.2		3.0								
	Yellow		4.2		3.3		4.2		3.3								
	Red		1.9		2.9		1.9		2.9								
	Walk		12		12		12		12								
	Ped Clr		14		14		9		12								
	Max 1		35		25		35		25								
	Max 2																
	Mx 3 Lim		55		30		55		30								
	Mx 3 Adh		2		2		2		2								
	TBR		25				25										
	TTR		10				10										
	Min Gap		3.0				3.0										
	AI/Act																
	Max In																

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CONTROLLER DATA

		TP4															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE TIMES	Initial		**35**		**10**		**35**		**10**								
	Passage		**5.2**		**3.0**		**5.2**		**3.0**								
	Yellow		**4.2**		**3.3**		**4.2**		**3.3**								
	Red		**1.9**		**2.9**		**1.9**		**2.9**								
	Walk		**12**		**12**		**12**		**12**								
	Ped Clr		**14**		**14**		**9**		**12**								
	Max 1		**25**		**20**		**25**		**20**								
	Max 2																
	Mx 3 Lim		**30**		**25**		**30**		**25**								
	Mx 3 Adh		**2**		**2**		**2**		**2**								
	TBR		**25**				**25**										
	TTR		**10**				**10**										
	Min Gap		**3.0**				**3.0**										
	AI/Act																
	Max In																

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VEHICLE DETECTOR ASSIGNMENTS (MM-3-1-4-1, PGDN etc.)

(X = ASSIGN VEH DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH	1						X										
DET	2		X														
ASSIGN-	3								X								
MENTS	4				X												
	5		X														
	6						X										
	7				X												
	8								X								
	9						X										
	10		X														
	11								X								
	12																
	13		X														
	14						X										
	15																
	16																

PED DETECTOR ASSIGNMENTS (MM-3-1-4-2)

(X = ASSIGN PED DETECTOR TO THAT PHASE)

	DET/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED	1																
DET	2																
ASSIGN-	3																
MENTS	4				X				X								
	5																
	6																
	7																
	8				X				X								

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DUAL ENTRY (MM-3-1-6)

DUAL ENTRY ENABLE:	Y	Y/N: Y=Enable Dual Entry. Note this is only one setting even though it appears on each controller screen.

PG1	PH/CALLS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DUAL	1																
ENTRY	2						X										
ASSIGN-	3																
MENTS	4								X								
	5																
	6		X														
	7																
	8				X												

DETECTOR MODES (MM-3-1-4-3)

	DET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET	Mode	0	0	0	2	0	0	0	2	3	3	0	0	3	3	0	0
MODES																	

	DET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VEH DET	**Lock**																
LOCKS																	

DETECTOR TIMES (MM-3-1-4-4)

	DET	1	2	3	4	5	6	7	8
DET	Delay	0	0	0	5	0	0	0	5
TIMES	Str/Stp								

	DET	9	10	11	12	13	14	15	16
DET	Delay	0	0	0	0	0	0	0	0
TIMES	Str/Stp	25.0	25.0			25.0	25.0		

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DENSITY ENABLES AND LAST CAR PASSAGE (MM-3-1-9-3)

Density Enable:	**Y**	Y/N; Y= Volume density gap reduction enabled
Last Car Passage:	**Y**	Y/N: Y = When gap-out occurs at reduced gap, last car gets 1 full passage time before phase clears

(X = ENABLE) (Density Times; TBR, TTR, MIN GAP found under phase times)

	FUNC/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DENSITY	ENABLE		**X**				**X**										

SIMULTANEOUS GAP-OUT ENABLES (MM-3-1-9-4)

Simultaneous Gap-Out Enable:	**Y**	Y/N; Y= Unit-Wide Enable for all enabled phases

(X = ENABLE)

	FUNC/PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SGO	Sim Gap		**X**				**X**										

MAX 3 SET-UP (MM-3-1-9-5)

MAX-OUTS TO ADJUST MX3 (How many max-outs in a row will add one adjustment time to max)

PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		1		**1**		**1**		**1**								

Shift Rigth -->

GAP OUTS TO ADJUST MX3 (How many gap-outs in a row will subtract one adjustment time from max)

PH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		2		**2**		**2**		**2**								

Shift Rigth -->

Max 3 allows MAX timer to self-adjust based on Max-outs in a row or Gap-outs in a row. Starts with normal selected max time. If phase max's out X times in a row, one Max Adj time is added to max. This can continue up to Max Lim time. Once Max is extended by Max-outs, it can reduce back down by X gap-outs in row. Cannot reduce below normal selected Max setting. Max Lim and Max Adj times found under Phase Times.

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SELECTION SOURCE (MM-3-2-2)

Entries determine how parameters get selected

Cycle Source:	**0**	0=TOD, 1=CL, 2=INT
Split Source:	**0**	0=TOD, 1=CL, 2=INT
Offset Source:	**0**	0=TOD, 1=CL, 2=INT

Free Source:	**0**	0=TOD, 1=CL, 2=INT
Flash Source:	**0**	0=TOD, 1=CL, 2=INT
Inter-TOD Revert:	**255**	0-255 SECS

TOD = Time of day control by internal clock, CL = Closed loop (comm), INT = Interconnect. Inter-TOD Revert is time allowed after failed interconnect before unit reverts to TOD (Time Base) control.

COORD BASIC OPTIONS (MM-3-2-3)

Reference to End (vs. begin) of Main St.:	**N**	Y/N: Y = Offset references to end of main st. green. N = Beginning of Main st. green.
Use % (vs. secs) for Phase Allocation:	**N**	Y/N: Y = Phase allocations loaded as percent of 100. N = Allocations in seconds.
Use % (vs. secs) for Offset Entry:	**N**	Y/N: Y = Offset loaded as percent of 100. N = Offset loaded in seconds.
Use Fixed (vs. floating) Force Offs:	**Y**	Y/N: Y = Force offs are fixed to cycle. N=Force offs like max times, begin with green.
Permissive Type:	**1**	0-2: 0=Yield, 1= Single, 2= Multiple. See Permissives note below

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DAY PLANS (MM-3-3-1-#)

	HH	MM	CIRCUIT PLAN	C	O	S	CKT	ON/OFF
1	00	00					11(FRE)	ON
	00	00					16(TP4)	ON
	06	00					16(TP4)	OFF
	23	00					16(TP4)	ON
2	00	00					11(FRE)	ON
	00	00					16(TP4)	ON
	06	00					16(TP4)	OFF
	06	00					14(TP2)	ON
	10	30					14(TP2)	OFF
	14	30					14(TP2)	ON
	18	30					14(TP2)	OFF
	23	00					16(TP4)	ON

WEEK PLANS (MM-3-3-3)

Plan	SUN	MON	TUE	WED	THU	FRI	SAT
1	1	2	2	2	2	2	1
2							
3							
4							
5							

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CIRCUIT OVERRIDES (MM-3-3-6)

For each ciruit specify TOD (time of day controlled), or manually ON or OFF. Default = TOD

CIRCUIT OVER-RIDES	Circuit	81	82	83	84	85	86	**87**	**88**
	Function	TIA	TIB	TIC	N/U	N/U	N/U	**PR1**	**PR2**
	State							**ON**	**ON**
	Circuit	89	90	91	92	93	94	95	96
	Function	OR1	OR2	RR1	RR2	M21	M22	DM3	GR2
	State								
CIRCUIT OVER-RIDES	Circuit	113	114	115	116	117	118	119	120
	Function	UD1	UD2	UD3	UD4	UD5	UD6	UD7	UD8
	State								
	Circuit	121	122	123	124	**125**	**126**	127	128
	Function	PH2	DP2	DP3	3CD	**EVL**	**EML**	ASC	DCP
	State					**ON**	**ON**		

DAYLIGHT SAVINGS (MM-3-3-7)

DAY LIGHT SAVINGS	Spring		Fall	
	(0-12)	(0-5)	(0-12)	(0-5)
	Month	WOM	Month	WOM
	3	**2**	**11**	**1**

Enter Month and Week of Month for Spring Forward and Fall Back days (typical 4 - 1 and 10 - 5). Unit will adjust at 2AM on Sunday of week specified. Enter zero (or leave blank) if Daylight Savings not used.

SYNC REFERENCE MODE (MM-3-3-8)

Mode:	**0**	0 = Time dependent, 1 = C/O/S Event

	HH	MM	
Time Clock Reset:	**00**	**00**	TOD clock reset to by TBC input
Interrupter:		**N**	Y/N; Y = Interrupter pulses provided
Pulses:		**0**	0-6 = Number of interrupter pulses

TIME DEPENDENT CYCLE REFERENCES		HH	MM		HH	MM		HH	MM
	CYC 1:	**00**	**00**	CYC 2:	**00**	**00**	CYC 3:	**00**	**00**
	CYC 4:	**00**	**00**	CYC 5:	**00**	**00**	CYC 6:	**00**	**00**

When mode = Time dependent, enter reference times of day for each cycle. Default = 00:00 = midnight = most commonly used reference.
When mode = C/O/S Event, cycle restarts on each COS change. Only use this mode for specific reasons. Time dependent most common used mode.

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CLOSED LOOP ID (MM-3-5-1)

CLOSED LOOP ID	Master Type:	**1**	0 = None, 1 = 3000 Series Master, 2 = 3800 EL master
	Intersection ID		0-255
	Master Identification		0-255
	Allow Comm Xfer Between Ports 2 & 3		Y/N: Y = Incoming signal on Master port (2 or 3), gets echo'd on other port

COMM SET-UP (MM-3-5-2)

PG1 PORT ASSIGN	Master (CL) Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used to receive Master Comm)
	Monitor Port		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Monitor Data Upload)
	Central Port:		0 = None, 2 = Port 2, 3 = Port 3 (Port to be used for Direct Dial-up Modem)

PG2 PORT 2 SETUP	Data Rate:	**9600**	1200, 2400, 4800, 9600, 14400, 19200
	Parity	**0**	0 = None, 1 = Odd, 2=Even
	Data bits	**1**	0 = 7 bits, 1 = 8 bits

PG3 PORT 3 SETUP	Data Rate:	**1200**	1200, 2400, 4800, 9600, 14400, 19200
	Parity	**0**	0 = None, 1 = Odd, 2=Even
	Data bits	**1**	0 = 7 bits, 1 = 8 bits

PG4	Modem Set-up String:		Up to 40 charaters; A-Z, or # @ = , ! ; % \ &

PHONE NUMBERS (MM-3-5-3)

PHONE NUM-BERS	Tone:		Y/N
	Phone 1:		Number & control characters (W , ; # ' / T P) if used
	Phone 2:		Number & control characters (W , ; # ' / T P) if used

LOG DATA (MM-3-5-5)

PG1 SAMPLE	Volume Log Sample period:	**60**	0, 6, 10, 15, 20, 30, 60 minutes, Enabled by TOD Ckt. 125 (EVL)
	MOE Log Sample period:	**60**	0, 6, 10, 15, 20, 30, 60 minutes, Enabled by TOD Ckt. 126 (EML)

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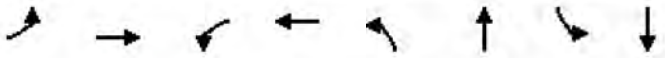
APPENDIX C:
COLLISION DATA

Geo ID	Location	Accident No.	Pedestrian Inv	Cyclist Involv	Accident Date	Accident Year	Accident Time	Accident Location	Impact Location	Classification Of Accident	Initial Impact Type	X-Coordinate	Y-Coordinate	Environment Condition 1	Environment Condition 2	Light	Road 1 Surface Condition	Apparent Driver 1 Action	Driver 1 Condition	Vehicle 1 Type	Apparent Driver 2 Action	Driver 2 Condition	Vehicle 2 Type	Vehicle 3 Initial Direction	Vehicle 2 Initial Direction	Vehicle 1 Manoeuver	Vehicle 2 Manoeuver	Vehicle 1 First Event	Vehicle 1 Second Event	Vehicle 1 Third Event	Vehicle 2 First Event	Vehicle 2 Second Event	Vehicle 2 Third Event
4695	WILSON ST W btwn RAMP WILSON EB TO GARNER EB & TRADEWIND (46951)	2016653155	FALSE	FALSE	2016/07/04	2016	06:01	99 - Other	11 - Not on roadway - right side	03 - P.D. only	07 - SMV other	1.78889.94878	4782784.17928	01 - Clear		01 - Daylight	01 - Dry	10 - Lost control							03 - East		01 - Going ahead		66 - Tree, shrub, stump	66 - Tree, shrub, stump				
4695	WILSON ST W btwn RAMP WILSON EB TO GARNER EB & TRADEWIND (46951)	2017603115	FALSE	FALSE	2017/05/04	2017	09:55	01 - Non intersection	02 - Thru lane	04 - Sideswipe	04 - Angle	1.78889.94878	4782784.17928	01 - Clear		01 - Daylight	01 - Dry	12 - Improper lane change							01 - Automobile, station wagon		01 - Going ahead		01 - Other motor vehicle					
12379	WILSON ST W @ RAMP WILSON EB TO GARNER EB (12379)	2018032340501	FALSE	FALSE	2018/12/17	2018	17:50			04 - Non-reportable	03 - Rear end	1.79085.17000	4782830.30000	01 - Clear																			
8504	TRADEWIND DR @ WILSON ST W (8504)	2019632261501	FALSE	FALSE	2019/02/14	2019	16:04			04 - Non-reportable	03 - Rear end	1.78600.74161	4782741.08135	01 - Clear																			
8504	TRADEWIND DR @ WILSON ST W (8504)	2018538365501	FALSE	FALSE	2018/09/05	2018	17:10			04 - Non-reportable	03 - Rear end	1.78471.16503	4782683.73664	01 - Clear											01 - North	01 - North	10 - Stopped							
8504	TRADEWIND DR @ WILSON ST W (8504)	2018541975501	FALSE	FALSE	2018/02/20	2018	06:20			04 - Non-reportable	03 - Rear end	1.78471.16503	4782683.73664												02 - South	01 - North	04 - Turning left							
8504	TRADEWIND DR @ WILSON ST W (8504)	2015007116501	FALSE	FALSE	2015/06/05	2015	09:50			04 - Non-reportable	03 - Rear end	1.78695.45000	4782735.06000												04 - West	04 - West	01 - Going ahead							
8504	TRADEWIND DR @ WILSON ST W (8504)	2015720773	FALSE	FALSE	2015/09/23	2015	16:53	02 - Intersection related	02 - Thru lane	02 - Non-fatal injury	03 - Rear end	1.78471.16503	4782683.73664	02 - Rain		01 - Daylight	02 - Wet	02 - Following too close	08 - Inattentive	01 - Driving properly	01 - Normal	06 - Delivery van	01 - Automobile, station wagon		03 - East	03 - East	01 - Going ahead	02 - Slowing or stopping	01 - Other motor vehicle					
8504	TRADEWIND DR @ WILSON ST W (8504)	2017818833501	FALSE	FALSE	2017/11/20	2017	10:30			04 - Non-reportable	99 - Other	1.78695.45000	4782735.06000												01 - North		10 - Stopped	09 - Reversing						
8504	TRADEWIND DR @ WILSON ST W (8504)	2018089813	FALSE	FALSE	2018/12/18	2018	08:17	03 - At intersection	01 - Within intersection	04 - Non-reportable	05 - Turning movement	1.78695.43134	4782735.06134	01 - Clear		01 - Daylight	02 - Wet	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	05 - Pick-up truck		04 - West	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle	20 - Ran off road		53 - Pole (utility, power)		
8504	TRADEWIND DR @ WILSON ST W (8504)	2019602885501	FALSE	FALSE	2019/03/19	2019	13:15			04 - Non-reportable	03 - Rear end	1.78695.24742	4782735.84767	01 - Clear											01 - North	01 - North	01 - Going ahead							
8504	TRADEWIND DR @ WILSON ST W (8504)	2018577069501	FALSE	FALSE	2018/11/19	2018	12:40			04 - Non-reportable	05 - Turning movement	1.78471.16503	4782683.73664	01 - Clear											04 - West	01 - East	04 - Turning left	01 - Going ahead						
8504	TRADEWIND DR @ WILSON ST W (8504)	2015767979	FALSE	FALSE	2015/12/01	2015	17:02	02 - Intersection related	02 - Thru lane	02 - Non-fatal injury	03 - Rear end	1.78471.16503	4782683.73664	02 - Rain		08 - Dark, artificial	02 - Wet	02 - Following too close	08 - Inattentive	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	03 - East	03 - East	02 - Slowing or stopping	02 - Slowing or stopping	01 - Other motor vehicle							
8504	TRADEWIND DR @ WILSON ST W (8504)	2019636762	FALSE	FALSE	2019/03/22	2019	08:49	02 - Intersection related	02 - Thru lane	02 - Non-fatal injury	05 - Turning movement	1.78695.09311	4782784.17928	01 - Clear		01 - Daylight	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	04 - West	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle							
8504	TRADEWIND DR @ WILSON ST W (8504)	2018548942	FALSE	FALSE	2018/02/28	2018	07:55	03 - At intersection	01 - Within intersection	03 - P.D. only	05 - Turning movement	1.78690.52836	4782735.50376	01 - Clear		01 - Daylight	01 - Dry	06 - Improper turn	01 - Normal	07 - Disobeyed traffic control	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		04 - West	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
8504	TRADEWIND DR @ WILSON ST W (8504)	2016272057	FALSE	FALSE	2016/03/24	2016	23:34	03 - At intersection	01 - Within intersection	02 - Non-fatal injury	05 - Turning movement	1.78695.45000	4782735.06000	01 - Clear		08 - Dark, artificial	02 - Wet	02 - Following too close	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		04 - West	04 - West	02 - Slowing or stopping	02 - Slowing or stopping	01 - Other motor vehicle	21 - Skidding/sliding				
8504	TRADEWIND DR @ WILSON ST W (8504)	2016230019501	FALSE	FALSE	2016/12/08	2016	22:45			04 - Non-reportable	05 - Turning movement	1.78695.45000	4782735.06000												04 - West	03 - East	04 - Turning left	02 - Slowing or stopping						
8504	TRADEWIND DR @ WILSON ST W (8504)	2015716302	FALSE	FALSE	2015/09/24	2015	09:30	03 - At intersection	01 - Within intersection	04 - Non-reportable	05 - Turning movement	1.78695.45000	4782735.06000	01 - Clear		01 - Daylight	01 - Dry	06 - Improper turn	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		04 - West	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
8504	TRADEWIND DR @ WILSON ST W (8504)	2016317415501	FALSE	FALSE	2016/05/02	2016	11:00			04 - Non-reportable	03 - Rear end	1.78695.45000	4782735.06000												01 - North	01 - North	01 - Going ahead							
8504	TRADEWIND DR @ WILSON ST W (8504)	2017729896	FALSE	FALSE	2017/09/22	2017	13:23	03 - At intersection	01 - Within intersection	04 - Non-reportable	03 - Rear end	1.78695.45000	4782735.06000	01 - Clear		01 - Daylight	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	04 - West	04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
8504	TRADEWIND DR @ WILSON ST W (8504)	2016180549501	FALSE	FALSE	2016/08/17	2016	17:10			04 - Non-reportable	03 - Rear end	1.78730.60000	4782590.72000												01 - North	01 - North	01 - Going ahead							
8504	TRADEWIND DR @ WILSON ST W (8504)	2018807185	FALSE	FALSE	2018/12/11	2018	16:18	03 - At intersection	03 - Left turn lane	02 - Non-fatal injury	03 - Rear end	1.78695.43075	4782735.11279	01 - Clear		08 - Dark, artificial	02 - Wet	01 - Driving properly		01 - Driving properly					04 - West	04 - West	04 - Turning left	01 - Going ahead	01 - Other motor vehicle	01 - Other motor vehicle				
8504	TRADEWIND DR @ WILSON ST W (8504)	2017789287	FALSE	FALSE	2017/12/05	2017	17:20	02 - Intersection related	03 - Left turn lane	03 - P.D. only	04 - Sideswipe	1.78695.45000	4782735.06000	01 - Clear		05 - Dusk	01 - Dry	01 - Driving properly		01 - Driving properly		01 - Automobile, station wagon	14 - Municipal transit bus		17 - School bus		04 - West	04 - West	10 - Stopped	01 - Going ahead	01 - Other motor vehicle					
8504	TRADEWIND DR @ WILSON ST W (8504)	2018538579501	FALSE	FALSE	2018/08/13	2018	16:40			04 - Non-reportable	03 - Rear end	1.78471.16503	4782683.73664	01 - Clear											01 - North	01 - North	10 - Stopped	01 - Going ahead						
8504	TRADEWIND DR @ WILSON ST W (8504)	2019829777	FALSE	FALSE	2019/12/21	2019	09:10	03 - At intersection	01 - Within intersection	03 - P.D. only	03 - Rear end	1.78694.69132	4782733.85799	01 - Clear		01 - Daylight	01 - Dry	02 - Following too close	01 - Normal				05 - Pick-up truck		01 - Automobile, station wagon		01 - North	01 - North	05 - Turning right	10 - Stopped						
8504	TRADEWIND DR @ WILSON ST W (8504)	2018483632501	FALSE	FALSE	2018/05/08	2018	16:00			04 - Non-reportable	03 - Rear end	1.78889.94878	4782784.17928	01 - Clear											03 - East	01 - East	10 - Stopped	01 - Going ahead						
8504	TRADEWIND DR @ WILSON ST W (8504)	2018535318	FALSE	FALSE	2018/01/06	2018	06:50	03 - At intersection	01 - Within intersection	02 - Non-fatal injury	05 - Turning movement	1.78695.44996	4782735.06013	01 - Clear		07 - Dark	02 - Wet	06 - Improper turn	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		04 - West	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
8504	TRADEWIND DR @ WILSON ST W (8504)	2018430346501	FALSE	FALSE	2018/02/20	2018	06:25			04 - Non-reportable	02 - Angle	1.78471.16503	4782683.73664												01 - North	01 - East	01 - Going ahead	01 - Going ahead						
8504	TRADEWIND DR @ WILSON ST W (8504)	2015041137501	FALSE	FALSE	2015/05/01	2015	10:45			04 - Non-reportable	05 - Turning movement	1.78695.45000	4782735.06000												02 - South	01 - North	04 - Turning left	01 - Going ahead						
8504	TRADEWIND DR @ WILSON ST W (8504)	2017288073501	FALSE	FALSE	2017/04/25	2017	09:20			04 - Non-reportable	03 - Rear end	1.78695.45000	4782735.06000												03 - East	01 - East	10 - Stopped	01 - Going ahead						
8504	TRADEWIND DR @ WILSON ST W (8504)	2016448461501	FALSE	FALSE	2016/08/15	2016	14:15			04 - Non-reportable	03 - Rear end	1.78471.16503	4782683.73664	01 - Clear											01 - North	01 - North	10 - Stopped	01 - Going ahead						
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2017521256501	FALSE	FALSE	2017/01/25	2017	18:20			04 - Non-reportable	04 - Sideswipe	1.79398.06850	4782913.14359														01 - Going ahead	01 - Going ahead						
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2015778261	FALSE	FALSE	2015/12/15	2015	08:45	03 - At intersection	01 - Within intersection	03 - P.D. only	02 - Angle	1.79398.06850	4782913.14359	01 - Clear		01 - Daylight	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	06 - Delivery van				04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2017092226501	FALSE	FALSE	2017/03/08	2017	13:45			04 - Non-reportable	02 - Angle	1.79398.06850	4782913.14359														04 - Turning left	01 - Going ahead						
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2016121851501	FALSE	FALSE	2016/03/21	2016	16:20			04 - Non-reportable	02 - Angle	1.79398.06850	4782913.14359														01 - Going ahead	01 - Going ahead						
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2016121862501	FALSE	FALSE	2016/03/21	2016	16:30			04 - Non-reportable	02 - Angle	1.79398.06850	4782913.14359														04 - Turning left	01 - Going ahead						
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2015076145901	FALSE	FALSE	2015/11/16	2015	16:00			04 - Non-reportable	02 - Angle	1.79398.06850	4782913.14359														02 - Slowing or stopping	04 - Turning left						
12380	RAMP WILSON EB TO GARNER EB @ GARNER RD W (12380)	2017704951	FALSE	FALSE	2017/08/28	2017	21:07	03 - At intersection	01 - Within intersection	03 - P.D. only	02 - Angle	1.79398.06850	4782913.14359	01 - Clear		07 - Dark	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon				08 - Merging	01 - Going ahead	01 - Other motor vehicle	20 - Ran off road				
15233	GARNER RD W btwn RAMP GARNER WB TO WILSON EB & RAMP WILSON EB TO GARNER EB (15233)	2017734970501	FALSE	FALSE	2017/10/02	2017	15:45			04 - Non-reportable	02 - Angle	1.79410.50615	4782916.52065														01 - Going ahead	04 - Turning left						
15233	GARNER RD W btwn RAMP GARNER WB TO WILSON EB & RAMP WILSON EB TO GARNER EB (15233)	2019546478	FALSE	FALSE	2019/02/22	2019	15:20	04 - At/near private drive	02 - Thru lane	02 - Non-fatal injury	02 - Angle	1.79411.30492	4782916.93001	01 - Clear		01 - Daylight	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	09 - Truck - closed	01 - Automobile, station wagon		03 - East	01 - North	04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
15233	GARNER RD W btwn RAMP GARNER WB TO WILSON EB & RAMP WILSON EB TO GARNER EB (15233)	2015538224	FALSE	FALSE	2015/02/20	2015	11:40	01 - Non intersection	02 - Thru lane	03 - P.D. only	02 - Angle	1.79410.50615	4782916.52065	01 - Clear		01 - Daylight	02 - Wet			01 - Driving properly	01 - Normal		01 - Automobile, station wagon		03 - East		01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
15233	GARNER RD W btwn RAMP GARNER WB TO WILSON EB & RAMP WILSON EB TO GARNER EB (15233)	2019515151	FALSE	FALSE	2019/01/09	2019	15:09	02 - Intersection related	02 - Thru lane	03 - P.D. only	03 - Rear end	1.78107.97617	4782715.87146	01 - Clear		01 - Daylight	01 - Dry	02 - Following too close	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	03 - East	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
50265	GARNER RD W btwn PRIVATE & SHAVER (50265)	2018478931501	FALSE	FALSE	2018/04/27	2018	20:00			04 - Non-reportable	07 - SMV other	1.78015.27648	4783114.13535												03 - East		01 - Going ahead							
50265	GARNER RD W btwn PRIVATE & SHAVER (50265)	2019372125501	FALSE	FALSE	2019/03/09	2019	13:15			04 - Non-reportable	02 - Angle	1.78013.31304	4783109.33710	02 - Rain											02 - South	04 - West	05 - Turning right	01 - Going ahead						
50265	GARNER RD W btwn PRIVATE & SHAVER (50265)	2019771704501	FALSE	FALSE	2019/10/29	2019	12:15			04 - Non-reportable	03 - Rear end	1.78022.67797	4783131.62000	01 - Clear											04 - West	04 - West	10 - Stopped	10 - Stopped						
50265	GARNER RD W btwn PRIVATE & SHAVER (50265)	2018549379	FALSE	FALSE	2018/05/14	2018	17:00	01 - Non intersection	02 - Thru lane	03 - P.D. only	07 - SMV other	1.78014.34232	4783106.94641	02 - Rain		01 - Daylight	01 - Dry	10 - Lost control	01 - Normal				01 - Automobile, station wagon		03 - East		01 - Going ahead		20 - Ran off road	53 - Pole (utility, power)				
15232	GARNER RD W btwn MCCLURE & RAMP GARNER WB TO WILSON EB (15232)	2015770827	FALSE	FALSE	2016/11/19	2016	10:05	04 - At/near private drive	02 - Thru lane	03 - P.D. only	02 - Angle	1.79642.60433	4782979.49467	02 - Rain		01 - Daylight	02 - Wet	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	02 - South	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle							
15232	GARNER RD W btwn MCCLURE & RAMP GARNER WB TO WILSON EB (15232)	2018794946	FALSE	FALSE	2018/12/06	2018	07:29	01 - Non intersection	10 - Not on roadway - left side	02 - Non-fatal injury	07 - SMV other	1.79716.79485	4783000.42775	03 - Snow		01 - Dawn	01 - Dry	01 - Driving properly		05 - Pick-up truck					03 - East		01 - Going ahead		21 - Skidding/sliding	60 - Ditch				
15232	GARNER RD W btwn MCCLURE & RAMP GARNER WB TO WILSON EB (15232)	2018594738	FALSE	FALSE	2018/04/22	2018	10:25	01 - Non intersection	02 - Thru lane	02 - Non-fatal injury	02 - Angle	1.79717.29035	4783000.42775	01 - Clear		01 - Daylight	01 - Dry	02 - Following too close	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	03 - East	01 - Going ahead	10 - Stopped	01 - Other motor vehicle					
50266	GARNER RD W btwn MCCLURE & PRIVATE (50266)	2016378515501	FALSE	FALSE	2016/09/28	2016	16:20			04 - Non-reportable	02 - Angle	1.79948.34101	4783061.33093												04 - West	01 - North	04 - Turning left	01 - Going ahead						
50266	GARNER RD W btwn MCCLURE & PRIVATE (50266)	2018794251	FALSE	FALSE	2018/04/25	2018	18:28	01 - Non intersection	02 - Thru lane	03 - P.D. only	04 - Sideswipe	1.79948.83267	4783061.33093	01 - Clear		08 - Dark, artificial	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	03 - East	04 - Turning left	01 - Going ahead	01 - Other motor vehicle					
13772	GARNER RD W btwn HAMILTON & PANABAKER (13772)	2018422207501	FALSE	FALSE	2018/02/02	2018	07:40			04 - Non-reportable	01 - Approaching	1813461.70401	4783240.48247												04 - West	03 - East	01 - Going ahead	01 - Going ahead						
13772	GARNER RD W btwn HAMILTON & PANABAKER (13772)	2018582752	FALSE	FALSE	2018/03/21	2018	08:00	01 - Non intersection	02 - Thru lane	03 - P.D. only	02 - Angle	1813127.93171	4783352.56093	01 - Clear		01 - Daylight	01 - Dry	02 - Following too close	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	03 - East	01 - Going ahead	02 - Slowing or stopping	01 - Other motor vehicle					
13772	GARNER RD W btwn HAMILTON & PANABAKER (13772)	2017264155501	FALSE	FALSE	2017/02/23	2017	19:30			04 - Non-reportable	07 - SMV other	1813461.70401	4783240.48247												03 - East		01 - Going ahead							
13771	GARNER RD W btwn BRATHWAITE & PANABAKER (13771)	2017262776501	FALSE	FALSE	2017/02/21	2017	09:10			04 - Non-reportable		1813461.88737	4783143.93754														01 - Going ahead							
13771	GARNER RD W btwn BRATHWAITE & PANABAKER (13771)	2017391407501	FALSE	FALSE	2017/12/11	2017	08:00			04 - Non-reportable	03 - Rear end	1813461.88737	4783143.93754												03 - East	03 - East	10 - Stopped	01 - Going ahead						
13771	GARNER RD W btwn BRATHWAITE & PANABAKER (13771)	2019810341	FALSE	FALSE	2019/01/14	2019	17:32	01 - Non intersection	02 - Thru lane	03 - P.D. only	03 - Rear end	1821183.63175	4783138.20257	01 - Clear		07 - Dark	01 - Dry	99 - Other	03 - Ability impaired, alcohol (over .08)	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	03 - East	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
13771	GARNER RD W btwn BRATHWAITE & PANABAKER (13771)	2017533245	FALSE	FALSE	2017/02/10	2017	16:05	01 - Non intersection	09 - Right shoulder	03 - P.D. only	07 - SMV other	1813461.88737	4783143.93754	02 - Rain		01 - Daylight	03 - Loose snow	10 - Lost control	01 - Normal						04 - West		01 - Going ahead		20 - Ran off road	50 - Cable guide rail				
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2016623380501	FALSE	FALSE	2016/12/31	2016	16:30			04 - Non-reportable	02 - Angle	1824614.80958	4783668.58442												03 - East	04 - West	04 - Turning left	01 - Going ahead						
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2019604513501	FALSE	FALSE	2019/01/08	2019	16:15			04 - Non-reportable	03 - Rear end	1826591.42172	4783715.50318	01 - Clear											03 - East	03 - East	10 - Stopped	01 - Going ahead						
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2017250100501	FALSE	FALSE	2017/01/20	2017	09:55			04 - Non-reportable	04 - Sideswipe	1824614.80958	4783668.58442												04 - West	04 - West	01 - Going ahead	01 - Going ahead						
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2016424186501	FALSE	FALSE	2016/12/27	2016	17:00			04 - Non-reportable	05 - Turning movement	1824614.80958	4783668.58442												04 - West	04 - West	04 - Turning left	01 - Going ahead						
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2019689858501	FALSE	FALSE	2019/06/03	2019	17:30			04 - Non-reportable	02 - Angle	1826571.28869	4783715.17131	01 - Clear											01 - North	04 - West	04 - Turning left	01 - Going ahead						
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2016783644	FALSE	FALSE	2016/11/19	2016	18:45	01 - Non intersection	02 - Thru lane	02 - Non-fatal injury	02 - Angle	1824737.70244	4783653.80751	01 - Clear		08 - Dark, artificial	01 - Dry	02 - Following too close	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	03 - East	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
13460	GARNER RD W btwn BRATHWAITE & FIDDLER'S GREEN (13460)	2018625708	FALSE	FALSE	2018/05/25	2018	22:37	01 - Non intersection	11 - Not on roadway - right side	03 - P.D. only	07 - SMV other	1824007.05303	4783654.13057	01 - Clear		08 - Dark, artificial	01 - Dry	10 - Lost control	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	03 - East	03 - East	10 - Stopped	01 - Going ahead	01 - Other motor vehicle		99 - Other	99 - Other				
8467	GARNER RD W @ SHAVER RD (8467)	2018552821	FALSE	FALSE	2018/03/05	2018	07:10	03 - At intersection	01 - Within intersection	02 - Non-fatal injury	02 - Angle	1824008.91095	4783143.89890	01 - Clear		01 - Daylight	01 - Dry	07 - Disobeyed traffic control	01 - Normal	01 - Driving properly	01 - Normal	05 - Pick-up truck	05 - Pick-up truck		03 - East	03 - East	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle	53 - Pole (utility, power)				
8467	GARNER RD W @ SHAVER RD (8467)	2018565026	FALSE	FALSE	2018/03/18	2018	17:00	03 - At intersection	01 - Within intersection	02 - Non-fatal injury	02 - Angle	1820720.09074	4783144.41149	01 - Clear		01 - Daylight	01 - Dry	06 - Improper turn	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	04 - Passenger van		03 - East	02 - South	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
8467	GARNER RD W @ SHAVER RD (8467)	2015577975501	FALSE	FALSE	2015/10/13	2015	13:30			04 - Non-reportable	03 - Rear end	1820439.91000	4783143.83000												04 - West	04 - West	10 - Stopped	10 - Stopped						
8467	GARNER RD W @ SHAVER RD (8467)	2019719624501	FALSE	FALSE	2019/07/26	2019	16:00			04 - Non-reportable	03 - Rear end	1820269.15530	4783145.70663	02 - Rain											03 - East	03 - East	02 - Slowing or stopping	01 - Going ahead						
8467	GARNER RD W @ SHAVER RD (8467)	2015571484	FALSE	FALSE	2015/11/04	2015	12:38			04 - Non-reportable	02 - Angle	1820269.95000	4783143.83000	01 - Clear		01 - Daylight	01 - Dry	08 - Failed to yield right-of-way	01 - Normal	01 - Driving properly	01 - Normal	05 - Pick-up truck	05 - Pick-up truck		03 - East	01 - North	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
8467	GARNER RD W @ SHAVER RD (8467)	2018460915501	FALSE	FALSE	2018/04/18	2018	13:29			04 - Non-reportable	04 - Sideswipe	1820237.02333	4783258.71122												01 - North	01 - North	01 - Going ahead	01 - Going ahead						
8467	GARNER RD W @ SHAVER RD (8467)	2015766843	FALSE	FALSE	2015/12/15	2015	14:00	03 - At intersection	01 - Within intersection	04 - Non-reportable	04 - Sideswipe	1820269.95000	4783143.83000	01 - Clear		01 - Daylight	01 - Dry	07 - Disobeyed traffic control	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		03 - East	02 - South	01 - Going ahead	01 - Going ahead	01 - Other motor vehicle					
8467	GARNER RD W @ SHAVER RD (8467)	2018782461	FALSE	FALSE	2018/11/15	2018	16:50	03 - At intersection	01 - Within intersection	03 - P.D. only	02 - Angle	1820269.92978	4783143.85866	03 - Snow		06 - Dusk, artificial	04 - Slush	10 - Lost control	01 - Normal	01 - Driving properly	01 - Normal	01 - Automobile, station wagon	01 - Automobile, station wagon		04 - West	01 - North	02 - Slowing or stopping	01 - Going ahead	01 - Other motor vehicle	21 - Skidding/sliding				
8467	GARNER RD W @ SHAVER RD (8467)	2015937497501	FALSE	FALSE	2015/02/21	2015	10:30			04 - Non-reportable	02 - Angle	1820269.95000	4783143.83000												02 - South	04 - West	10 - Stopped	01 - Going ahead						
8467	GARNER RD W @ SHAVER RD (8467)	2015058113501	FALSE	FALSE	2015/10/15	2015	09:45			04 - Non-reportable	02 - Angle	1820269.95000	4783143.83000												03 - East	03 - East	01 - Going ahead	01 - Going ahead						
8467	GARNER RD W @ SHAVER RD (8467)	2015716311	FALSE	FALSE	2015/09/24	2015	09:45

APPENDIX D:
SYNCHRO OUTPUTS

Queues
101: Garner Rd/Mason Dr & Wilson St

11/12/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	734	13	589	208	208	4	12
v/c Ratio	0.01	0.37	0.03	0.28	0.69	0.71	0.02	0.03
Control Delay	8.6	3.9	8.9	8.5	36.8	37.3	18.0	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	3.9	8.9	8.5	36.8	37.3	18.0	13.4
Queue Length 50th (m)	0.3	8.0	0.7	18.0	27.7	27.2	0.4	0.5
Queue Length 95th (m)	1.9	20.5	3.6	34.9	42.7	42.5	2.2	3.7
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	481	2005	379	2077	542	528	442	614
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	0.01	0.37	0.03	0.28	0.38	0.39	0.01	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	259	409	12	517	19	358	12	9	4	5	6
Future Volume (vph)	5	259	409	12	517	19	358	12	9	4	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.91		1.00	0.99		1.00	0.99		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3068		1690	3490		1667	1648		1789	1482	
Flt Permitted	0.43	1.00		0.36	1.00		0.75	0.74		0.57	1.00	
Satd. Flow (perm)	809	3068		638	3490		1316	1275		1074	1482	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	285	449	13	568	21	393	13	10	4	5	7
RTOR Reduction (vph)	0	182	0	0	2	0	0	3	0	0	5	0
Lane Group Flow (vph)	5	552	0	13	587	0	208	205	0	4	7	0
Heavy Vehicles (%)	2%	5%	10%	8%	4%	5%	4%	2%	33%	2%	20%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	43.3	43.3		43.3	43.3		16.7	16.7		16.7	16.7	
Effective Green, g (s)	43.3	43.3		43.3	43.3		16.7	16.7		16.7	16.7	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	481	1824		379	2075		301	292		246	339	
v/s Ratio Prot		c0.18			0.17						0.00	
v/s Ratio Perm	0.01			0.02			0.16	c0.16		0.00		
v/c Ratio	0.01	0.30		0.03	0.28		0.69	0.70		0.02	0.02	
Uniform Delay, d1	6.0	7.3		6.1	7.2		25.7	25.8		21.7	21.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.4		0.2	0.3		5.4	6.1		0.0	0.0	
Delay (s)	6.1	7.7		6.3	7.5		31.1	31.9		21.7	21.7	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		7.7			7.5			31.5			21.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



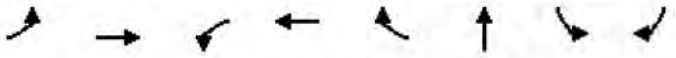
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	10	500	43	19	471	95	57	78	145	97
v/c Ratio	0.02	0.44	0.04	0.04	0.40	0.09	0.23	0.24	0.59	0.30
Control Delay	6.5	8.9	2.2	6.6	8.4	2.5	25.7	20.2	36.1	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	8.9	2.2	6.6	8.4	2.5	25.7	20.2	36.1	21.8
Queue Length 50th (m)	0.4	29.3	0.0	0.8	26.6	0.6	6.8	6.8	18.5	9.2
Queue Length 95th (m)	2.2	53.2	2.9	3.4	48.4	5.3	13.3	14.1	29.1	17.3
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	409	1139	1043	477	1183	1044	463	594	458	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.44	0.04	0.04	0.40	0.09	0.12	0.13	0.32	0.17

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	415	36	16	391	79	47	48	17	120	64	17
Future Volume (vph)	8	415	36	16	391	79	47	48	17	120	64	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1323	1779	1601	1615	1847	1585	1789	1638		1738	1604	
Flt Permitted	0.46	1.00	1.00	0.44	1.00	1.00	0.69	1.00		0.71	1.00	
Satd. Flow (perm)	640	1779	1601	747	1847	1585	1308	1638		1292	1604	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	10	500	43	19	471	95	57	58	20	145	77	20
RTOR Reduction (vph)	0	0	15	0	0	29	0	16	0	0	16	0
Lane Group Flow (vph)	10	500	28	19	471	66	57	62	0	145	81	0
Heavy Vehicles (%)	38%	8%	2%	13%	4%	3%	2%	13%	12%	5%	14%	24%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	47.0	47.0	47.0	47.0	47.0	47.0	14.0	14.0		14.0	14.0	
Effective Green, g (s)	47.0	47.0	47.0	47.0	47.0	47.0	14.0	14.0		14.0	14.0	
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.64	0.64	0.19	0.19		0.19	0.19	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	410	1140	1026	478	1184	1016	249	312		246	306	
v/s Ratio Prot		c0.28			0.25			0.04			0.05	
v/s Ratio Perm	0.02		0.02	0.03		0.04	0.04			c0.11		
v/c Ratio	0.02	0.44	0.03	0.04	0.40	0.06	0.23	0.20		0.59	0.26	
Uniform Delay, d1	4.8	6.6	4.8	4.8	6.3	4.9	25.1	24.9		27.0	25.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.2	0.0	0.2	1.0	0.1	0.5	0.3		3.6	0.5	
Delay (s)	4.9	7.8	4.8	5.0	7.3	5.0	25.6	25.2		30.6	25.7	
Level of Service	A	A	A	A	A	A	C	C		C	C	
Approach Delay (s)		7.5			6.9			25.4			28.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	240	676	13	445	513	7	201	256
v/c Ratio	0.54	0.72	0.04	0.47	0.49	0.01	0.66	0.46
Control Delay	14.7	15.5	7.7	10.5	2.7	0.0	30.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	15.5	7.7	10.5	2.7	0.0	30.8	6.0
Queue Length 50th (m)	13.1	42.4	0.5	23.1	0.0	0.0	17.3	0.0
Queue Length 95th (m)	28.4	70.3	2.6	41.0	4.5	0.0	31.0	7.4
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	539	1139	353	1139	1150	742	465	710
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	0.45	0.59	0.04	0.39	0.45	0.01	0.43	0.36

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	505	2	10	334	385	0	0	5	151	0	192
Future Volume (vph)	180	505	2	10	334	385	0	0	5	151	0	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.47	1.00		0.28	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	835	1762		546	1762	1498		1662		1258		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	240	673	3	13	445	513	0	0	7	201	0	256
RTOR Reduction (vph)	0	0	0	0	0	236	0	5	0	0	0	194
Lane Group Flow (vph)	240	676	0	13	445	277	0	2	0	201	0	62
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	29.7	29.7		29.7	29.7	29.7		13.4		13.4		13.4
Effective Green, g (s)	29.7	29.7		29.7	29.7	29.7		13.4		13.4		13.4
Actuated g/C Ratio	0.54	0.54		0.54	0.54	0.54		0.24		0.24		0.24
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	450	951		294	951	808		404		306		361
v/s Ratio Prot		c0.38			0.25			0.00				
v/s Ratio Perm	0.29			0.02		0.18				c0.16		0.04
v/c Ratio	0.53	0.71		0.04	0.47	0.34		0.00		0.66		0.17
Uniform Delay, d1	8.2	9.4		6.0	7.8	7.1		15.7		18.7		16.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	0.6	2.1		0.0	0.1	0.1		0.0		3.8		0.1
Delay (s)	8.8	11.5		6.0	7.9	7.2		15.8		22.6		16.5
Level of Service	A	B		A	A	A		B		C		B
Approach Delay (s)		10.8			7.5			15.8			19.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



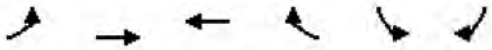
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	786	23	933	90	207	265	205
v/c Ratio	0.30	0.48	0.10	0.71	0.40	0.58	0.67	0.37
Control Delay	11.6	13.8	17.8	23.2	34.2	35.7	29.4	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	13.8	17.8	23.2	34.2	35.7	29.4	17.6
Queue Length 50th (m)	5.2	35.3	2.1	57.3	11.0	25.9	26.6	15.6
Queue Length 95th (m)	11.6	48.8	6.6	74.0	23.7	45.7	47.6	31.9
Internal Link Dist (m)		64.8		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	281	2691	415	2253	486	758	396	901
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	0.30	0.29	0.06	0.41	0.19	0.27	0.67	0.23

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	584	45	18	599	147	72	151	14	212	79	85
Future Volume (vph)	68	584	45	18	599	147	72	151	14	212	79	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1573	3313		1644	3310		1807	1859		1690	1619	
Flt Permitted	0.18	1.00		0.35	1.00		0.63	1.00		0.47	1.00	
Satd. Flow (perm)	295	3313		613	3310		1197	1859		843	1619	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	85	730	56	22	749	184	90	189	18	265	99	106
RTOR Reduction (vph)	0	6	0	0	21	0	0	3	0	0	35	0
Lane Group Flow (vph)	85	780	0	23	912	0	90	204	0	265	170	0
Heavy Vehicles (%)	16%	8%	22%	11%	7%	7%	1%	2%	2%	8%	10%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	37.7	37.7		29.3	29.3		14.4	14.4		24.5	24.5	
Effective Green, g (s)	37.7	37.7		29.3	29.3		14.4	14.4		24.5	24.5	
Actuated g/C Ratio	0.50	0.50		0.39	0.39		0.19	0.19		0.32	0.32	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	237	1647		236	1279		227	353		351	523	
v/s Ratio Prot	0.03	c0.24			c0.28			0.11		c0.07	0.10	
v/s Ratio Perm	0.15			0.04			0.08			c0.17		
v/c Ratio	0.36	0.47		0.10	0.71		0.40	0.58		0.75	0.32	
Uniform Delay, d1	11.6	12.5		14.8	19.7		26.9	27.9		21.9	19.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.3		0.1	1.6		1.1	2.3		8.0	0.4	
Delay (s)	12.8	12.8		14.9	21.3		28.0	30.2		29.8	19.8	
Level of Service	B	B		B	C		C	C		C	B	
Approach Delay (s)		12.8			21.1			29.6			25.4	
Approach LOS		B			C			C			C	

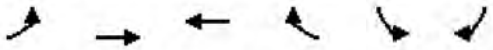
Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	75.8	Sum of lost time (s)	19.6
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	444	399	23	9	19
Future Volume (Veh/h)	23	444	399	23	9	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	26	510	459	26	10	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	485				1034	472
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	485				1034	472
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	96
cM capacity (veh/h)	1078				251	592

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	26	510	485	32
Volume Left	26	0	0	10
Volume Right	0	0	26	22
cSH	1078	1700	1700	416
Volume to Capacity	0.02	0.30	0.29	0.08
Queue Length 95th (m)	0.6	0.0	0.0	1.9
Control Delay (s)	8.4	0.0	0.0	14.4
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	14.4
Approach LOS				B

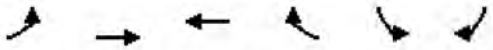
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	436	404	49	22	16
Future Volume (Veh/h)	13	436	404	49	22	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	479	444	54	24	18
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	498				951	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	404				899	344
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	99				91	97
cM capacity (veh/h)	1056				271	638

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	14	479	444	54	42
Volume Left	14	0	0	0	24
Volume Right	0	0	0	54	18
cSH	1056	1700	1700	1700	360
Volume to Capacity	0.01	0.28	0.26	0.03	0.12
Queue Length 95th (m)	0.3	0.0	0.0	0.0	3.0
Control Delay (s)	8.5	0.0	0.0	0.0	16.3
Lane LOS	A				C
Approach Delay (s)	0.2		0.0		16.3
Approach LOS					C

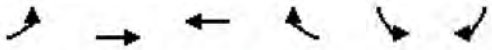
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	592	440	85	94	28
Future Volume (Veh/h)	13	592	440	85	94	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	643	478	92	102	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	570				1149	478
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	570				1149	478
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	99				52	95
cM capacity (veh/h)	941				212	591

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	14	643	478	92	132
Volume Left	14	0	0	0	102
Volume Right	0	0	0	92	30
cSH	941	1700	1700	1700	248
Volume to Capacity	0.01	0.38	0.28	0.05	0.53
Queue Length 95th (m)	0.3	0.0	0.0	0.0	21.6
Control Delay (s)	8.9	0.0	0.0	0.0	34.8
Lane LOS	A				D
Approach Delay (s)	0.2		0.0		34.8
Approach LOS					D

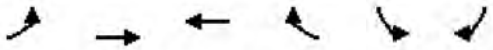
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	649	693	63	48	36
Future Volume (Veh/h)	11	649	693	63	48	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	14	843	900	82	62	47
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	982				1771	900
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	982				1771	900
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	98				30	86
cM capacity (veh/h)	703				89	332

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	14	843	900	82	109
Volume Left	14	0	0	0	62
Volume Right	0	0	0	82	47
cSH	703	1700	1700	1700	130
Volume to Capacity	0.02	0.50	0.53	0.05	0.84
Queue Length 95th (m)	0.5	0.0	0.0	0.0	39.8
Control Delay (s)	10.2	0.0	0.0	0.0	105.7
Lane LOS	B				F
Approach Delay (s)	0.2		0.0		105.7
Approach LOS					F

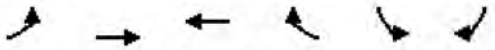
Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	805	745	6	7	18
Future Volume (Veh/h)	5	805	745	6	7	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	6	1045	968	8	9	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.63	
vC, conflicting volume	976				2025	968
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	976				2328	968
tC, single (s)	4.3				6.5	6.4
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.5
p0 queue free %	99				62	92
cM capacity (veh/h)	640				24	289

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1051	968	8	32
Volume Left	6	0	0	9
Volume Right	0	0	8	23
cSH	640	1700	1700	69
Volume to Capacity	0.01	0.57	0.00	0.46
Queue Length 95th (m)	0.2	0.0	0.0	14.0
Control Delay (s)	0.3	0.0	0.0	95.5
Lane LOS	A			F
Approach Delay (s)	0.3	0.0		95.5
Approach LOS				F

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	805	742	41	21	9
Future Volume (Veh/h)	7	805	742	41	21	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	9	1019	939	52	27	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	991				1976	939
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	991				1976	939
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	99				59	96
cM capacity (veh/h)	652				66	308

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	9	1019	939	52	38
Volume Left	9	0	0	0	27
Volume Right	0	0	0	52	11
cSH	652	1700	1700	1700	85
Volume to Capacity	0.01	0.60	0.55	0.03	0.45
Queue Length 95th (m)	0.3	0.0	0.0	0.0	14.0
Control Delay (s)	10.6	0.0	0.0	0.0	77.4
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		77.4
Approach LOS					F

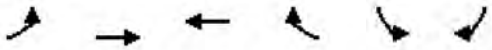
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	825	777	0	2	6
Future Volume (Veh/h)	1	825	777	0	2	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1	1006	948	0	2	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	948				1956	948
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	948				1956	948
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	98
cM capacity (veh/h)	724				70	316

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1007	948	9
Volume Left	1	0	2
Volume Right	0	0	7
cSH	724	1700	178
Volume to Capacity	0.00	0.56	0.05
Queue Length 95th (m)	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	26.4
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	26.4
Approach LOS			D

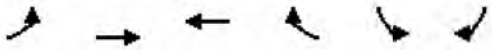
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	827	746	0	63	31
Future Volume (Veh/h)	0	827	746	0	63	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1009	910	0	77	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	910				1919	910
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	910				1919	910
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				0	88
cM capacity (veh/h)	748				74	322

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1009	910	115
Volume Left	0	0	77
Volume Right	0	0	38
cSH	1700	1700	99
Volume to Capacity	0.59	0.54	1.16
Queue Length 95th (m)	0.0	0.0	58.0
Control Delay (s)	0.0	0.0	219.2
Lane LOS			F
Approach Delay (s)	0.0	0.0	219.2
Approach LOS			F

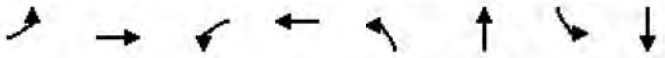
Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	98	792	746	149	0	0
Future Volume (Veh/h)	98	792	746	149	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	117	943	888	177	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1065				2065	888
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1065				2065	888
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	81				100	100
cM capacity (veh/h)	632				49	343

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	117	943	888	177
Volume Left	117	0	0	0
Volume Right	0	0	0	177
cSH	632	1700	1700	1700
Volume to Capacity	0.19	0.55	0.52	0.10
Queue Length 95th (m)	5.1	0.0	0.0	0.0
Control Delay (s)	12.0	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	1.3		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	1278	25	472	175	176	30	18
v/c Ratio	0.00	0.58	0.13	0.22	0.66	0.65	0.12	0.06
Control Delay	8.0	7.7	9.8	7.1	37.4	35.1	22.2	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	7.7	9.8	7.1	37.4	35.1	22.2	12.6
Queue Length 50th (m)	0.1	31.4	1.2	12.6	23.5	21.8	3.4	0.6
Queue Length 95th (m)	0.7	61.5	5.8	24.5	37.0	35.5	8.3	4.5
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	560	2185	195	2157	534	527	489	630
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	0.00	0.58	0.13	0.22	0.33	0.33	0.06	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	609	516	22	396	19	286	3	20	26	4	11
Future Volume (vph)	1	609	516	22	396	19	286	3	20	26	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3317		1789	3488		1651	1625		1789	1510	
Flt Permitted	0.48	1.00		0.17	1.00		0.75	0.74		0.63	1.00	
Satd. Flow (perm)	907	3317		316	3488		1296	1262		1188	1510	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	692	586	25	450	22	325	3	23	30	5	12
RTOR Reduction (vph)	0	136	0	0	3	0	0	10	0	0	10	0
Lane Group Flow (vph)	1	1142	0	25	469	0	175	166	0	30	8	0
Heavy Vehicles (%)	2%	2%	3%	2%	4%	2%	5%	2%	10%	2%	25%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	45.0	45.0		45.0	45.0		15.0	15.0		15.0	15.0	
Effective Green, g (s)	45.0	45.0		45.0	45.0		15.0	15.0		15.0	15.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.21	0.21		0.21	0.21	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	560	2050		195	2156		267	260		244	311	
v/s Ratio Prot		c0.34			0.13						0.01	
v/s Ratio Perm	0.00			0.08			c0.14	0.13		0.03		
v/c Ratio	0.00	0.56		0.13	0.22		0.66	0.64		0.12	0.02	
Uniform Delay, d1	5.3	8.1		5.8	6.1		26.5	26.4		23.5	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.1		1.4	0.2		4.4	3.7		0.1	0.0	
Delay (s)	5.3	9.2		7.1	6.4		30.9	30.1		23.6	23.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.2			6.4			30.5			23.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



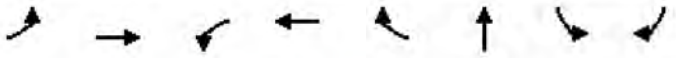
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	567	77	18	455	108	47	107	154	108
v/c Ratio	0.05	0.47	0.08	0.04	0.38	0.10	0.19	0.29	0.60	0.30
Control Delay	6.8	9.5	3.6	6.8	8.4	2.4	24.7	20.8	36.3	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.8	9.5	3.6	6.8	8.4	2.4	24.7	20.8	36.3	20.9
Queue Length 50th (m)	1.3	34.9	1.3	0.8	25.8	0.5	5.5	10.0	19.7	10.1
Queue Length 95th (m)	5.2	71.0	6.8	3.7	53.5	6.6	12.4	20.1	33.5	20.2
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	550	1196	996	451	1184	1052	437	650	459	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.47	0.08	0.04	0.38	0.10	0.11	0.16	0.34	0.17

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	522	71	17	419	99	43	76	22	142	76	23
Future Volume (vph)	28	522	71	17	419	99	43	76	22	142	76	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1883	1541	1722	1865	1601	1706	1795		1789	1735	
Flt Permitted	0.47	1.00	1.00	0.39	1.00	1.00	0.69	1.00		0.69	1.00	
Satd. Flow (perm)	866	1883	1541	710	1865	1601	1234	1795		1296	1735	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	567	77	18	455	108	47	83	24	154	83	25
RTOR Reduction (vph)	0	0	17	0	0	35	0	18	0	0	18	0
Lane Group Flow (vph)	30	567	60	18	455	73	47	89	0	154	90	0
Heavy Vehicles (%)	4%	2%	6%	6%	3%	2%	7%	3%	5%	2%	5%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	46.6	46.6	46.6	46.6	46.6	46.6	14.4	14.4		14.4	14.4	
Effective Green, g (s)	46.6	46.6	46.6	46.6	46.6	46.6	14.4	14.4		14.4	14.4	
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.64	0.64	0.20	0.20		0.20	0.20	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	550	1197	979	451	1185	1017	242	352		254	340	
v/s Ratio Prot		c0.30			0.24			0.05			0.05	
v/s Ratio Perm	0.03		0.04	0.03		0.05	0.04			c0.12		
v/c Ratio	0.05	0.47	0.06	0.04	0.38	0.07	0.19	0.25		0.61	0.26	
Uniform Delay, d1	5.0	7.0	5.1	5.0	6.4	5.1	24.6	24.9		26.9	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.3	0.1	0.2	0.9	0.1	0.4	0.4		4.1	0.4	
Delay (s)	5.2	8.3	5.2	5.2	7.4	5.2	25.0	25.3		30.9	25.4	
Level of Service	A	A	A	A	A	A	C	C		C	C	
Approach Delay (s)		7.8			6.9			25.2			28.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	84	827	3	615	129	7	89	100
v/c Ratio	0.18	0.69	0.01	0.51	0.12	0.02	0.37	0.27
Control Delay	6.4	12.2	4.5	8.3	1.5	0.0	25.4	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	12.2	4.5	8.3	1.5	0.0	25.4	7.6
Queue Length 50th (m)	3.2	52.5	0.1	31.8	0.0	0.0	8.3	0.0
Queue Length 95th (m)	7.2	68.0	0.7	43.1	3.1	0.0	15.6	6.5
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	476	1237	332	1237	1090	706	470	617
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	0.18	0.67	0.01	0.50	0.12	0.01	0.19	0.16

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	620	0	2	461	97	0	0	5	67	0	75
Future Volume (vph)	63	620	0	2	461	97	0	0	5	67	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.38	1.00		0.25	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	678	1762		474	1762	1498		1662		1258		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	84	827	0	3	615	129	0	0	7	89	0	100
RTOR Reduction (vph)	0	0	0	0	0	47	0	6	0	0	0	85
Lane Group Flow (vph)	84	827	0	3	615	82	0	1	0	89	0	15
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	35.2	35.2		35.2	35.2	35.2		8.0		8.0		8.0
Effective Green, g (s)	35.2	35.2		35.2	35.2	35.2		8.0		8.0		8.0
Actuated g/C Ratio	0.64	0.64		0.64	0.64	0.64		0.15		0.15		0.15
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	433	1125		302	1125	956		241		182		215
v/s Ratio Prot		c0.47			0.35			0.00				
v/s Ratio Perm	0.12			0.01		0.06				c0.07		0.01
v/c Ratio	0.19	0.74		0.01	0.55	0.09		0.00		0.49		0.07
Uniform Delay, d1	4.1	6.8		3.6	5.5	3.8		20.1		21.7		20.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	0.1	2.2		0.0	0.3	0.0		0.0		0.8		0.0
Delay (s)	4.2	9.0		3.6	5.8	3.8		20.1		22.4		20.4
Level of Service	A	A		A	A	A		C		C		C
Approach Delay (s)		8.5			5.5			20.1			21.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	11.9
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



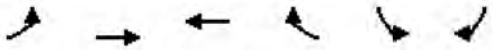
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	67	666	48	732	37	180	151	214
v/c Ratio	0.17	0.39	0.17	0.56	0.18	0.54	0.34	0.37
Control Delay	9.2	12.3	18.7	18.8	27.4	31.6	18.1	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	12.3	18.7	18.8	27.4	31.6	18.1	19.8
Queue Length 50th (m)	3.8	26.4	4.3	37.0	4.3	20.8	13.9	20.7
Queue Length 95th (m)	10.0	43.2	12.5	58.9	11.8	38.8	26.0	37.3
Internal Link Dist (m)		66.4		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	405	3042	541	2440	503	789	443	1047
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.22	0.09	0.30	0.07	0.23	0.34	0.20

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	587	33	45	494	187	34	129	38	140	154	45
Future Volume (vph)	62	587	33	45	494	187	34	129	38	140	154	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3538		1789	3359		1772	1807		1789	1806	
Flt Permitted	0.27	1.00		0.40	1.00		0.62	1.00		0.52	1.00	
Satd. Flow (perm)	508	3538		751	3359		1164	1807		976	1806	
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)	67	631	35	48	531	201	37	139	41	151	166	48
RTOR Reduction (vph)	0	4	0	0	39	0	0	11	0	0	10	0
Lane Group Flow (vph)	67	662	0	48	693	0	37	169	0	151	204	0
Heavy Vehicles (%)	2%	2%	9%	2%	5%	2%	3%	2%	5%	2%	3%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	34.7	34.7		26.3	26.3		12.4	12.4		22.2	22.2	
Effective Green, g (s)	34.7	34.7		26.3	26.3		12.4	12.4		22.2	22.2	
Actuated g/C Ratio	0.49	0.49		0.37	0.37		0.18	0.18		0.31	0.31	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	348	1741		280	1253		204	317		385	568	
v/s Ratio Prot	0.01	c0.19			c0.21			c0.09		c0.04	0.11	
v/s Ratio Perm	0.08			0.06			0.03			0.09		
v/c Ratio	0.19	0.38		0.17	0.55		0.18	0.53		0.39	0.36	
Uniform Delay, d1	10.0	11.2		14.8	17.5		24.7	26.4		18.1	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		0.1	0.3		0.4	1.7		0.2	0.4	
Delay (s)	10.3	11.4		14.9	17.8		25.2	28.2		18.4	19.1	
Level of Service	B	B		B	B		C	C		B	B	
Approach Delay (s)		11.3			17.6			27.6			18.8	
Approach LOS		B			B			C			B	

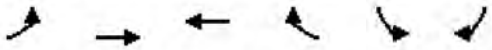
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	19.6
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	562	399	29	35	12
Future Volume (Veh/h)	31	562	399	29	35	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	36	646	459	33	40	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	492				1194	476
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	492				1194	476
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				80	98
cM capacity (veh/h)	1071				199	589

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	36	646	492	54
Volume Left	36	0	0	40
Volume Right	0	0	33	14
cSH	1071	1700	1700	241
Volume to Capacity	0.03	0.38	0.29	0.22
Queue Length 95th (m)	0.8	0.0	0.0	6.4
Control Delay (s)	8.5	0.0	0.0	24.2
Lane LOS	A			C
Approach Delay (s)	0.4		0.0	24.2
Approach LOS				C

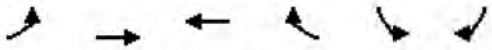
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	537	374	112	82	53
Future Volume (Veh/h)	59	537	374	112	82	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	64	584	407	122	89	58
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	529				1119	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	455				1090	324
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				57	91
cM capacity (veh/h)	1027				208	667

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	64	584	407	122	147
Volume Left	64	0	0	0	89
Volume Right	0	0	0	122	58
cSH	1027	1700	1700	1700	286
Volume to Capacity	0.06	0.34	0.24	0.07	0.51
Queue Length 95th (m)	1.5	0.0	0.0	0.0	20.8
Control Delay (s)	8.7	0.0	0.0	0.0	30.2
Lane LOS	A				D
Approach Delay (s)	0.9		0.0		30.2
Approach LOS					D

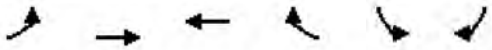
Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	636	467	69	47	25
Future Volume (Veh/h)	34	636	467	69	47	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	691	508	75	51	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	583				1273	508
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	583				1273	508
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	96				71	95
cM capacity (veh/h)	930				174	569

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	37	691	508	75	78
Volume Left	37	0	0	0	51
Volume Right	0	0	0	75	27
cSH	930	1700	1700	1700	229
Volume to Capacity	0.04	0.41	0.30	0.04	0.34
Queue Length 95th (m)	0.9	0.0	0.0	0.0	10.9
Control Delay (s)	9.0	0.0	0.0	0.0	28.6
Lane LOS	A				D
Approach Delay (s)	0.5		0.0		28.6
Approach LOS					D

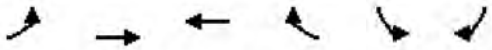
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	670	545	28	12	15
Future Volume (Veh/h)	22	670	545	28	12	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	24	736	599	31	13	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	630				1383	599
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630				1383	599
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				92	97
cM capacity (veh/h)	952				154	502

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	24	736	599	31	29
Volume Left	24	0	0	0	13
Volume Right	0	0	0	31	16
cSH	952	1700	1700	1700	250
Volume to Capacity	0.03	0.43	0.35	0.02	0.12
Queue Length 95th (m)	0.6	0.0	0.0	0.0	3.0
Control Delay (s)	8.9	0.0	0.0	0.0	21.3
Lane LOS	A				C
Approach Delay (s)	0.3		0.0		21.3
Approach LOS					C

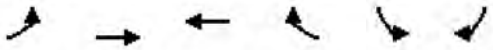
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	760	716	14	3	10
Future Volume (Veh/h)	5	760	716	14	3	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	792	746	15	3	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.78	
vC, conflicting volume	761				1548	746
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	761				1561	746
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	99				97	97
cM capacity (veh/h)	851				96	385

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	797	746	15	13
Volume Left	5	0	0	3
Volume Right	0	0	15	10
cSH	851	1700	1700	227
Volume to Capacity	0.01	0.44	0.01	0.06
Queue Length 95th (m)	0.1	0.0	0.0	1.4
Control Delay (s)	0.2	0.0	0.0	21.8
Lane LOS	A			C
Approach Delay (s)	0.2	0.0		21.8
Approach LOS				C

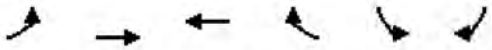
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	754	724	38	11	6
Future Volume (Veh/h)	9	754	724	38	11	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	802	770	40	12	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	810				1592	770
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	810				1592	770
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	99
cM capacity (veh/h)	816				117	401

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	10	802	770	40	18
Volume Left	10	0	0	0	12
Volume Right	0	0	0	40	6
cSH	816	1700	1700	1700	153
Volume to Capacity	0.01	0.47	0.45	0.02	0.12
Queue Length 95th (m)	0.3	0.0	0.0	0.0	3.0
Control Delay (s)	9.5	0.0	0.0	0.0	31.7
Lane LOS	A				D
Approach Delay (s)	0.1		0.0		31.7
Approach LOS					D

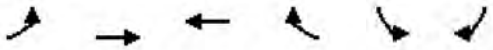
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	762	758	6	2	4
Future Volume (Veh/h)	3	762	758	6	2	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	811	806	6	2	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	812				1626	809
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	812				1626	809
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	814				112	380

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	814	812	6
Volume Left	3	0	2
Volume Right	0	6	4
cSH	814	1700	212
Volume to Capacity	0.00	0.48	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s)	0.1	0.0	22.5
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	22.5
Approach LOS			C

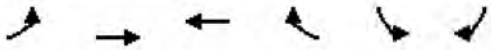
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	764	682	0	116	82
Future Volume (Veh/h)	0	764	682	0	116	82
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	796	710	0	121	85
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	710				1506	710
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	710				1506	710
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				9	80
cM capacity (veh/h)	889				133	435

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	796	710	206
Volume Left	0	0	121
Volume Right	0	0	85
cSH	1700	1700	187
Volume to Capacity	0.47	0.42	1.10
Queue Length 95th (m)	0.0	0.0	76.6
Control Delay (s)	0.0	0.0	148.1
Lane LOS			F
Approach Delay (s)	0.0	0.0	148.1
Approach LOS			F

Intersection Summary			
Average Delay	17.8		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	853	682	122	0	0
Future Volume (Veh/h)	27	853	682	122	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	28	898	718	128	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	846				1672	718
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	846				1672	718
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				100	100
cM capacity (veh/h)	738				101	429

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	28	898	718	128
Volume Left	28	0	0	0
Volume Right	0	0	0	128
cSH	738	1700	1700	1700
Volume to Capacity	0.04	0.53	0.42	0.08
Queue Length 95th (m)	0.9	0.0	0.0	0.0
Control Delay (s)	10.1	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	0.3		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	69	58.4	8.9	67.3	1.11	59.5	A
Panabaker Dr	II	70	71.0	15.5	86.5	1.38	57.4	A
Fiddlers Green Rd	II	66	59.3	13.8	73.1	1.08	53.4	B
Total	II		188.7	38.2	226.9	3.58	56.8	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	23.2	121.1	1.64	48.6	B
Panabaker Dr	II	67	58.6	10.5	69.1	1.08	56.5	A
Shaver Rd	II	70	71.0	8.4	79.4	1.38	62.6	A
Total	II		227.5	42.1	269.6	4.10	54.7	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	69	58.4	9.5	67.9	1.11	59.0	A
Panabaker Dr	II	70	71.0	12.2	83.2	1.38	59.7	A
Fiddlers Green Rd	II	66	59.3	12.3	71.6	1.08	54.5	B
Total	II		188.7	34.0	222.7	3.58	57.8	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	18.8	116.7	1.64	50.4	B
Panabaker Dr	II	66	59.3	8.3	67.6	1.08	57.7	A
Shaver Rd	II	70	71.0	8.4	79.4	1.38	62.6	A
Total	II		228.2	35.5	263.7	4.10	56.0	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	18.2	80.2	1.11	49.9	B
Panabaker Dr	II	70	71.0	47.1	118.1	1.38	42.1	C
Fiddlers Green Rd	II	66	59.3	17.7	77.0	1.08	50.7	B
Total	II		192.3	83.0	275.3	3.58	46.8	B

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	26.5	124.4	1.64	47.3	B
Panabaker Dr	II	67	58.6	10.8	69.4	1.08	56.2	A
Shaver Rd	II	70	71.0	10.7	81.7	1.38	60.8	A
Total	II		227.5	48.0	275.5	4.10	53.6	B

Arterial Level of Service: EB Garner Rd W

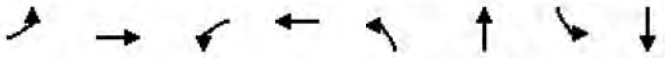
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	7.8	69.8	1.11	57.4	A
Panabaker Dr	II	70	71.0	12.9	83.9	1.38	59.2	A
Fiddlers Green Rd	II	66	59.3	13.5	72.8	1.08	53.6	B
Total	II		192.3	34.2	226.5	3.58	56.9	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	25.8	123.7	1.64	47.6	B
Panabaker Dr	II	66	59.3	24.1	83.4	1.08	46.8	B
Shaver Rd	II	70	71.0	9.8	80.8	1.38	61.5	A
Total	II		228.2	59.7	287.9	4.10	51.3	B

Queues
101: Garner Rd/Mason Dr & Wilson St

06/06/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1028	21	568	230	229	4	17
v/c Ratio	0.01	0.50	0.09	0.28	0.71	0.73	0.02	0.05
Control Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Length 50th (m)	0.4	9.5	1.1	18.2	30.5	30.0	0.4	1.0
Queue Length 95th (m)	2.5	26.2	5.6	35.1	45.7	45.5	2.1	4.5
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	477	2043	240	2019	539	525	417	624
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	0.01	0.50	0.09	0.28	0.43	0.44	0.01	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Future Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3015		1690	3490		1667	1648		1789	1506	
Flt Permitted	0.44	1.00		0.23	1.00		0.75	0.74		0.54	1.00	
Satd. Flow (perm)	826	3015		416	3490		1310	1269		1013	1506	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	315	713	21	548	20	434	14	11	4	9	8
RTOR Reduction (vph)	0	301	0	0	3	0	0	3	0	0	6	0
Lane Group Flow (vph)	7	727	0	21	565	0	230	226	0	4	11	0
Heavy Vehicles (%)	2%	5%	10%	8%	4%	5%	4%	2%	33%	2%	20%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Effective Green, g (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	477	1743		240	2018		322	312		249	370	
v/s Ratio Prot		c0.24			0.16						0.01	
v/s Ratio Perm	0.01			0.05			0.18	c0.18		0.00		
v/c Ratio	0.01	0.42		0.09	0.28		0.71	0.72		0.02	0.03	
Uniform Delay, d1	6.5	8.5		6.8	7.7		25.1	25.2		20.8	20.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.7		0.7	0.3		6.1	6.9		0.0	0.0	
Delay (s)	6.6	9.3		7.5	8.1		31.2	32.1		20.8	20.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.3			8.1			31.7			20.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	822	53	24	534	57	37	50	190	130
v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.13	0.14	0.65	0.35
Control Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Length 50th (m)	0.3	71.4	0.3	1.2	35.1	0.4	4.2	4.1	24.1	12.7
Queue Length 95th (m)	1.8	#145.9	4.3	5.0	64.6	4.7	8.9	9.6	34.6	20.8
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	344	1089	998	223	1130	989	450	589	469	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.08	0.08	0.41	0.22

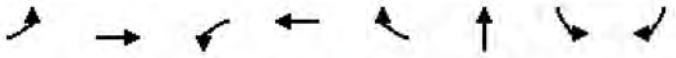
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Future Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1323	1779	1601	1615	1847	1585	1789	1638		1738	1601	
Flt Permitted	0.40	1.00	1.00	0.22	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	563	1779	1601	366	1847	1585	1269	1638		1325	1601	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	6	822	53	24	534	57	37	37	13	190	102	28
RTOR Reduction (vph)	0	0	19	0	0	19	0	10	0	0	16	0
Lane Group Flow (vph)	6	822	34	24	534	38	37	40	0	190	114	0
Heavy Vehicles (%)	38%	8%	2%	13%	4%	3%	2%	13%	12%	5%	14%	24%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Effective Green, g (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	1089	980	224	1131	970	278	359		291	351	
v/s Ratio Prot		c0.46			0.29			0.02			0.07	
v/s Ratio Perm	0.01		0.02	0.07		0.02	0.03			c0.14		
v/c Ratio	0.02	0.75	0.04	0.11	0.47	0.04	0.13	0.11		0.65	0.32	
Uniform Delay, d1	5.6	10.2	5.6	5.9	7.7	5.6	23.0	22.9		26.1	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	4.9	0.1	1.0	1.4	0.1	0.2	0.1		5.2	0.5	
Delay (s)	5.7	15.1	5.7	6.9	9.2	5.7	23.2	23.0		31.2	24.6	
Level of Service	A	B	A	A	A	A	C	C		C	C	
Approach Delay (s)		14.5			8.7			23.1			28.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	292	995	17	460	532	8	244	312
v/c Ratio	0.64	1.00	0.14	0.46	0.49	0.02	0.79	0.52
Control Delay	19.4	47.1	11.5	10.8	2.7	0.0	41.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	47.1	11.5	10.8	2.7	0.0	41.6	6.1
Queue Length 50th (m)	20.8	~106.0	0.9	28.3	0.0	0.0	26.2	0.0
Queue Length 95th (m)	38.1	#151.7	3.6	42.5	4.4	0.0	37.7	7.5
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	455	993	123	992	1076	594	404	689
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	0.64	1.00	0.14	0.46	0.49	0.01	0.60	0.45

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Future Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.45	1.00		0.11	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	807	1762		219	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	292	992	3	17	460	532	0	0	8	244	0	312
RTOR Reduction (vph)	0	0	0	0	0	232	0	6	0	0	0	235
Lane Group Flow (vph)	292	995	0	17	460	300	0	2	0	244	0	77
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	35.1	35.1		35.1	35.1	35.1		15.3		15.3		15.3
Effective Green, g (s)	35.1	35.1		35.1	35.1	35.1		15.3		15.3		15.3
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56		0.25		0.25		0.25
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	454	992		123	992	843		408		308		364
v/s Ratio Prot		c0.56			0.26			0.00				
v/s Ratio Perm	0.36			0.08		0.20				c0.19		0.05
v/c Ratio	0.64	1.00		0.14	0.46	0.36		0.00		0.79		0.21
Uniform Delay, d1	9.3	13.6		6.4	8.0	7.4		17.7		22.0		18.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	2.3	29.3		0.2	0.1	0.1		0.0		12.2		0.1
Delay (s)	11.7	42.9		6.6	8.2	7.5		17.8		34.2		18.8
Level of Service	B	D		A	A	A		B		C		B
Approach Delay (s)		35.8			7.8			17.8			25.6	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	11.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	1146	51	1036	101	247	315	244
v/c Ratio	0.51	0.67	0.34	0.79	0.44	0.67	0.93	0.44
Control Delay	17.3	17.7	26.2	26.5	37.4	40.3	59.9	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	17.7	26.2	26.5	37.4	40.3	59.9	22.6
Queue Length 50th (m)	8.5	65.1	5.4	69.6	13.5	33.8	36.2	23.9
Queue Length 95th (m)	17.5	87.2	14.3	90.0	28.8	58.9	#81.1	46.1
Internal Link Dist (m)		64.8		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	241	2430	235	2026	423	680	340	820
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	0.51	0.47	0.22	0.51	0.24	0.36	0.93	0.30

Intersection Summary

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

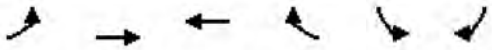


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Future Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1573	3312		1644	3285		1807	1845		1690	1639	
Flt Permitted	0.14	1.00		0.22	1.00		0.61	1.00		0.39	1.00	
Satd. Flow (perm)	226	3312		386	3285		1155	1845		699	1639	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	124	1062	82	51	780	256	101	212	34	315	138	106
RTOR Reduction (vph)	0	5	0	0	30	0	0	6	0	0	26	0
Lane Group Flow (vph)	124	1141	0	51	1006	0	101	241	0	315	218	0
Heavy Vehicles (%)	16%	8%	22%	11%	7%	7%	1%	2%	2%	8%	10%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		32.8	32.8		16.7	16.7		26.9	26.9	
Effective Green, g (s)	43.0	43.0		32.8	32.8		16.7	16.7		26.9	26.9	
Actuated g/C Ratio	0.51	0.51		0.39	0.39		0.20	0.20		0.32	0.32	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	232	1705		151	1290		231	369		310	528	
v/s Ratio Prot	0.05	c0.34			c0.31			0.13		c0.09	0.13	
v/s Ratio Perm	0.23			0.13			0.09			c0.24		
v/c Ratio	0.53	0.67		0.34	0.78		0.44	0.65		1.02	0.41	
Uniform Delay, d1	13.4	15.0		17.7	22.2		29.3	30.7		27.4	22.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	1.1		0.5	2.8		1.3	4.1		55.3	0.5	
Delay (s)	16.4	16.1		18.2	25.0		30.6	34.9		82.7	22.7	
Level of Service	B	B		B	C		C	C		F	C	
Approach Delay (s)		16.1			24.7			33.6			56.5	
Approach LOS		B			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	83.5	Sum of lost time (s)	19.6
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
102: Garner Rd W & McClure Rd

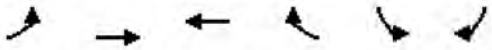
06/06/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	713	438	25	11	23
Future Volume (Veh/h)	28	713	438	25	11	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	32	820	503	29	13	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	532				1402	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	532				1402	518
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	95
cM capacity (veh/h)	1036				150	558

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	32	820	532	39
Volume Left	32	0	0	13
Volume Right	0	0	29	26
cSH	1036	1700	1700	292
Volume to Capacity	0.03	0.48	0.31	0.13
Queue Length 95th (m)	0.7	0.0	0.0	3.5
Control Delay (s)	8.6	0.0	0.0	19.2
Lane LOS	A			C
Approach Delay (s)	0.3		0.0	19.2
Approach LOS				C

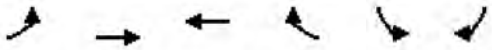
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	703	441	54	27	20
Future Volume (Veh/h)	16	703	441	54	27	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	18	773	485	59	30	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	544				1294	485
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	414				1266	347
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	98				81	96
cM capacity (veh/h)	1008				156	613

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	18	773	485	59	52
Volume Left	18	0	0	0	30
Volume Right	0	0	0	59	22
cSH	1008	1700	1700	1700	228
Volume to Capacity	0.02	0.45	0.29	0.03	0.23
Queue Length 95th (m)	0.4	0.0	0.0	0.0	6.5
Control Delay (s)	8.6	0.0	0.0	0.0	25.4
Lane LOS	A				D
Approach Delay (s)	0.2		0.0		25.4
Approach LOS					D

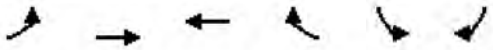
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	835	476	103	130	34
Future Volume (Veh/h)	16	835	476	103	130	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	908	517	112	141	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	629				1459	517
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				1459	517
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	98				0	93
cM capacity (veh/h)	894				137	562

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	908	517	112	178
Volume Left	17	0	0	0	141
Volume Right	0	0	0	112	37
cSH	894	1700	1700	1700	162
Volume to Capacity	0.02	0.53	0.30	0.07	1.10
Queue Length 95th (m)	0.4	0.0	0.0	0.0	70.0
Control Delay (s)	9.1	0.0	0.0	0.0	155.7
Lane LOS	A				F
Approach Delay (s)	0.2		0.0		155.7
Approach LOS					F

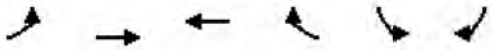
Intersection Summary			
Average Delay	16.1		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	946	713	77	69	44
Future Volume (Veh/h)	13	946	713	77	69	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	17	1229	926	100	90	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1026				2189	926
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026				2189	926
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	97				0	82
cM capacity (veh/h)	677				48	320

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	1229	926	100	147
Volume Left	17	0	0	0	90
Volume Right	0	0	0	100	57
cSH	677	1700	1700	1700	72
Volume to Capacity	0.03	0.72	0.54	0.06	2.05
Queue Length 95th (m)	0.6	0.0	0.0	0.0	102.5
Control Delay (s)	10.5	0.0	0.0	0.0	610.2
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		610.2
Approach LOS					F

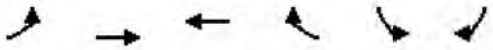
Intersection Summary			
Average Delay	37.2		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	1121	853	10	7	17
Future Volume (Veh/h)	8	1121	853	10	7	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	10	1456	1108	13	9	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.38	
vC, conflicting volume	1121				2584	1108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1121				4376	1108
tC, single (s)	4.3				6.5	6.4
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.5
p0 queue free %	98				0	91
cM capacity (veh/h)	561				1	238

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1466	1108	13	31
Volume Left	10	0	0	9
Volume Right	0	0	13	22
cSH	561	1700	1700	2
Volume to Capacity	0.02	0.65	0.01	15.66
Queue Length 95th (m)	0.4	0.0	0.0	Err
Control Delay (s)	1.5	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	1.5	0.0		Err
Approach LOS				F

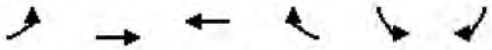
Intersection Summary			
Average Delay	119.2		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	1119	852	50	26	11
Future Volume (Veh/h)	9	1119	852	50	26	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	11	1416	1078	63	33	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1141				2516	1078
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141				2516	1078
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	98				0	95
cM capacity (veh/h)	571				30	255

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	11	1416	1078	63	47
Volume Left	11	0	0	0	33
Volume Right	0	0	0	63	14
cSH	571	1700	1700	1700	40
Volume to Capacity	0.02	0.83	0.63	0.04	1.17
Queue Length 95th (m)	0.4	0.0	0.0	0.0	35.2
Control Delay (s)	11.4	0.0	0.0	0.0	351.5
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		351.5
Approach LOS					F

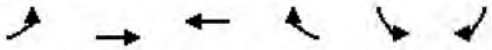
Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	1144	890	1	2	12
Future Volume (Veh/h)	1	1144	890	1	2	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1	1395	1085	1	2	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1086				2482	1086
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1086				2482	1086
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	94
cM capacity (veh/h)	642				32	263

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1396	1086	17
Volume Left	1	0	2
Volume Right	0	1	15
cSH	642	1700	143
Volume to Capacity	0.00	0.64	0.12
Queue Length 95th (m)	0.0	0.0	3.0
Control Delay (s)	0.1	0.0	33.5
Lane LOS	A		D
Approach Delay (s)	0.1	0.0	33.5
Approach LOS			D

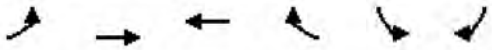
Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		71.0%	ICU Level of Service C
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1157	864	0	82	41
Future Volume (Veh/h)	0	1157	864	0	82	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1411	1054	0	100	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1054				2465	1054
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1054				2465	1054
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				0	81
cM capacity (veh/h)	661				33	265

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1411	1054	150
Volume Left	0	0	100
Volume Right	0	0	50
cSH	1700	1700	47
Volume to Capacity	0.83	0.62	3.18
Queue Length 95th (m)	0.0	0.0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	573.6		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		



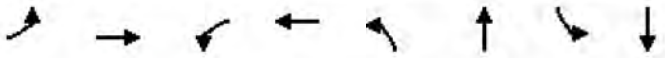
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	1128	864	206	0	0
Future Volume (Veh/h)	112	1128	864	206	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	133	1343	1029	245	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1274				2638	1029
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1274				2638	1029
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	75				100	100
cM capacity (veh/h)	525				19	284

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	133	1343	1029	245
Volume Left	133	0	0	0
Volume Right	0	0	0	245
cSH	525	1700	1700	1700
Volume to Capacity	0.25	0.79	0.61	0.14
Queue Length 95th (m)	7.6	0.0	0.0	0.0
Control Delay (s)	14.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	1.3		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

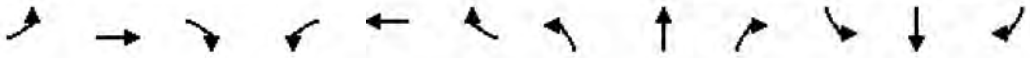
Queues
101: Garner Rd/Mason Dr & Wilson St

06/07/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	1291	26	506	296	298	28	20
v/c Ratio	0.00	0.67	0.20	0.27	0.77	0.78	0.11	0.04
Control Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Length 50th (m)	0.1	43.0	1.8	18.7	38.1	36.8	2.7	0.5
Queue Length 95th (m)	0.9	78.0	8.3	33.7	53.7	53.0	6.7	3.9
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	462	1928	132	1842	532	526	352	630
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	0.00	0.67	0.20	0.27	0.56	0.57	0.08	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Future Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3303		1789	3489		1651	1625		1789	1509	
Flt Permitted	0.47	1.00		0.13	1.00		0.74	0.74		0.45	1.00	
Satd. Flow (perm)	878	3303		252	3489		1294	1261		854	1509	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	665	626	26	483	23	549	6	39	28	5	15
RTOR Reduction (vph)	0	187	0	0	4	0	0	9	0	0	11	0
Lane Group Flow (vph)	1	1104	0	26	502	0	296	289	0	28	9	0
Heavy Vehicles (%)	2%	2%	3%	2%	4%	2%	5%	2%	10%	2%	25%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Effective Green, g (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30		0.30	0.30	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	463	1742		132	1840		383	374		253	447	
v/s Ratio Prot		c0.33			0.14						0.01	
v/s Ratio Perm	0.00			0.10			0.23	c0.23		0.03		
v/c Ratio	0.00	0.63		0.20	0.27		0.77	0.77		0.11	0.02	
Uniform Delay, d1	8.1	12.2		9.1	9.5		23.4	23.4		18.6	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.8		3.3	0.4		8.6	8.7		0.1	0.0	
Delay (s)	8.1	14.0		12.4	9.9		31.9	32.1		18.7	18.1	
Level of Service	A	B		B	A		C	C		B	B	
Approach Delay (s)		14.0			10.0			32.0			18.5	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



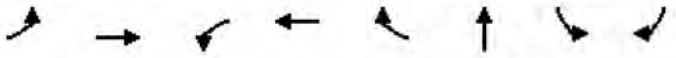
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	617	66	15	786	145	49	142	112	78
v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.22	0.44	0.52	0.25
Control Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Length 50th (m)	1.7	35.2	0.7	0.6	52.4	2.9	6.0	15.9	14.4	7.3
Queue Length 95th (m)	6.5	71.7	5.1	3.0	107.4	10.3	13.6	28.6	26.8	16.6
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	375	1356	1123	496	1343	1173	449	652	444	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.11	0.22	0.25	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Future Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1883	1541	1722	1865	1601	1706	1810		1789	1736	
Flt Permitted	0.28	1.00	1.00	0.38	1.00	1.00	0.71	1.00		0.67	1.00	
Satd. Flow (perm)	522	1883	1541	689	1865	1601	1268	1810		1255	1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	617	66	15	786	145	49	117	25	112	60	18
RTOR Reduction (vph)	0	0	15	0	0	23	0	14	0	0	15	0
Lane Group Flow (vph)	41	617	51	15	786	122	49	128	0	112	63	0
Heavy Vehicles (%)	4%	2%	6%	6%	3%	2%	7%	3%	5%	2%	5%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Effective Green, g (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69	0.15	0.15		0.15	0.15	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	358	1292	1057	472	1279	1098	185	264		183	253	
v/s Ratio Prot		0.33			c0.42			0.07			0.04	
v/s Ratio Perm	0.08		0.03	0.02		0.08	0.04			c0.09		
v/c Ratio	0.11	0.48	0.05	0.03	0.61	0.11	0.26	0.49		0.61	0.25	
Uniform Delay, d1	3.9	5.4	3.7	3.7	6.2	3.9	27.8	28.8		29.4	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.3	0.1	0.1	2.2	0.2	0.8	1.4		5.9	0.5	
Delay (s)	4.6	6.6	3.8	3.8	8.5	4.1	28.6	30.2		35.3	28.2	
Level of Service	A	A	A	A	A	A	C	C		D	C	
Approach Delay (s)		6.3			7.7			29.8			32.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	103	845	3	1076	129	8	108	140
v/c Ratio	0.80	0.70	0.01	0.89	0.12	0.02	0.47	0.42
Control Delay	62.0	12.9	5.0	24.1	1.5	0.2	28.2	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	12.9	5.0	24.1	1.5	0.2	28.2	15.9
Queue Length 50th (m)	7.7	54.7	0.1	93.0	0.0	0.0	10.2	6.4
Queue Length 95th (m)	#28.3	75.9	0.8	#143.7	3.3	0.0	18.1	14.2
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	128	1208	314	1208	1068	663	437	563
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	0.80	0.70	0.01	0.89	0.12	0.01	0.25	0.25

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Future Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.10	1.00		0.24	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	187	1762		460	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	103	845	0	3	1076	129	0	0	8	108	0	140
RTOR Reduction (vph)	0	0	0	0	0	45	0	7	0	0	0	60
Lane Group Flow (vph)	103	845	0	3	1076	84	0	1	0	108	0	80
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	38.1	38.1		38.1	38.1	38.1		8.6		8.6		8.6
Effective Green, g (s)	38.1	38.1		38.1	38.1	38.1		8.6		8.6		8.6
Actuated g/C Ratio	0.65	0.65		0.65	0.65	0.65		0.15		0.15		0.15
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	121	1145		299	1145	973		243		184		217
v/s Ratio Prot		0.48			c0.61			0.00				
v/s Ratio Perm	0.55			0.01		0.06				c0.09		0.05
v/c Ratio	0.85	0.74		0.01	0.94	0.09		0.00		0.59		0.37
Uniform Delay, d1	8.0	6.9		3.6	9.2	3.8		21.3		23.3		22.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	39.2	2.2		0.0	14.1	0.0		0.0		3.1		0.4
Delay (s)	47.2	9.1		3.6	23.3	3.8		21.3		26.4		22.9
Level of Service	D	A		A	C	A		C		C		C
Approach Delay (s)		13.2			21.2			21.3			24.5	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	11.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	704	55	1102	52	252	226	254
v/c Ratio	0.27	0.39	0.18	0.78	0.23	0.67	0.62	0.42
Control Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Length 50th (m)	4.7	33.2	5.6	77.8	7.0	35.3	25.7	29.4
Queue Length 95th (m)	12.3	55.1	15.3	119.1	19.5	70.8	54.4	61.6
Internal Link Dist (m)		66.4		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	264	2631	448	2116	418	681	365	901
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	0.27	0.27	0.12	0.52	0.12	0.37	0.62	0.28

Intersection Summary

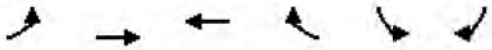


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Future Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3536		1789	3389		1772	1808		1789	1800	
Flt Permitted	0.12	1.00		0.38	1.00		0.60	1.00		0.39	1.00	
Satd. Flow (perm)	234	3536		723	3389		1122	1808		731	1800	
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)	70	666	38	55	876	226	52	195	57	226	191	63
RTOR Reduction (vph)	0	4	0	0	21	0	0	10	0	0	11	0
Lane Group Flow (vph)	70	700	0	55	1081	0	52	242	0	226	243	0
Heavy Vehicles (%)	2%	2%	9%	2%	5%	2%	3%	2%	5%	2%	3%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Effective Green, g (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Actuated g/C Ratio	0.51	0.51		0.41	0.41		0.20	0.20		0.33	0.33	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	217	1807		298	1398		229	369		330	588	
v/s Ratio Prot	0.02	c0.20			c0.32			0.13		c0.06	0.14	
v/s Ratio Perm	0.14			0.08			0.05			c0.16		
v/c Ratio	0.32	0.39		0.18	0.77		0.23	0.65		0.68	0.41	
Uniform Delay, d1	13.1	12.5		15.7	21.3		27.9	30.7		22.9	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	2.5		0.5	4.1		4.6	0.5	
Delay (s)	14.3	12.7		15.8	23.8		28.4	34.9		27.5	22.5	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s)		12.9			23.4			33.8			24.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
102: Garner Rd W & McClure Rd

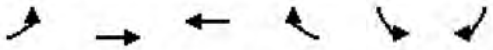
06/07/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	595	680	36	42	15
Future Volume (Veh/h)	38	595	680	36	42	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	44	684	782	41	48	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	823				1574	802
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823				1574	802
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				58	96
cM capacity (veh/h)	807				114	384

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	44	684	823	65
Volume Left	44	0	0	48
Volume Right	0	0	41	17
cSH	807	1700	1700	140
Volume to Capacity	0.05	0.40	0.48	0.46
Queue Length 95th (m)	1.3	0.0	0.0	16.1
Control Delay (s)	9.7	0.0	0.0	51.2
Lane LOS	A			F
Approach Delay (s)	0.6		0.0	51.2
Approach LOS				F

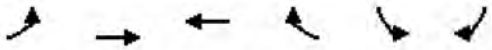
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	565	649	137	100	65
Future Volume (Veh/h)	72	565	649	137	100	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	78	614	705	149	109	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.78				0.78	0.78
vC, conflicting volume	854				1475	705
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	674				1468	483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				0	84
cM capacity (veh/h)	717				98	456

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	78	614	705	149	180
Volume Left	78	0	0	0	109
Volume Right	0	0	0	149	71
cSH	717	1700	1700	1700	143
Volume to Capacity	0.11	0.36	0.41	0.09	1.26
Queue Length 95th (m)	2.8	0.0	0.0	0.0	82.7
Control Delay (s)	10.6	0.0	0.0	0.0	222.9
Lane LOS	B				F
Approach Delay (s)	1.2		0.0		222.9
Approach LOS					F

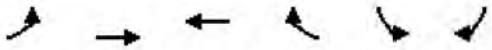
Intersection Summary			
Average Delay	23.7		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	653	827	85	58	44
Future Volume (Veh/h)	41	653	827	85	58	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	710	899	92	63	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	991				1699	899
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	991				1699	899
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	93				32	86
cM capacity (veh/h)	649				92	340

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	45	710	899	92	111
Volume Left	45	0	0	0	63
Volume Right	0	0	0	92	48
cSH	649	1700	1700	1700	135
Volume to Capacity	0.07	0.42	0.53	0.05	0.82
Queue Length 95th (m)	1.7	0.0	0.0	0.0	39.1
Control Delay (s)	11.0	0.0	0.0	0.0	99.3
Lane LOS	B				F
Approach Delay (s)	0.7		0.0		99.3
Approach LOS					F

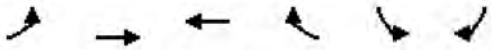
Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	694	888	34	25	18
Future Volume (Veh/h)	27	694	888	34	25	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	763	976	37	27	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1013				1799	976
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1013				1799	976
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				68	93
cM capacity (veh/h)	684				84	305

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	30	763	976	37	47
Volume Left	30	0	0	0	27
Volume Right	0	0	0	37	20
cSH	684	1700	1700	1700	121
Volume to Capacity	0.04	0.45	0.57	0.02	0.39
Queue Length 95th (m)	1.0	0.0	0.0	0.0	12.3
Control Delay (s)	10.5	0.0	0.0	0.0	52.2
Lane LOS	B				F
Approach Delay (s)	0.4		0.0		52.2
Approach LOS					F

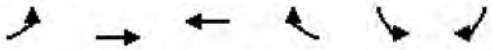
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	877	1063	12	7	13
Future Volume (Veh/h)	5	877	1063	12	7	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	914	1107	13	7	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.72	
vC, conflicting volume	1120				2031	1107
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1120				2234	1107
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	99				79	94
cM capacity (veh/h)	624				34	235

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	919	1107	13	21
Volume Left	5	0	0	7
Volume Right	0	0	13	14
cSH	624	1700	1700	78
Volume to Capacity	0.01	0.65	0.01	0.27
Queue Length 95th (m)	0.2	0.0	0.0	7.3
Control Delay (s)	0.2	0.0	0.0	66.9
Lane LOS	A			F
Approach Delay (s)	0.2	0.0		66.9
Approach LOS				F

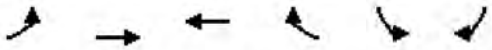
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	872	1068	46	13	7
Future Volume (Veh/h)	11	872	1068	46	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	928	1136	49	14	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1185				2088	1136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185				2088	1136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				75	97
cM capacity (veh/h)	589				57	246

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	12	928	1136	49	21
Volume Left	12	0	0	0	14
Volume Right	0	0	0	49	7
cSH	589	1700	1700	1700	76
Volume to Capacity	0.02	0.55	0.67	0.03	0.28
Queue Length 95th (m)	0.5	0.0	0.0	0.0	7.6
Control Delay (s)	11.2	0.0	0.0	0.0	69.2
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		69.2
Approach LOS					F

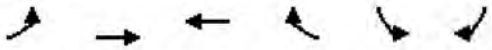
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	881	1109	7	7	5
Future Volume (Veh/h)	4	881	1109	7	7	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	937	1180	7	7	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1187				2128	1184
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1187				2128	1184
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	98
cM capacity (veh/h)	588				54	231

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	941	1187	12
Volume Left	4	0	7
Volume Right	0	7	5
cSH	588	1700	80
Volume to Capacity	0.01	0.70	0.15
Queue Length 95th (m)	0.2	0.0	3.8
Control Delay (s)	0.2	0.0	58.1
Lane LOS	A		F
Approach Delay (s)	0.2	0.0	58.1
Approach LOS			F

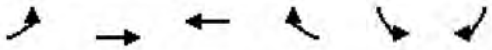
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	916	1066	0	162	114
Future Volume (Veh/h)	0	916	1066	0	162	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	954	1110	0	169	119
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1110				2064	1110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110				2064	1110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	53
cM capacity (veh/h)	629				60	256

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	954	1110	288
Volume Left	0	0	169
Volume Right	0	0	119
cSH	1700	1700	88
Volume to Capacity	0.56	0.65	3.28
Queue Length 95th (m)	0.0	0.0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	1224.4		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		



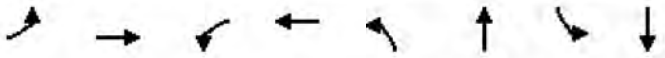
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1045	1066	148	0	0
Future Volume (Veh/h)	33	1045	1066	148	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	1100	1122	156	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1278				2292	1122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1278				2292	1122
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	502				40	251

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	35	1100	1122	156
Volume Left	35	0	0	0
Volume Right	0	0	0	156
cSH	502	1700	1700	1700
Volume to Capacity	0.07	0.65	0.66	0.09
Queue Length 95th (m)	1.7	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	0.4		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St

06/06/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1028	21	568	230	229	4	17
v/c Ratio	0.01	0.50	0.09	0.28	0.71	0.73	0.02	0.05
Control Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Length 50th (m)	0.4	9.5	1.1	18.2	30.5	30.0	0.4	1.0
Queue Length 95th (m)	2.5	26.2	5.6	35.1	45.7	45.5	2.1	4.5
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	477	2043	240	2019	539	525	417	624
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	0.01	0.50	0.09	0.28	0.43	0.44	0.01	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Future Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3015		1690	3490		1667	1648		1789	1506	
Flt Permitted	0.44	1.00		0.23	1.00		0.75	0.74		0.54	1.00	
Satd. Flow (perm)	826	3015		416	3490		1310	1269		1013	1506	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	315	713	21	548	20	434	14	11	4	9	8
RTOR Reduction (vph)	0	301	0	0	3	0	0	3	0	0	6	0
Lane Group Flow (vph)	7	727	0	21	565	0	230	226	0	4	11	0
Heavy Vehicles (%)	2%	5%	10%	8%	4%	5%	4%	2%	33%	2%	20%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Effective Green, g (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	477	1743		240	2018		322	312		249	370	
v/s Ratio Prot		c0.24			0.16						0.01	
v/s Ratio Perm	0.01			0.05			0.18	c0.18		0.00		
v/c Ratio	0.01	0.42		0.09	0.28		0.71	0.72		0.02	0.03	
Uniform Delay, d1	6.5	8.5		6.8	7.7		25.1	25.2		20.8	20.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.7		0.7	0.3		6.1	6.9		0.0	0.0	
Delay (s)	6.6	9.3		7.5	8.1		31.2	32.1		20.8	20.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.3			8.1			31.7			20.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	822	53	24	534	57	37	50	190	130
v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.13	0.14	0.65	0.35
Control Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Length 50th (m)	0.3	71.4	0.3	1.2	35.1	0.4	4.2	4.1	24.1	12.7
Queue Length 95th (m)	1.8	#145.9	4.3	5.0	64.6	4.7	8.9	9.6	34.6	20.8
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	344	1089	998	223	1130	989	450	589	469	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.08	0.08	0.41	0.22

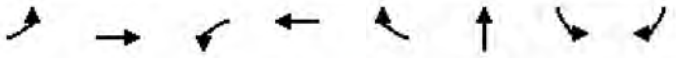
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Future Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1323	1779	1601	1615	1847	1585	1789	1638		1738	1601	
Flt Permitted	0.40	1.00	1.00	0.22	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	563	1779	1601	366	1847	1585	1269	1638		1325	1601	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	6	822	53	24	534	57	37	37	13	190	102	28
RTOR Reduction (vph)	0	0	19	0	0	19	0	10	0	0	16	0
Lane Group Flow (vph)	6	822	34	24	534	38	37	40	0	190	114	0
Heavy Vehicles (%)	38%	8%	2%	13%	4%	3%	2%	13%	12%	5%	14%	24%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Effective Green, g (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	1089	980	224	1131	970	278	359		291	351	
v/s Ratio Prot		c0.46			0.29			0.02			0.07	
v/s Ratio Perm	0.01		0.02	0.07		0.02	0.03			c0.14		
v/c Ratio	0.02	0.75	0.04	0.11	0.47	0.04	0.13	0.11		0.65	0.32	
Uniform Delay, d1	5.6	10.2	5.6	5.9	7.7	5.6	23.0	22.9		26.1	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	4.9	0.1	1.0	1.4	0.1	0.2	0.1		5.2	0.5	
Delay (s)	5.7	15.1	5.7	6.9	9.2	5.7	23.2	23.0		31.2	24.6	
Level of Service	A	B	A	A	A	A	C	C		C	C	
Approach Delay (s)		14.5			8.7			23.1			28.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	292	995	17	460	532	8	244	312
v/c Ratio	0.64	1.00	0.14	0.46	0.49	0.02	0.79	0.52
Control Delay	19.4	47.1	11.5	10.8	2.7	0.0	41.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	47.1	11.5	10.8	2.7	0.0	41.6	6.1
Queue Length 50th (m)	20.8	~106.0	0.9	28.3	0.0	0.0	26.2	0.0
Queue Length 95th (m)	38.1	#151.7	3.6	42.5	4.4	0.0	37.7	7.5
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	455	993	123	992	1076	594	404	689
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	0.64	1.00	0.14	0.46	0.49	0.01	0.60	0.45

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Future Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.45	1.00		0.11	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	807	1762		219	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	292	992	3	17	460	532	0	0	8	244	0	312
RTOR Reduction (vph)	0	0	0	0	0	232	0	6	0	0	0	235
Lane Group Flow (vph)	292	995	0	17	460	300	0	2	0	244	0	77
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	35.1	35.1		35.1	35.1	35.1		15.3		15.3		15.3
Effective Green, g (s)	35.1	35.1		35.1	35.1	35.1		15.3		15.3		15.3
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56		0.25		0.25		0.25
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	454	992		123	992	843		408		308		364
v/s Ratio Prot		c0.56			0.26			0.00				
v/s Ratio Perm	0.36			0.08		0.20				c0.19		0.05
v/c Ratio	0.64	1.00		0.14	0.46	0.36		0.00		0.79		0.21
Uniform Delay, d1	9.3	13.6		6.4	8.0	7.4		17.7		22.0		18.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	2.3	29.3		0.2	0.1	0.1		0.0		12.2		0.1
Delay (s)	11.7	42.9		6.6	8.2	7.5		17.8		34.2		18.8
Level of Service	B	D		A	A	A		B		C		B
Approach Delay (s)		35.8			7.8			17.8			25.6	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	11.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	1146	51	1036	101	247	315	244
v/c Ratio	0.51	0.67	0.34	0.79	0.44	0.67	0.93	0.44
Control Delay	17.3	17.7	26.2	26.5	37.4	40.3	59.9	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	17.7	26.2	26.5	37.4	40.3	59.9	22.6
Queue Length 50th (m)	8.5	65.1	5.4	69.6	13.5	33.8	36.2	23.9
Queue Length 95th (m)	17.5	87.2	14.3	90.0	28.8	58.9	#81.1	46.1
Internal Link Dist (m)		64.8		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	241	2430	235	2026	423	680	340	820
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	0.51	0.47	0.22	0.51	0.24	0.36	0.93	0.30

Intersection Summary

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

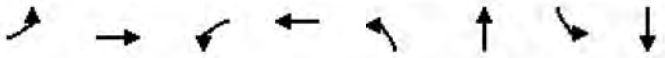


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Future Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1573	3312		1644	3285		1807	1845		1690	1639	
Flt Permitted	0.14	1.00		0.22	1.00		0.61	1.00		0.39	1.00	
Satd. Flow (perm)	226	3312		386	3285		1155	1845		699	1639	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	124	1062	82	51	780	256	101	212	34	315	138	106
RTOR Reduction (vph)	0	5	0	0	30	0	0	6	0	0	26	0
Lane Group Flow (vph)	124	1141	0	51	1006	0	101	241	0	315	218	0
Heavy Vehicles (%)	16%	8%	22%	11%	7%	7%	1%	2%	2%	8%	10%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		32.8	32.8		16.7	16.7		26.9	26.9	
Effective Green, g (s)	43.0	43.0		32.8	32.8		16.7	16.7		26.9	26.9	
Actuated g/C Ratio	0.51	0.51		0.39	0.39		0.20	0.20		0.32	0.32	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	232	1705		151	1290		231	369		310	528	
v/s Ratio Prot	0.05	c0.34			c0.31			0.13		c0.09	0.13	
v/s Ratio Perm	0.23			0.13			0.09			c0.24		
v/c Ratio	0.53	0.67		0.34	0.78		0.44	0.65		1.02	0.41	
Uniform Delay, d1	13.4	15.0		17.7	22.2		29.3	30.7		27.4	22.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	1.1		0.5	2.8		1.3	4.1		55.3	0.5	
Delay (s)	16.4	16.1		18.2	25.0		30.6	34.9		82.7	22.7	
Level of Service	B	B		B	C		C	C		F	C	
Approach Delay (s)		16.1			24.7			33.6			56.5	
Approach LOS		B			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	83.5	Sum of lost time (s)	19.6
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

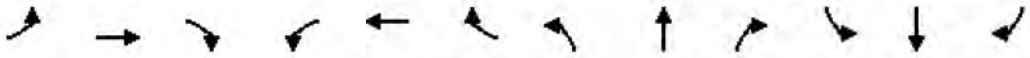
Queues
101: Garner Rd/Mason Dr & Wilson St

06/07/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	1291	26	506	296	298	28	20
v/c Ratio	0.00	0.67	0.20	0.27	0.77	0.78	0.11	0.04
Control Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Length 50th (m)	0.1	43.0	1.8	18.7	38.1	36.8	2.7	0.5
Queue Length 95th (m)	0.9	78.0	8.3	33.7	53.7	53.0	6.7	3.9
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	462	1928	132	1842	532	526	352	630
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	0.00	0.67	0.20	0.27	0.56	0.57	0.08	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Future Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3303		1789	3489		1651	1625		1789	1509	
Flt Permitted	0.47	1.00		0.13	1.00		0.74	0.74		0.45	1.00	
Satd. Flow (perm)	878	3303		252	3489		1294	1261		854	1509	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	665	626	26	483	23	549	6	39	28	5	15
RTOR Reduction (vph)	0	187	0	0	4	0	0	9	0	0	11	0
Lane Group Flow (vph)	1	1104	0	26	502	0	296	289	0	28	9	0
Heavy Vehicles (%)	2%	2%	3%	2%	4%	2%	5%	2%	10%	2%	25%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Effective Green, g (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30		0.30	0.30	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	463	1742		132	1840		383	374		253	447	
v/s Ratio Prot		c0.33			0.14						0.01	
v/s Ratio Perm	0.00			0.10			0.23	c0.23		0.03		
v/c Ratio	0.00	0.63		0.20	0.27		0.77	0.77		0.11	0.02	
Uniform Delay, d1	8.1	12.2		9.1	9.5		23.4	23.4		18.6	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.8		3.3	0.4		8.6	8.7		0.1	0.0	
Delay (s)	8.1	14.0		12.4	9.9		31.9	32.1		18.7	18.1	
Level of Service	A	B		B	A		C	C		B	B	
Approach Delay (s)		14.0			10.0			32.0			18.5	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



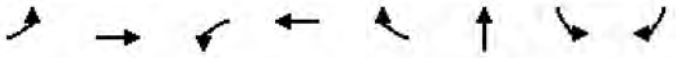
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	617	66	15	786	145	49	142	112	78
v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.22	0.44	0.52	0.25
Control Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Length 50th (m)	1.7	35.2	0.7	0.6	52.4	2.9	6.0	15.9	14.4	7.3
Queue Length 95th (m)	6.5	71.7	5.1	3.0	107.4	10.3	13.6	28.6	26.8	16.6
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	375	1356	1123	496	1343	1173	449	652	444	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.11	0.22	0.25	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Future Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1883	1541	1722	1865	1601	1706	1810		1789	1736	
Flt Permitted	0.28	1.00	1.00	0.38	1.00	1.00	0.71	1.00		0.67	1.00	
Satd. Flow (perm)	522	1883	1541	689	1865	1601	1268	1810		1255	1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	617	66	15	786	145	49	117	25	112	60	18
RTOR Reduction (vph)	0	0	15	0	0	23	0	14	0	0	15	0
Lane Group Flow (vph)	41	617	51	15	786	122	49	128	0	112	63	0
Heavy Vehicles (%)	4%	2%	6%	6%	3%	2%	7%	3%	5%	2%	5%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Effective Green, g (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69	0.15	0.15		0.15	0.15	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	358	1292	1057	472	1279	1098	185	264		183	253	
v/s Ratio Prot		0.33			c0.42			0.07			0.04	
v/s Ratio Perm	0.08		0.03	0.02		0.08	0.04			c0.09		
v/c Ratio	0.11	0.48	0.05	0.03	0.61	0.11	0.26	0.49		0.61	0.25	
Uniform Delay, d1	3.9	5.4	3.7	3.7	6.2	3.9	27.8	28.8		29.4	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.3	0.1	0.1	2.2	0.2	0.8	1.4		5.9	0.5	
Delay (s)	4.6	6.6	3.8	3.8	8.5	4.1	28.6	30.2		35.3	28.2	
Level of Service	A	A	A	A	A	A	C	C		D	C	
Approach Delay (s)		6.3			7.7			29.8			32.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	103	845	3	1076	129	8	108	140
v/c Ratio	0.80	0.70	0.01	0.89	0.12	0.02	0.47	0.42
Control Delay	62.0	12.9	5.0	24.1	1.5	0.2	28.2	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	12.9	5.0	24.1	1.5	0.2	28.2	15.9
Queue Length 50th (m)	7.7	54.7	0.1	93.0	0.0	0.0	10.2	6.4
Queue Length 95th (m)	#28.3	75.9	0.8	#143.7	3.3	0.0	18.1	14.2
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	128	1208	314	1208	1068	663	437	563
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	0.80	0.70	0.01	0.89	0.12	0.01	0.25	0.25

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Future Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.10	1.00		0.24	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	187	1762		460	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	103	845	0	3	1076	129	0	0	8	108	0	140
RTOR Reduction (vph)	0	0	0	0	0	45	0	7	0	0	0	60
Lane Group Flow (vph)	103	845	0	3	1076	84	0	1	0	108	0	80
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	38.1	38.1		38.1	38.1	38.1		8.6		8.6		8.6
Effective Green, g (s)	38.1	38.1		38.1	38.1	38.1		8.6		8.6		8.6
Actuated g/C Ratio	0.65	0.65		0.65	0.65	0.65		0.15		0.15		0.15
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	121	1145		299	1145	973		243		184		217
v/s Ratio Prot		0.48			c0.61			0.00				
v/s Ratio Perm	0.55			0.01		0.06				c0.09		0.05
v/c Ratio	0.85	0.74		0.01	0.94	0.09		0.00		0.59		0.37
Uniform Delay, d1	8.0	6.9		3.6	9.2	3.8		21.3		23.3		22.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	39.2	2.2		0.0	14.1	0.0		0.0		3.1		0.4
Delay (s)	47.2	9.1		3.6	23.3	3.8		21.3		26.4		22.9
Level of Service	D	A		A	C	A		C		C		C
Approach Delay (s)		13.2			21.2			21.3			24.5	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	11.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	704	55	1102	52	252	226	254
v/c Ratio	0.27	0.39	0.18	0.78	0.23	0.67	0.62	0.42
Control Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Length 50th (m)	4.7	33.2	5.6	77.8	7.0	35.3	25.7	29.4
Queue Length 95th (m)	12.3	55.1	15.3	119.1	19.5	70.8	54.4	61.6
Internal Link Dist (m)		66.4		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	264	2631	448	2116	418	681	365	901
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	0.27	0.27	0.12	0.52	0.12	0.37	0.62	0.28

Intersection Summary

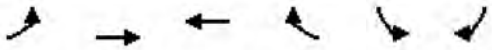


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Future Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3536		1789	3389		1772	1808		1789	1800	
Flt Permitted	0.12	1.00		0.38	1.00		0.60	1.00		0.39	1.00	
Satd. Flow (perm)	234	3536		723	3389		1122	1808		731	1800	
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)	70	666	38	55	876	226	52	195	57	226	191	63
RTOR Reduction (vph)	0	4	0	0	21	0	0	10	0	0	11	0
Lane Group Flow (vph)	70	700	0	55	1081	0	52	242	0	226	243	0
Heavy Vehicles (%)	2%	2%	9%	2%	5%	2%	3%	2%	5%	2%	3%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Effective Green, g (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Actuated g/C Ratio	0.51	0.51		0.41	0.41		0.20	0.20		0.33	0.33	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	217	1807		298	1398		229	369		330	588	
v/s Ratio Prot	0.02	c0.20			c0.32			0.13		c0.06	0.14	
v/s Ratio Perm	0.14			0.08			0.05			c0.16		
v/c Ratio	0.32	0.39		0.18	0.77		0.23	0.65		0.68	0.41	
Uniform Delay, d1	13.1	12.5		15.7	21.3		27.9	30.7		22.9	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	2.5		0.5	4.1		4.6	0.5	
Delay (s)	14.3	12.7		15.8	23.8		28.4	34.9		27.5	22.5	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s)		12.9			23.4			33.8			24.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
102: Garner Rd W & McClure Rd

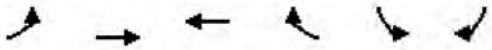
06/06/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	713	438	25	11	23
Future Volume (Veh/h)	28	713	438	25	11	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	32	820	503	29	13	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	532				1402	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	532				1402	518
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	95
cM capacity (veh/h)	1036				150	558

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	32	820	532	39
Volume Left	32	0	0	13
Volume Right	0	0	29	26
cSH	1036	1700	1700	292
Volume to Capacity	0.03	0.48	0.31	0.13
Queue Length 95th (m)	0.7	0.0	0.0	3.5
Control Delay (s)	8.6	0.0	0.0	19.2
Lane LOS	A			C
Approach Delay (s)	0.3		0.0	19.2
Approach LOS				C

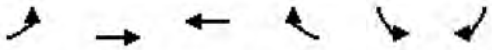
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	703	441	54	27	20
Future Volume (Veh/h)	16	703	441	54	27	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	18	773	485	59	30	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	544				1294	485
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	414				1266	347
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	98				81	96
cM capacity (veh/h)	1008				156	613

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	18	773	485	59	52
Volume Left	18	0	0	0	30
Volume Right	0	0	0	59	22
cSH	1008	1700	1700	1700	228
Volume to Capacity	0.02	0.45	0.29	0.03	0.23
Queue Length 95th (m)	0.4	0.0	0.0	0.0	6.5
Control Delay (s)	8.6	0.0	0.0	0.0	25.4
Lane LOS	A				D
Approach Delay (s)	0.2		0.0		25.4
Approach LOS					D

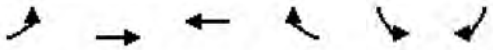
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	835	476	103	130	34
Future Volume (Veh/h)	16	835	476	103	130	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	908	517	112	141	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	629				1459	517
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				1459	517
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	98				0	93
cM capacity (veh/h)	894				137	562

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	908	517	112	178
Volume Left	17	0	0	0	141
Volume Right	0	0	0	112	37
cSH	894	1700	1700	1700	162
Volume to Capacity	0.02	0.53	0.30	0.07	1.10
Queue Length 95th (m)	0.4	0.0	0.0	0.0	70.0
Control Delay (s)	9.1	0.0	0.0	0.0	155.7
Lane LOS	A				F
Approach Delay (s)	0.2		0.0		155.7
Approach LOS					F

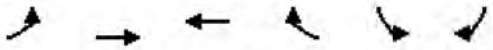
Intersection Summary			
Average Delay	16.1		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	946	713	77	69	44
Future Volume (Veh/h)	13	946	713	77	69	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	17	1229	926	100	90	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1026				2189	926
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026				2189	926
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	97				0	82
cM capacity (veh/h)	677				48	320

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	1229	926	100	147
Volume Left	17	0	0	0	90
Volume Right	0	0	0	100	57
cSH	677	1700	1700	1700	72
Volume to Capacity	0.03	0.72	0.54	0.06	2.05
Queue Length 95th (m)	0.6	0.0	0.0	0.0	102.5
Control Delay (s)	10.5	0.0	0.0	0.0	610.2
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		610.2
Approach LOS					F

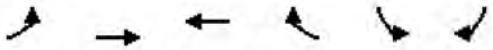
Intersection Summary			
Average Delay	37.2		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	1121	853	10	7	17
Future Volume (Veh/h)	8	1121	853	10	7	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	10	1456	1108	13	9	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.38	
vC, conflicting volume	1121				2584	1108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1121				4376	1108
tC, single (s)	4.3				6.5	6.4
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.5
p0 queue free %	98				0	91
cM capacity (veh/h)	561				1	238

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1466	1108	13	31
Volume Left	10	0	0	9
Volume Right	0	0	13	22
cSH	561	1700	1700	2
Volume to Capacity	0.02	0.65	0.01	15.66
Queue Length 95th (m)	0.4	0.0	0.0	Err
Control Delay (s)	1.5	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	1.5	0.0		Err
Approach LOS				F

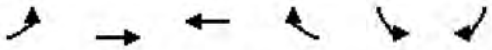
Intersection Summary			
Average Delay	119.2		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	1119	852	50	26	11
Future Volume (Veh/h)	9	1119	852	50	26	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	11	1416	1078	63	33	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1141				2516	1078
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141				2516	1078
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	98				0	95
cM capacity (veh/h)	571				30	255

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	11	1416	1078	63	47
Volume Left	11	0	0	0	33
Volume Right	0	0	0	63	14
cSH	571	1700	1700	1700	40
Volume to Capacity	0.02	0.83	0.63	0.04	1.17
Queue Length 95th (m)	0.4	0.0	0.0	0.0	35.2
Control Delay (s)	11.4	0.0	0.0	0.0	351.5
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		351.5
Approach LOS					F

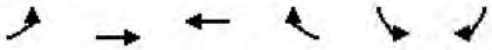
Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	1144	890	1	2	12
Future Volume (Veh/h)	1	1144	890	1	2	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1	1395	1085	1	2	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1086				2482	1086
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1086				2482	1086
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	94
cM capacity (veh/h)	642				32	263

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1396	1086	17
Volume Left	1	0	2
Volume Right	0	1	15
cSH	642	1700	143
Volume to Capacity	0.00	0.64	0.12
Queue Length 95th (m)	0.0	0.0	3.0
Control Delay (s)	0.1	0.0	33.5
Lane LOS	A		D
Approach Delay (s)	0.1	0.0	33.5
Approach LOS			D

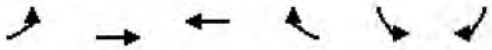
Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		71.0%	ICU Level of Service C
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1157	864	0	82	41
Future Volume (Veh/h)	0	1157	864	0	82	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1411	1054	0	100	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1054				2465	1054
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1054				2465	1054
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				0	81
cM capacity (veh/h)	661				33	265

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1411	1054	150
Volume Left	0	0	100
Volume Right	0	0	50
cSH	1700	1700	47
Volume to Capacity	0.83	0.62	3.18
Queue Length 95th (m)	0.0	0.0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	573.6		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		



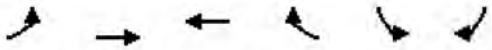
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	1128	864	206	0	0
Future Volume (Veh/h)	112	1128	864	206	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	133	1343	1029	245	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1274				2638	1029
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1274				2638	1029
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	75				100	100
cM capacity (veh/h)	525				19	284

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	133	1343	1029	245
Volume Left	133	0	0	0
Volume Right	0	0	0	245
cSH	525	1700	1700	1700
Volume to Capacity	0.25	0.79	0.61	0.14
Queue Length 95th (m)	7.6	0.0	0.0	0.0
Control Delay (s)	14.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	1.3		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
102: Garner Rd W & McClure Rd

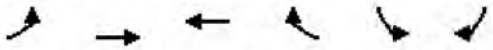
06/07/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	595	680	36	42	15
Future Volume (Veh/h)	38	595	680	36	42	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	44	684	782	41	48	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	823				1574	802
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823				1574	802
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				58	96
cM capacity (veh/h)	807				114	384

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	44	684	823	65
Volume Left	44	0	0	48
Volume Right	0	0	41	17
cSH	807	1700	1700	140
Volume to Capacity	0.05	0.40	0.48	0.46
Queue Length 95th (m)	1.3	0.0	0.0	16.1
Control Delay (s)	9.7	0.0	0.0	51.2
Lane LOS	A			F
Approach Delay (s)	0.6		0.0	51.2
Approach LOS				F

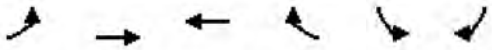
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	565	649	137	100	65
Future Volume (Veh/h)	72	565	649	137	100	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	78	614	705	149	109	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.78				0.78	0.78
vC, conflicting volume	854				1475	705
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	674				1468	483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				0	84
cM capacity (veh/h)	717				98	456

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	78	614	705	149	180
Volume Left	78	0	0	0	109
Volume Right	0	0	0	149	71
cSH	717	1700	1700	1700	143
Volume to Capacity	0.11	0.36	0.41	0.09	1.26
Queue Length 95th (m)	2.8	0.0	0.0	0.0	82.7
Control Delay (s)	10.6	0.0	0.0	0.0	222.9
Lane LOS	B				F
Approach Delay (s)	1.2		0.0		222.9
Approach LOS					F

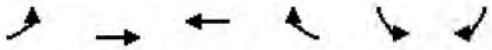
Intersection Summary			
Average Delay	23.7		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	653	827	85	58	44
Future Volume (Veh/h)	41	653	827	85	58	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	710	899	92	63	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	991				1699	899
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	991				1699	899
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	93				32	86
cM capacity (veh/h)	649				92	340

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	45	710	899	92	111
Volume Left	45	0	0	0	63
Volume Right	0	0	0	92	48
cSH	649	1700	1700	1700	135
Volume to Capacity	0.07	0.42	0.53	0.05	0.82
Queue Length 95th (m)	1.7	0.0	0.0	0.0	39.1
Control Delay (s)	11.0	0.0	0.0	0.0	99.3
Lane LOS	B				F
Approach Delay (s)	0.7		0.0		99.3
Approach LOS					F

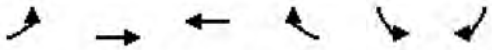
Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	694	888	34	25	18
Future Volume (Veh/h)	27	694	888	34	25	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	763	976	37	27	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1013				1799	976
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1013				1799	976
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				68	93
cM capacity (veh/h)	684				84	305

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	30	763	976	37	47
Volume Left	30	0	0	0	27
Volume Right	0	0	0	37	20
cSH	684	1700	1700	1700	121
Volume to Capacity	0.04	0.45	0.57	0.02	0.39
Queue Length 95th (m)	1.0	0.0	0.0	0.0	12.3
Control Delay (s)	10.5	0.0	0.0	0.0	52.2
Lane LOS	B				F
Approach Delay (s)	0.4		0.0		52.2
Approach LOS					F

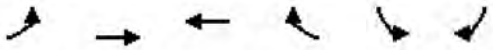
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	877	1063	12	7	13
Future Volume (Veh/h)	5	877	1063	12	7	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	914	1107	13	7	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.72	
vC, conflicting volume	1120				2031	1107
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1120				2234	1107
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	99				79	94
cM capacity (veh/h)	624				34	235

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	919	1107	13	21
Volume Left	5	0	0	7
Volume Right	0	0	13	14
cSH	624	1700	1700	78
Volume to Capacity	0.01	0.65	0.01	0.27
Queue Length 95th (m)	0.2	0.0	0.0	7.3
Control Delay (s)	0.2	0.0	0.0	66.9
Lane LOS	A			F
Approach Delay (s)	0.2	0.0		66.9
Approach LOS				F

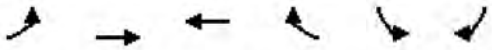
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	872	1068	46	13	7
Future Volume (Veh/h)	11	872	1068	46	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	928	1136	49	14	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1185				2088	1136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185				2088	1136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				75	97
cM capacity (veh/h)	589				57	246

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	12	928	1136	49	21
Volume Left	12	0	0	0	14
Volume Right	0	0	0	49	7
cSH	589	1700	1700	1700	76
Volume to Capacity	0.02	0.55	0.67	0.03	0.28
Queue Length 95th (m)	0.5	0.0	0.0	0.0	7.6
Control Delay (s)	11.2	0.0	0.0	0.0	69.2
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		69.2
Approach LOS					F

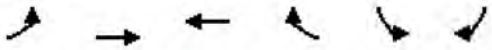
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	881	1109	7	7	5
Future Volume (Veh/h)	4	881	1109	7	7	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	937	1180	7	7	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1187				2128	1184
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1187				2128	1184
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	98
cM capacity (veh/h)	588				54	231

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	941	1187	12
Volume Left	4	0	7
Volume Right	0	7	5
cSH	588	1700	80
Volume to Capacity	0.01	0.70	0.15
Queue Length 95th (m)	0.2	0.0	3.8
Control Delay (s)	0.2	0.0	58.1
Lane LOS	A		F
Approach Delay (s)	0.2	0.0	58.1
Approach LOS			F

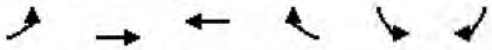
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	916	1066	0	162	114
Future Volume (Veh/h)	0	916	1066	0	162	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	954	1110	0	169	119
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1110				2064	1110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110				2064	1110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	53
cM capacity (veh/h)	629				60	256

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	954	1110	288
Volume Left	0	0	169
Volume Right	0	0	119
cSH	1700	1700	88
Volume to Capacity	0.56	0.65	3.28
Queue Length 95th (m)	0.0	0.0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	1224.4		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1045	1066	148	0	0
Future Volume (Veh/h)	33	1045	1066	148	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	1100	1122	156	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1278				2292	1122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1278				2292	1122
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	502				40	251

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	35	1100	1122	156
Volume Left	35	0	0	0
Volume Right	0	0	0	156
cSH	502	1700	1700	1700
Volume to Capacity	0.07	0.65	0.66	0.09
Queue Length 95th (m)	1.7	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	0.4		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	18.2	80.2	1.11	49.9	B
Panabaker Dr	II	70	71.0	47.1	118.1	1.38	42.1	C
Fiddlers Green Rd	II	66	59.3	17.7	77.0	1.08	50.7	B
Total	II		192.3	83.0	275.3	3.58	46.8	B

Arterial Level of Service: WB Garner Rd W

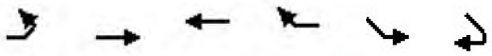
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	26.5	124.4	1.64	47.3	B
Panabaker Dr	II	67	58.6	10.8	69.4	1.08	56.2	A
Shaver Rd	II	70	71.0	10.7	81.7	1.38	60.8	A
Total	II		227.5	48.0	275.5	4.10	53.6	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	7.8	69.8	1.11	57.4	A
Panabaker Dr	II	70	71.0	12.9	83.9	1.38	59.2	A
Fiddlers Green Rd	II	66	59.3	13.5	72.8	1.08	53.6	B
Total	II		192.3	34.2	226.5	3.58	56.9	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	25.8	123.7	1.64	47.6	B
Panabaker Dr	II	66	59.3	24.1	83.4	1.08	46.8	B
Shaver Rd	II	70	71.0	9.8	80.8	1.38	61.5	A
Total	II		228.2	59.7	287.9	4.10	51.3	B

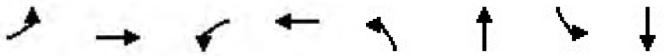


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1622				1023	1084

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St

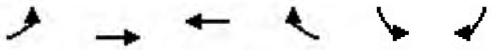


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1028	21	568	230	229	4	17
v/c Ratio	0.01	0.50	0.09	0.28	0.71	0.73	0.02	0.05
Control Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Length 50th (m)	0.4	9.5	1.1	18.2	30.5	30.0	0.4	1.0
Queue Length 95th (m)	2.5	26.2	5.6	35.1	45.7	45.5	2.1	4.5
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	477	2043	240	2019	539	525	417	624
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	0.01	0.50	0.09	0.28	0.43	0.44	0.01	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Future Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3015		1690	3490		1667	1648		1789	1506	
Flt Permitted	0.44	1.00		0.23	1.00		0.75	0.74		0.54	1.00	
Satd. Flow (perm)	826	3015		416	3490		1310	1269		1013	1506	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	315	713	21	548	20	434	14	11	4	9	8
RTOR Reduction (vph)	0	301	0	0	3	0	0	3	0	0	6	0
Lane Group Flow (vph)	7	727	0	21	565	0	230	226	0	4	11	0
Heavy Vehicles (%)	2%	5%	10%	8%	4%	5%	4%	2%	33%	2%	20%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Effective Green, g (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	477	1743		240	2018		322	312		249	370	
v/s Ratio Prot		c0.24			0.16						0.01	
v/s Ratio Perm	0.01			0.05			0.18	c0.18		0.00		
v/c Ratio	0.01	0.42		0.09	0.28		0.71	0.72		0.02	0.03	
Uniform Delay, d1	6.5	8.5		6.8	7.7		25.1	25.2		20.8	20.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.7		0.7	0.3		6.1	6.9		0.0	0.0	
Delay (s)	6.6	9.3		7.5	8.1		31.2	32.1		20.8	20.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.3			8.1			31.7			20.9	
Approach LOS		A			A			C			C	

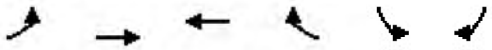
Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	713	438	25	11	23
Future Volume (Veh/h)	28	713	438	25	11	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	32	820	503	29	13	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	532				1402	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	532				1402	518
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	95
cM capacity (veh/h)	1036				150	558

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	32	820	532	39
Volume Left	32	0	0	13
Volume Right	0	0	29	26
cSH	1036	1700	1700	292
Volume to Capacity	0.03	0.48	0.31	0.13
Queue Length 95th (m)	0.7	0.0	0.0	3.5
Control Delay (s)	8.6	0.0	0.0	19.2
Lane LOS	A			C
Approach Delay (s)	0.3		0.0	19.2
Approach LOS				C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	703	441	54	27	20
Future Volume (Veh/h)	16	703	441	54	27	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	18	773	485	59	30	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	544				1294	485
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	414				1266	347
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	98				81	96
cM capacity (veh/h)	1008				156	613

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	18	773	485	59	52
Volume Left	18	0	0	0	30
Volume Right	0	0	0	59	22
cSH	1008	1700	1700	1700	228
Volume to Capacity	0.02	0.45	0.29	0.03	0.23
Queue Length 95th (m)	0.4	0.0	0.0	0.0	6.5
Control Delay (s)	8.6	0.0	0.0	0.0	25.4
Lane LOS	A				D
Approach Delay (s)	0.2		0.0		25.4
Approach LOS					D

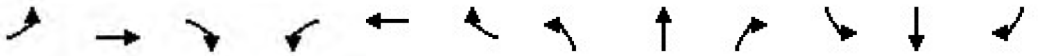
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	822	53	24	534	57	37	50	190	130
v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.13	0.14	0.65	0.35
Control Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Length 50th (m)	0.3	71.4	0.3	1.2	35.1	0.4	4.2	4.1	24.1	12.7
Queue Length 95th (m)	1.8	#145.9	4.3	5.0	64.6	4.7	8.9	9.6	34.6	20.8
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	344	1089	998	223	1130	989	450	589	469	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.08	0.08	0.41	0.22

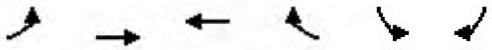
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Future Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1323	1779	1601	1615	1847	1585	1789	1638		1738	1601	
Flt Permitted	0.40	1.00	1.00	0.22	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	563	1779	1601	366	1847	1585	1269	1638		1325	1601	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	6	822	53	24	534	57	37	37	13	190	102	28
RTOR Reduction (vph)	0	0	19	0	0	19	0	10	0	0	16	0
Lane Group Flow (vph)	6	822	34	24	534	38	37	40	0	190	114	0
Heavy Vehicles (%)	38%	8%	2%	13%	4%	3%	2%	13%	12%	5%	14%	24%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Effective Green, g (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	1089	980	224	1131	970	278	359		291	351	
v/s Ratio Prot		c0.46			0.29			0.02			0.07	
v/s Ratio Perm	0.01		0.02	0.07		0.02	0.03			c0.14		
v/c Ratio	0.02	0.75	0.04	0.11	0.47	0.04	0.13	0.11		0.65	0.32	
Uniform Delay, d1	5.6	10.2	5.6	5.9	7.7	5.6	23.0	22.9		26.1	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	4.9	0.1	1.0	1.4	0.1	0.2	0.1		5.2	0.5	
Delay (s)	5.7	15.1	5.7	6.9	9.2	5.7	23.2	23.0		31.2	24.6	
Level of Service	A	B	A	A	A	A	C	C		C	C	
Approach Delay (s)		14.5			8.7			23.1			28.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	835	476	103	130	34
Future Volume (Veh/h)	16	835	476	103	130	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	908	517	112	141	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	629				1459	517
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				1459	517
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	98				0	93
cM capacity (veh/h)	894				137	562

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	908	517	112	178
Volume Left	17	0	0	0	141
Volume Right	0	0	0	112	37
cSH	894	1700	1700	1700	162
Volume to Capacity	0.02	0.53	0.30	0.07	1.10
Queue Length 95th (m)	0.4	0.0	0.0	0.0	70.0
Control Delay (s)	9.1	0.0	0.0	0.0	155.7
Lane LOS	A				F
Approach Delay (s)	0.2		0.0		155.7
Approach LOS					F

Intersection Summary			
Average Delay	16.1		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		



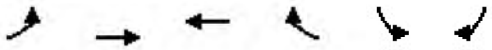
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	292	995	17	460	532	8	244	312
v/c Ratio	0.57	0.90	0.12	0.42	0.47	0.02	0.87	0.55
Control Delay	14.4	26.4	8.7	9.1	2.1	0.0	64.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	26.4	8.7	9.1	2.1	0.0	64.2	7.7
Queue Length 50th (m)	25.2	126.6	1.0	34.4	0.0	0.0	40.8	0.0
Queue Length 95th (m)	34.6	125.8	3.1	39.9	2.7	0.0	#59.3	8.4
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	595	1287	165	1286	1237	538	327	617
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	0.49	0.77	0.10	0.36	0.43	0.01	0.75	0.51

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Future Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.46	1.00		0.12	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	815	1762		227	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	292	992	3	17	460	532	0	0	8	244	0	312
RTOR Reduction (vph)	0	0	0	0	0	198	0	6	0	0	0	242
Lane Group Flow (vph)	292	995	0	17	460	334	0	2	0	244	0	70
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	50.5	50.5		50.5	50.5	50.5		18.0		18.0		18.0
Effective Green, g (s)	50.5	50.5		50.5	50.5	50.5		18.0		18.0		18.0
Actuated g/C Ratio	0.63	0.63		0.63	0.63	0.63		0.22		0.22		0.22
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	511	1106		142	1106	940		372		281		332
v/s Ratio Prot		c0.56			0.26			0.00				
v/s Ratio Perm	0.36			0.07		0.22				c0.19		0.05
v/c Ratio	0.57	0.90		0.12	0.42	0.36		0.00		0.87		0.21
Uniform Delay, d1	8.7	12.8		6.0	7.5	7.2		24.2		30.1		25.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	1.0	9.6		0.1	0.1	0.1		0.0		22.8		0.1
Delay (s)	9.6	22.4		6.1	7.6	7.2		24.2		52.9		25.5
Level of Service	A	C		A	A	A		C		D		C
Approach Delay (s)		19.5			7.4			24.2			37.5	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	11.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

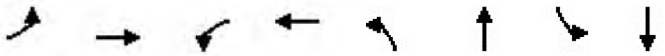


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	946	713	77	69	44
Future Volume (Veh/h)	13	946	713	77	69	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	17	1229	926	100	90	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1026				2189	926
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026				2189	926
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	97				0	82
cM capacity (veh/h)	677				48	320

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	1229	926	100	147
Volume Left	17	0	0	0	90
Volume Right	0	0	0	100	57
cSH	677	1700	1700	1700	72
Volume to Capacity	0.03	0.72	0.54	0.06	2.05
Queue Length 95th (m)	0.6	0.0	0.0	0.0	102.5
Control Delay (s)	10.5	0.0	0.0	0.0	610.2
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		610.2
Approach LOS					F

Intersection Summary			
Average Delay	37.2		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Queues
108: Fiddlers Green Rd & Garner Rd W



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	1146	51	1036	101	247	315	244
v/c Ratio	0.56	0.71	0.38	0.84	0.44	0.66	0.83	0.41
Control Delay	21.1	19.5	30.2	30.1	34.4	37.4	40.3	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	19.5	30.2	30.1	34.4	37.4	40.3	17.9
Queue Length 50th (m)	8.7	66.2	5.5	69.4	13.8	34.1	36.0	22.1
Queue Length 95th (m)	17.7	87.3	15.2	89.5	24.2	48.5	#49.7	33.8
Internal Link Dist (m)		64.8		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	223	1690	143	1308	366	591	378	782
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	0.56	0.68	0.36	0.79	0.28	0.42	0.83	0.31

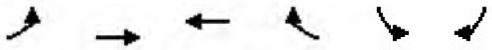
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Future Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1573	3312		1644	3285		1807	1845		1690	1639	
Flt Permitted	0.12	1.00		0.21	1.00		0.61	1.00		0.40	1.00	
Satd. Flow (perm)	207	3312		368	3285		1155	1845		709	1639	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	124	1062	82	51	780	256	101	212	34	315	138	106
RTOR Reduction (vph)	0	6	0	0	34	0	0	7	0	0	34	0
Lane Group Flow (vph)	124	1140	0	51	1002	0	101	240	0	315	210	0
Heavy Vehicles (%)	16%	8%	22%	11%	7%	7%	1%	2%	2%	8%	10%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	38.5	38.5		29.0	29.0		15.7	15.7		27.1	27.1	
Effective Green, g (s)	38.5	38.5		29.0	29.0		15.7	15.7		27.1	27.1	
Actuated g/C Ratio	0.49	0.49		0.37	0.37		0.20	0.20		0.34	0.34	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	212	1610		134	1202		228	365		346	560	
v/s Ratio Prot	0.05	c0.34			c0.30			0.13		c0.10	0.13	
v/s Ratio Perm	0.24			0.14			0.09			c0.21		
v/c Ratio	0.58	0.71		0.38	0.83		0.44	0.66		0.91	0.38	
Uniform Delay, d1	14.1	15.9		18.5	22.9		27.9	29.3		23.5	19.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	1.6		0.7	4.9		1.4	4.2		26.7	0.4	
Delay (s)	18.9	17.5		19.1	27.8		29.3	33.5		50.1	20.1	
Level of Service	B	B		B	C		C	C		D	C	
Approach Delay (s)		17.6			27.4			32.3			37.0	
Approach LOS		B			C			C			D	

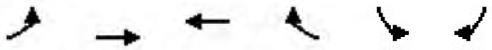
Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	19.6
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	1121	853	10	7	17
Future Volume (Veh/h)	8	1121	853	10	7	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	10	1456	1108	13	9	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.41	
vC, conflicting volume	1121				2584	1108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1121				4137	1108
tC, single (s)	4.3				6.5	6.4
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.5
p0 queue free %	98				0	91
cM capacity (veh/h)	561				1	238

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1466	1108	13	31
Volume Left	10	0	0	9
Volume Right	0	0	13	22
cSH	561	1700	1700	3
Volume to Capacity	0.02	0.65	0.01	9.83
Queue Length 95th (m)	0.4	0.0	0.0	Err
Control Delay (s)	1.5	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	1.5	0.0		Err
Approach LOS				F

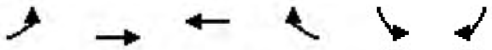
Intersection Summary			
Average Delay	119.2		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	1119	852	50	26	11
Future Volume (Veh/h)	9	1119	852	50	26	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	11	1416	1078	63	33	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1141				2516	1078
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141				2516	1078
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	98				0	95
cM capacity (veh/h)	571				30	255

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	11	1416	1078	63	47
Volume Left	11	0	0	0	33
Volume Right	0	0	0	63	14
cSH	571	1700	1700	1700	40
Volume to Capacity	0.02	0.83	0.63	0.04	1.17
Queue Length 95th (m)	0.4	0.0	0.0	0.0	35.2
Control Delay (s)	11.4	0.0	0.0	0.0	351.5
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		351.5
Approach LOS					F

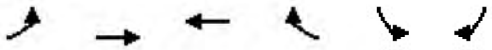
Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	1144	890	1	2	12
Future Volume (Veh/h)	1	1144	890	1	2	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1	1395	1085	1	2	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1086				2482	1086
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1086				2482	1086
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	94
cM capacity (veh/h)	642				32	263

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1396	1086	17
Volume Left	1	0	2
Volume Right	0	1	15
cSH	642	1700	143
Volume to Capacity	0.00	0.64	0.12
Queue Length 95th (m)	0.0	0.0	3.0
Control Delay (s)	0.1	0.0	33.5
Lane LOS	A		D
Approach Delay (s)	0.1	0.0	33.5
Approach LOS			D

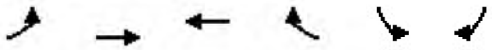
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1157	864	0	82	41
Future Volume (Veh/h)	0	1157	864	0	82	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1411	1054	0	100	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1054				2465	1054
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1054				2465	1054
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				0	81
cM capacity (veh/h)	661				33	265

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1411	1054	150
Volume Left	0	0	100
Volume Right	0	0	50
cSH	1700	1700	47
Volume to Capacity	0.83	0.62	3.18
Queue Length 95th (m)	0.0	0.0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

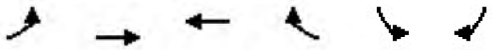
Intersection Summary			
Average Delay	573.6		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	1128	864	206	0	0
Future Volume (Veh/h)	112	1128	864	206	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	133	1343	1029	245	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1274				2638	1029
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1274				2638	1029
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	75				100	100
cM capacity (veh/h)	525				19	284

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	133	1343	1029	245
Volume Left	133	0	0	0
Volume Right	0	0	0	245
cSH	525	1700	1700	1700
Volume to Capacity	0.25	0.79	0.61	0.14
Queue Length 95th (m)	7.6	0.0	0.0	0.0
Control Delay (s)	14.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	1.3		0.0	
Approach LOS				

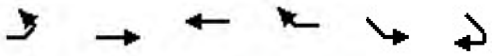
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		0.0
Approach LOS				A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

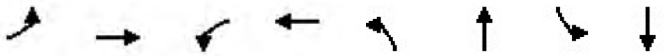


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1622				1023	1084

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St



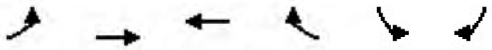
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	1291	26	506	296	298	28	20
v/c Ratio	0.00	0.67	0.20	0.27	0.77	0.78	0.11	0.04
Control Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Length 50th (m)	0.1	43.0	1.8	18.7	38.1	36.8	2.7	0.5
Queue Length 95th (m)	0.9	78.0	8.3	33.7	53.7	53.0	6.7	3.9
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	462	1928	132	1842	532	526	352	630
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	0.00	0.67	0.20	0.27	0.56	0.57	0.08	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Future Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3303		1789	3489		1651	1625		1789	1509	
Flt Permitted	0.47	1.00		0.13	1.00		0.74	0.74		0.45	1.00	
Satd. Flow (perm)	878	3303		252	3489		1294	1261		854	1509	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	665	626	26	483	23	549	6	39	28	5	15
RTOR Reduction (vph)	0	187	0	0	4	0	0	9	0	0	11	0
Lane Group Flow (vph)	1	1104	0	26	502	0	296	289	0	28	9	0
Heavy Vehicles (%)	2%	2%	3%	2%	4%	2%	5%	2%	10%	2%	25%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Effective Green, g (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30		0.30	0.30	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	463	1742		132	1840		383	374		253	447	
v/s Ratio Prot		c0.33			0.14						0.01	
v/s Ratio Perm	0.00			0.10			0.23	c0.23		0.03		
v/c Ratio	0.00	0.63		0.20	0.27		0.77	0.77		0.11	0.02	
Uniform Delay, d1	8.1	12.2		9.1	9.5		23.4	23.4		18.6	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.8		3.3	0.4		8.6	8.7		0.1	0.0	
Delay (s)	8.1	14.0		12.4	9.9		31.9	32.1		18.7	18.1	
Level of Service	A	B		B	A		C	C		B	B	
Approach Delay (s)		14.0			10.0			32.0			18.5	
Approach LOS		B			A			C			B	

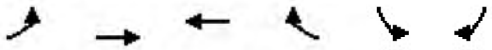
Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	595	680	36	42	15
Future Volume (Veh/h)	38	595	680	36	42	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	44	684	782	41	48	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	823				1574	802
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823				1574	802
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				58	96
cM capacity (veh/h)	807				114	384

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	44	684	823	65
Volume Left	44	0	0	48
Volume Right	0	0	41	17
cSH	807	1700	1700	140
Volume to Capacity	0.05	0.40	0.48	0.46
Queue Length 95th (m)	1.3	0.0	0.0	16.1
Control Delay (s)	9.7	0.0	0.0	51.2
Lane LOS	A			F
Approach Delay (s)	0.6		0.0	51.2
Approach LOS				F

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	565	649	137	100	65
Future Volume (Veh/h)	72	565	649	137	100	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	78	614	705	149	109	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.78				0.78	0.78
vC, conflicting volume	854				1475	705
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	674				1468	483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				0	84
cM capacity (veh/h)	717				98	456

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	78	614	705	149	180
Volume Left	78	0	0	0	109
Volume Right	0	0	0	149	71
cSH	717	1700	1700	1700	143
Volume to Capacity	0.11	0.36	0.41	0.09	1.26
Queue Length 95th (m)	2.8	0.0	0.0	0.0	82.7
Control Delay (s)	10.6	0.0	0.0	0.0	222.9
Lane LOS	B				F
Approach Delay (s)	1.2		0.0		222.9
Approach LOS					F

Intersection Summary			
Average Delay	23.7		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Queues
104: Shaver Rd & Garner Rd W

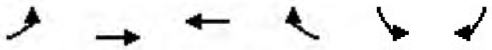
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	617	66	15	786	145	49	142	112	78
v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.22	0.44	0.52	0.25
Control Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Length 50th (m)	1.7	35.2	0.7	0.6	52.4	2.9	6.0	15.9	14.4	7.3
Queue Length 95th (m)	6.5	71.7	5.1	3.0	107.4	10.3	13.6	28.6	26.8	16.6
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	375	1356	1123	496	1343	1173	449	652	444	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.11	0.22	0.25	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Future Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1883	1541	1722	1865	1601	1706	1810		1789	1736	
Flt Permitted	0.28	1.00	1.00	0.38	1.00	1.00	0.71	1.00		0.67	1.00	
Satd. Flow (perm)	522	1883	1541	689	1865	1601	1268	1810		1255	1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	617	66	15	786	145	49	117	25	112	60	18
RTOR Reduction (vph)	0	0	15	0	0	23	0	14	0	0	15	0
Lane Group Flow (vph)	41	617	51	15	786	122	49	128	0	112	63	0
Heavy Vehicles (%)	4%	2%	6%	6%	3%	2%	7%	3%	5%	2%	5%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Effective Green, g (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69	0.15	0.15		0.15	0.15	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	358	1292	1057	472	1279	1098	185	264		183	253	
v/s Ratio Prot		0.33			c0.42			0.07			0.04	
v/s Ratio Perm	0.08		0.03	0.02		0.08	0.04			c0.09		
v/c Ratio	0.11	0.48	0.05	0.03	0.61	0.11	0.26	0.49		0.61	0.25	
Uniform Delay, d1	3.9	5.4	3.7	3.7	6.2	3.9	27.8	28.8		29.4	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.3	0.1	0.1	2.2	0.2	0.8	1.4		5.9	0.5	
Delay (s)	4.6	6.6	3.8	3.8	8.5	4.1	28.6	30.2		35.3	28.2	
Level of Service	A	A	A	A	A	A	C	C		D	C	
Approach Delay (s)		6.3			7.7			29.8			32.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	653	827	85	58	44
Future Volume (Veh/h)	41	653	827	85	58	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	710	899	92	63	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	991				1699	899
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	991				1699	899
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	93				32	86
cM capacity (veh/h)	649				92	340

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	45	710	899	92	111
Volume Left	45	0	0	0	63
Volume Right	0	0	0	92	48
cSH	649	1700	1700	1700	135
Volume to Capacity	0.07	0.42	0.53	0.05	0.82
Queue Length 95th (m)	1.7	0.0	0.0	0.0	39.1
Control Delay (s)	11.0	0.0	0.0	0.0	99.3
Lane LOS	B				F
Approach Delay (s)	0.7		0.0		99.3
Approach LOS					F

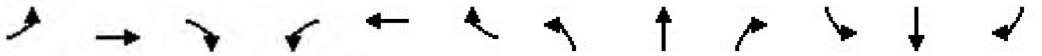
Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	103	845	3	1076	129	8	108	140
v/c Ratio	0.65	0.69	0.01	0.88	0.12	0.02	0.56	0.42
Control Delay	31.7	11.1	4.5	20.6	1.2	0.0	45.0	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	11.1	4.5	20.6	1.2	0.0	45.0	11.5
Queue Length 50th (m)	6.5	56.5	0.1	96.0	0.0	0.0	16.5	1.4
Queue Length 95th (m)	#25.2	81.3	0.8	129.5	2.9	0.0	26.1	10.0
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	177	1370	378	1370	1193	546	292	445
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	0.58	0.62	0.01	0.79	0.11	0.01	0.37	0.31

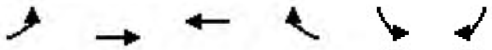
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Future Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.13	1.00		0.25	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	230	1762		485	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	103	845	0	3	1076	129	0	0	8	108	0	140
RTOR Reduction (vph)	0	0	0	0	0	39	0	7	0	0	0	110
Lane Group Flow (vph)	103	845	0	3	1076	90	0	1	0	108	0	30
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	54.4	54.4		54.4	54.4	54.4		12.0		12.0		12.0
Effective Green, g (s)	54.4	54.4		54.4	54.4	54.4		12.0		12.0		12.0
Actuated g/C Ratio	0.69	0.69		0.69	0.69	0.69		0.15		0.15		0.15
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	159	1224		336	1224	1040		254		192		227
v/s Ratio Prot		0.48			c0.61			0.00				
v/s Ratio Perm	0.45			0.01		0.06				c0.09		0.02
v/c Ratio	0.65	0.69		0.01	0.88	0.09		0.00		0.56		0.13
Uniform Delay, d1	6.6	7.0		3.7	9.4	3.9		28.1		30.7		28.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	6.6	1.4		0.0	7.2	0.0		0.0		2.2		0.1
Delay (s)	13.3	8.4		3.7	16.6	3.9		28.1		33.0		28.7
Level of Service	B	A		A	B	A		C		C		C
Approach Delay (s)		8.9			15.2			28.1			30.6	
Approach LOS		A			B			C			C	

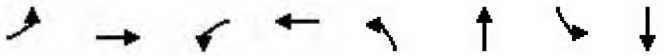
Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	11.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	694	888	34	25	18
Future Volume (Veh/h)	27	694	888	34	25	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	763	976	37	27	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1013				1799	976
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1013				1799	976
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				68	93
cM capacity (veh/h)	684				84	305

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	30	763	976	37	47
Volume Left	30	0	0	0	27
Volume Right	0	0	0	37	20
cSH	684	1700	1700	1700	121
Volume to Capacity	0.04	0.45	0.57	0.02	0.39
Queue Length 95th (m)	1.0	0.0	0.0	0.0	12.3
Control Delay (s)	10.5	0.0	0.0	0.0	52.2
Lane LOS	B				F
Approach Delay (s)	0.4		0.0		52.2
Approach LOS					F

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

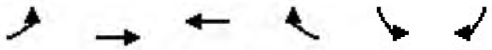


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	704	55	1102	52	252	226	254
v/c Ratio	0.27	0.39	0.18	0.78	0.23	0.67	0.62	0.42
Control Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Length 50th (m)	4.7	33.2	5.6	77.8	7.0	35.3	25.7	29.4
Queue Length 95th (m)	12.3	55.1	15.3	119.1	19.5	70.8	54.4	61.6
Internal Link Dist (m)		66.4		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	264	2631	448	2116	418	681	365	901
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	0.27	0.27	0.12	0.52	0.12	0.37	0.62	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Future Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3536		1789	3389		1772	1808		1789	1800	
Flt Permitted	0.12	1.00		0.38	1.00		0.60	1.00		0.39	1.00	
Satd. Flow (perm)	234	3536		723	3389		1122	1808		731	1800	
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)	70	666	38	55	876	226	52	195	57	226	191	63
RTOR Reduction (vph)	0	4	0	0	21	0	0	10	0	0	11	0
Lane Group Flow (vph)	70	700	0	55	1081	0	52	242	0	226	243	0
Heavy Vehicles (%)	2%	2%	9%	2%	5%	2%	3%	2%	5%	2%	3%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Effective Green, g (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Actuated g/C Ratio	0.51	0.51		0.41	0.41		0.20	0.20		0.33	0.33	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	217	1807		298	1398		229	369		330	588	
v/s Ratio Prot	0.02	c0.20			c0.32			0.13		c0.06	0.14	
v/s Ratio Perm	0.14			0.08			0.05			c0.16		
v/c Ratio	0.32	0.39		0.18	0.77		0.23	0.65		0.68	0.41	
Uniform Delay, d1	13.1	12.5		15.7	21.3		27.9	30.7		22.9	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	2.5		0.5	4.1		4.6	0.5	
Delay (s)	14.3	12.7		15.8	23.8		28.4	34.9		27.5	22.5	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s)		12.9			23.4			33.8			24.9	
Approach LOS		B			C			C			C	

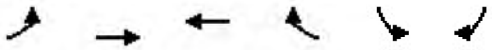
Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	877	1063	12	7	13
Future Volume (Veh/h)	5	877	1063	12	7	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	914	1107	12	7	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.72	
vC, conflicting volume	1119				2031	1107
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1119				2234	1107
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	99				79	94
cM capacity (veh/h)	624				34	235

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	919	1107	12	21
Volume Left	5	0	0	7
Volume Right	0	0	12	14
cSH	624	1700	1700	78
Volume to Capacity	0.01	0.65	0.01	0.27
Queue Length 95th (m)	0.2	0.0	0.0	7.3
Control Delay (s)	0.2	0.0	0.0	66.9
Lane LOS	A			F
Approach Delay (s)	0.2	0.0		66.9
Approach LOS				F

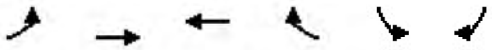
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	872	1068	46	13	7
Future Volume (Veh/h)	11	872	1068	46	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	928	1136	49	14	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1185				2088	1136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185				2088	1136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				75	97
cM capacity (veh/h)	589				57	246

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	12	928	1136	49	21
Volume Left	12	0	0	0	14
Volume Right	0	0	0	49	7
cSH	589	1700	1700	1700	76
Volume to Capacity	0.02	0.55	0.67	0.03	0.28
Queue Length 95th (m)	0.5	0.0	0.0	0.0	7.6
Control Delay (s)	11.2	0.0	0.0	0.0	69.2
Lane LOS	B				F
Approach Delay (s)	0.1		0.0		69.2
Approach LOS					F

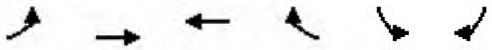
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	881	1109	7	7	5
Future Volume (Veh/h)	4	881	1109	7	7	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	937	1180	7	7	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1187				2128	1184
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1187				2128	1184
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	98
cM capacity (veh/h)	588				54	231

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	941	1187	12
Volume Left	4	0	7
Volume Right	0	7	5
cSH	588	1700	80
Volume to Capacity	0.01	0.70	0.15
Queue Length 95th (m)	0.2	0.0	3.8
Control Delay (s)	0.2	0.0	58.1
Lane LOS	A		F
Approach Delay (s)	0.2	0.0	58.1
Approach LOS			F

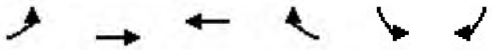
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	916	1066	0	162	114
Future Volume (Veh/h)	0	916	1066	0	162	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	954	1110	0	169	119
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1110				2064	1110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110				2064	1110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	53
cM capacity (veh/h)	629				60	256

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	954	1110	288
Volume Left	0	0	169
Volume Right	0	0	119
cSH	1700	1700	88
Volume to Capacity	0.56	0.65	3.28
Queue Length 95th (m)	0.0	0.0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

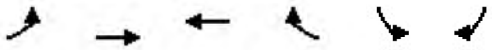
Intersection Summary			
Average Delay	1224.4		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1045	1066	148	0	0
Future Volume (Veh/h)	33	1045	1066	148	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	1100	1122	156	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1278				2292	1122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1278				2292	1122
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	502				40	251

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	35	1100	1122	156
Volume Left	35	0	0	0
Volume Right	0	0	0	156
cSH	502	1700	1700	1700
Volume to Capacity	0.07	0.65	0.66	0.09
Queue Length 95th (m)	1.7	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	0.4		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

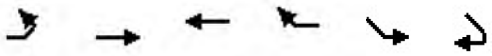


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		0.0
Approach LOS				A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
12: Garner Rd W & Wilson St

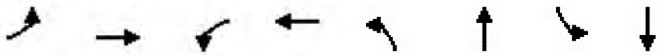


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1622				1023	1084

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St

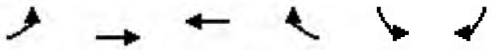


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1028	21	568	230	229	4	17
v/c Ratio	0.01	0.50	0.09	0.28	0.71	0.73	0.02	0.05
Control Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Length 50th (m)	0.4	9.5	1.1	18.2	30.5	30.0	0.4	1.0
Queue Length 95th (m)	2.5	26.2	5.6	35.1	45.7	45.5	2.1	4.5
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	477	2043	240	2019	539	525	417	624
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	0.01	0.50	0.09	0.28	0.43	0.44	0.01	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Future Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3015		1690	3490		1667	1648		1789	1506	
Flt Permitted	0.44	1.00		0.23	1.00		0.75	0.74		0.54	1.00	
Satd. Flow (perm)	826	3015		416	3490		1310	1269		1013	1506	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	315	713	21	548	20	434	14	11	4	9	8
RTOR Reduction (vph)	0	301	0	0	3	0	0	3	0	0	6	0
Lane Group Flow (vph)	7	727	0	21	565	0	230	226	0	4	11	0
Heavy Vehicles (%)	2%	5%	10%	8%	4%	5%	4%	2%	33%	2%	20%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Effective Green, g (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	477	1743		240	2018		322	312		249	370	
v/s Ratio Prot		c0.24			0.16						0.01	
v/s Ratio Perm	0.01			0.05			0.18	c0.18		0.00		
v/c Ratio	0.01	0.42		0.09	0.28		0.71	0.72		0.02	0.03	
Uniform Delay, d1	6.5	8.5		6.8	7.7		25.1	25.2		20.8	20.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.7		0.7	0.3		6.1	6.9		0.0	0.0	
Delay (s)	6.6	9.3		7.5	8.1		31.2	32.1		20.8	20.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.3			8.1			31.7			20.9	
Approach LOS		A			A			C			C	

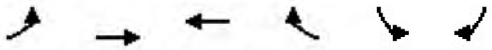
Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	713	438	25	11	23
Future Volume (Veh/h)	28	713	438	25	11	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	32	820	503	29	13	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	532				1402	518
vC1, stage 1 conf vol					518	
vC2, stage 2 conf vol					884	
vCu, unblocked vol	532				1402	518
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	95
cM capacity (veh/h)	1036				345	558

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	32	820	532	39
Volume Left	32	0	0	13
Volume Right	0	0	29	26
cSH	1036	1700	1700	462
Volume to Capacity	0.03	0.48	0.31	0.08
Queue Length 95th (m)	0.7	0.0	0.0	2.1
Control Delay (s)	8.6	0.0	0.0	13.5
Lane LOS	A			B
Approach Delay (s)	0.3		0.0	13.5
Approach LOS				B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	703	441	54	27	20
Future Volume (Veh/h)	16	703	441	54	27	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	18	773	485	59	30	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)			241			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	544				1294	485
vC1, stage 1 conf vol					485	
vC2, stage 2 conf vol					809	
vCu, unblocked vol	414				1266	347
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	98				92	96
cM capacity (veh/h)	1008				365	613

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	18	773	485	59	52
Volume Left	18	0	0	0	30
Volume Right	0	0	0	59	22
cSH	1008	1700	1700	1700	440
Volume to Capacity	0.02	0.45	0.29	0.03	0.12
Queue Length 95th (m)	0.4	0.0	0.0	0.0	3.0
Control Delay (s)	8.6	0.0	0.0	0.0	14.3
Lane LOS	A				B
Approach Delay (s)	0.2		0.0		14.3
Approach LOS					B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

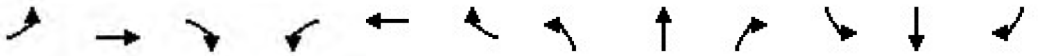
Queues
104: Shaver Rd & Garner Rd W



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	822	53	24	534	57	37	50	190	130
v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.13	0.14	0.65	0.35
Control Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	18.2	3.2	9.5	10.7	3.4	21.6	17.1	35.9	21.3
Queue Length 50th (m)	0.3	71.4	0.3	1.2	35.1	0.4	4.2	4.1	24.1	12.7
Queue Length 95th (m)	1.8	#145.9	4.3	5.0	64.6	4.7	8.9	9.6	34.6	20.8
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	344	1089	998	223	1130	989	450	589	469	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.05	0.11	0.47	0.06	0.08	0.08	0.41	0.22

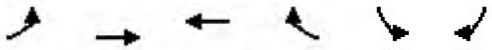
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Future Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1323	1779	1601	1615	1847	1585	1789	1638		1738	1601	
Flt Permitted	0.40	1.00	1.00	0.22	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	563	1779	1601	366	1847	1585	1269	1638		1325	1601	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	6	822	53	24	534	57	37	37	13	190	102	28
RTOR Reduction (vph)	0	0	19	0	0	19	0	10	0	0	16	0
Lane Group Flow (vph)	6	822	34	24	534	38	37	40	0	190	114	0
Heavy Vehicles (%)	38%	8%	2%	13%	4%	3%	2%	13%	12%	5%	14%	24%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Effective Green, g (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	1089	980	224	1131	970	278	359		291	351	
v/s Ratio Prot		c0.46			0.29			0.02			0.07	
v/s Ratio Perm	0.01		0.02	0.07		0.02	0.03			c0.14		
v/c Ratio	0.02	0.75	0.04	0.11	0.47	0.04	0.13	0.11		0.65	0.32	
Uniform Delay, d1	5.6	10.2	5.6	5.9	7.7	5.6	23.0	22.9		26.1	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	4.9	0.1	1.0	1.4	0.1	0.2	0.1		5.2	0.5	
Delay (s)	5.7	15.1	5.7	6.9	9.2	5.7	23.2	23.0		31.2	24.6	
Level of Service	A	B	A	A	A	A	C	C		C	C	
Approach Delay (s)		14.5			8.7			23.1			28.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	835	476	103	130	34
Future Volume (Veh/h)	16	835	476	103	130	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	908	517	112	141	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	629				1459	517
vC1, stage 1 conf vol					517	
vC2, stage 2 conf vol					942	
vCu, unblocked vol	629				1459	517
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.3				3.6	3.3
p0 queue free %	98				57	93
cM capacity (veh/h)	894				325	562

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	908	517	112	178
Volume Left	17	0	0	0	141
Volume Right	0	0	0	112	37
cSH	894	1700	1700	1700	356
Volume to Capacity	0.02	0.53	0.30	0.07	0.50
Queue Length 95th (m)	0.4	0.0	0.0	0.0	20.4
Control Delay (s)	9.1	0.0	0.0	0.0	24.8
Lane LOS	A				C
Approach Delay (s)	0.2		0.0		24.8
Approach LOS					C

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

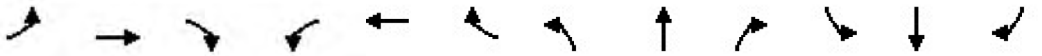
Queues
106: Panabaker Dr & Garner Rd W



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	292	995	17	460	532	8	244	312
v/c Ratio	0.57	0.90	0.12	0.42	0.47	0.02	0.87	0.55
Control Delay	14.4	26.4	8.7	9.1	2.1	0.0	64.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	26.4	8.7	9.1	2.1	0.0	64.2	7.7
Queue Length 50th (m)	25.2	126.6	1.0	34.4	0.0	0.0	40.8	0.0
Queue Length 95th (m)	34.6	125.8	3.1	39.9	2.7	0.0	#59.3	8.4
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	595	1287	165	1286	1237	538	327	617
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	0.49	0.77	0.10	0.36	0.43	0.01	0.75	0.51

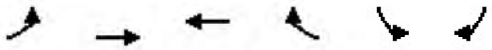
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Future Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.46	1.00		0.12	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	815	1762		227	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	292	992	3	17	460	532	0	0	8	244	0	312
RTOR Reduction (vph)	0	0	0	0	0	198	0	6	0	0	0	242
Lane Group Flow (vph)	292	995	0	17	460	334	0	2	0	244	0	70
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	50.5	50.5		50.5	50.5	50.5		18.0		18.0		18.0
Effective Green, g (s)	50.5	50.5		50.5	50.5	50.5		18.0		18.0		18.0
Actuated g/C Ratio	0.63	0.63		0.63	0.63	0.63		0.22		0.22		0.22
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	511	1106		142	1106	940		372		281		332
v/s Ratio Prot		c0.56			0.26			0.00				
v/s Ratio Perm	0.36			0.07		0.22				c0.19		0.05
v/c Ratio	0.57	0.90		0.12	0.42	0.36		0.00		0.87		0.21
Uniform Delay, d1	8.7	12.8		6.0	7.5	7.2		24.2		30.1		25.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	1.0	9.6		0.1	0.1	0.1		0.0		22.8		0.1
Delay (s)	9.6	22.4		6.1	7.6	7.2		24.2		52.9		25.5
Level of Service	A	C		A	A	A		C		D		C
Approach Delay (s)		19.5			7.4			24.2			37.5	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	11.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

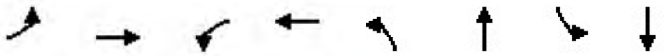


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	946	713	77	69	44
Future Volume (Veh/h)	13	946	713	77	69	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	17	1229	926	100	90	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1026				2189	926
vC1, stage 1 conf vol					926	
vC2, stage 2 conf vol					1263	
vCu, unblocked vol	1026				2189	926
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.4
p0 queue free %	97				57	82
cM capacity (veh/h)	677				211	320

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	17	1229	926	100	147
Volume Left	17	0	0	0	90
Volume Right	0	0	0	100	57
cSH	677	1700	1700	1700	243
Volume to Capacity	0.03	0.72	0.54	0.06	0.60
Queue Length 95th (m)	0.6	0.0	0.0	0.0	26.9
Control Delay (s)	10.5	0.0	0.0	0.0	40.0
Lane LOS	B				E
Approach Delay (s)	0.1		0.0		40.0
Approach LOS					E

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Queues
108: Fiddlers Green Rd & Garner Rd W



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	1146	51	1036	101	247	315	244
v/c Ratio	0.56	0.71	0.38	0.84	0.44	0.66	0.83	0.41
Control Delay	21.1	19.5	30.2	30.1	34.4	37.4	40.3	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	19.5	30.2	30.1	34.4	37.4	40.3	17.9
Queue Length 50th (m)	8.7	66.2	5.5	69.4	13.8	34.1	36.0	22.1
Queue Length 95th (m)	17.7	87.3	15.2	89.5	24.2	48.5	#49.7	33.8
Internal Link Dist (m)		64.8		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	223	1690	143	1308	366	591	378	782
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	0.56	0.68	0.36	0.79	0.28	0.42	0.83	0.31

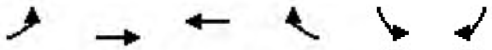
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Future Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1573	3312		1644	3285		1807	1845		1690	1639	
Flt Permitted	0.12	1.00		0.21	1.00		0.61	1.00		0.40	1.00	
Satd. Flow (perm)	207	3312		368	3285		1155	1845		709	1639	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	124	1062	82	51	780	256	101	212	34	315	138	106
RTOR Reduction (vph)	0	6	0	0	34	0	0	7	0	0	34	0
Lane Group Flow (vph)	124	1140	0	51	1002	0	101	240	0	315	210	0
Heavy Vehicles (%)	16%	8%	22%	11%	7%	7%	1%	2%	2%	8%	10%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	38.5	38.5		29.0	29.0		15.7	15.7		27.1	27.1	
Effective Green, g (s)	38.5	38.5		29.0	29.0		15.7	15.7		27.1	27.1	
Actuated g/C Ratio	0.49	0.49		0.37	0.37		0.20	0.20		0.34	0.34	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	212	1610		134	1202		228	365		346	560	
v/s Ratio Prot	0.05	c0.34			c0.30			0.13		c0.10	0.13	
v/s Ratio Perm	0.24			0.14			0.09			c0.21		
v/c Ratio	0.58	0.71		0.38	0.83		0.44	0.66		0.91	0.38	
Uniform Delay, d1	14.1	15.9		18.5	22.9		27.9	29.3		23.5	19.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	1.6		0.7	4.9		1.4	4.2		26.7	0.4	
Delay (s)	18.9	17.5		19.1	27.8		29.3	33.5		50.1	20.1	
Level of Service	B	B		B	C		C	C		D	C	
Approach Delay (s)		17.6			27.4			32.3			37.0	
Approach LOS		B			C			C			D	

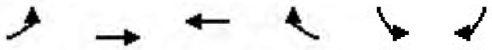
Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	19.6
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	1121	853	10	7	17
Future Volume (Veh/h)	8	1121	853	10	7	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	10	1456	1108	13	9	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		331				
pX, platoon unblocked					0.41	
vC, conflicting volume	1121				2584	1108
vC1, stage 1 conf vol					1108	
vC2, stage 2 conf vol					1476	
vCu, unblocked vol	1121				4122	1108
tC, single (s)	4.3				6.5	6.4
tC, 2 stage (s)					5.5	
tF (s)	2.4				3.6	3.5
p0 queue free %	98				88	91
cM capacity (veh/h)	561				77	238

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	10	1456	1108	13	31
Volume Left	10	0	0	0	9
Volume Right	0	0	0	13	22
cSH	561	1700	1700	1700	148
Volume to Capacity	0.02	0.86	0.65	0.01	0.21
Queue Length 95th (m)	0.4	0.0	0.0	0.0	5.8
Control Delay (s)	11.5	0.0	0.0	0.0	35.7
Lane LOS	B				E
Approach Delay (s)	0.1		0.0		35.7
Approach LOS					E

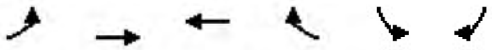
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	1119	852	50	26	11
Future Volume (Veh/h)	9	1119	852	50	26	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	11	1416	1078	63	33	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1141				2516	1078
vC1, stage 1 conf vol					1078	
vC2, stage 2 conf vol					1438	
vCu, unblocked vol	1141				2516	1078
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)					5.4	
tF (s)	2.3				3.5	3.4
p0 queue free %	98				81	95
cM capacity (veh/h)	571				172	255

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	11	1416	1078	63	47
Volume Left	11	0	0	0	33
Volume Right	0	0	0	63	14
cSH	571	1700	1700	1700	191
Volume to Capacity	0.02	0.83	0.63	0.04	0.25
Queue Length 95th (m)	0.4	0.0	0.0	0.0	7.1
Control Delay (s)	11.4	0.0	0.0	0.0	30.0
Lane LOS	B				D
Approach Delay (s)	0.1		0.0		30.0
Approach LOS					D

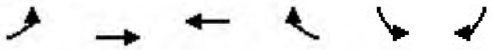
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	1144	890	1	2	12
Future Volume (Veh/h)	1	1144	890	1	2	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1	1395	1085	1	2	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1086				2482	1086
vC1, stage 1 conf vol					1086	
vC2, stage 2 conf vol					1397	
vCu, unblocked vol	1086				2482	1086
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	94
cM capacity (veh/h)	642				182	263

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	1	1395	1086	17
Volume Left	1	0	0	2
Volume Right	0	0	1	15
cSH	642	1700	1700	250
Volume to Capacity	0.00	0.82	0.64	0.07
Queue Length 95th (m)	0.0	0.0	0.0	1.7
Control Delay (s)	10.6	0.0	0.0	20.4
Lane LOS	B			C
Approach Delay (s)	0.0		0.0	20.4
Approach LOS				C

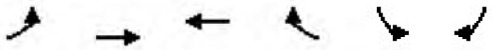
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Volume (veh/h)	0	1157	864	0	82	41
Future Volume (Veh/h)	0	1157	864	0	82	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1411	1054	0	100	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1054				2465	1054
vC1, stage 1 conf vol					1054	
vC2, stage 2 conf vol					1411	
vCu, unblocked vol	1054				2465	1054
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.4
p0 queue free %	100				45	81
cM capacity (veh/h)	661				183	265

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1411	1054	150
Volume Left	0	0	100
Volume Right	0	0	50
cSH	1700	1700	204
Volume to Capacity	0.83	0.62	0.74
Queue Length 95th (m)	0.0	0.0	36.9
Control Delay (s)	0.0	0.0	60.0
Lane LOS			F
Approach Delay (s)	0.0	0.0	60.0
Approach LOS			F

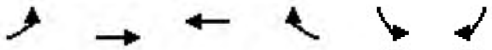
Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	1128	864	206	0	0
Future Volume (Veh/h)	112	1128	864	206	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	133	1343	1029	245	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1274				2638	1029
vC1, stage 1 conf vol					1029	
vC2, stage 2 conf vol					1609	
vCu, unblocked vol	1274				2638	1029
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.3				3.5	3.3
p0 queue free %	75				100	100
cM capacity (veh/h)	525				122	284

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	133	1343	1029	245
Volume Left	133	0	0	0
Volume Right	0	0	0	245
cSH	525	1700	1700	1700
Volume to Capacity	0.25	0.79	0.61	0.14
Queue Length 95th (m)	7.6	0.0	0.0	0.0
Control Delay (s)	14.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	1.3		0.0	
Approach LOS				

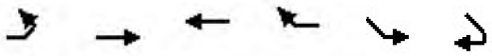
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		0.0
Approach LOS				A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

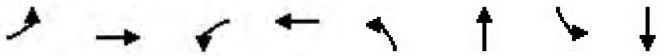


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1622				1023	1084

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St



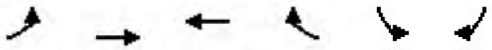
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	1291	26	506	296	298	28	20
v/c Ratio	0.00	0.67	0.20	0.27	0.77	0.78	0.11	0.04
Control Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Length 50th (m)	0.1	43.0	1.8	18.7	38.1	36.8	2.7	0.5
Queue Length 95th (m)	0.9	78.0	8.3	33.7	53.7	53.0	6.7	3.9
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	462	1928	132	1842	532	526	352	630
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	0.00	0.67	0.20	0.27	0.56	0.57	0.08	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Future Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3303		1789	3489		1651	1625		1789	1509	
Flt Permitted	0.47	1.00		0.13	1.00		0.74	0.74		0.45	1.00	
Satd. Flow (perm)	878	3303		252	3489		1294	1261		854	1509	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	665	626	26	483	23	549	6	39	28	5	15
RTOR Reduction (vph)	0	187	0	0	4	0	0	9	0	0	11	0
Lane Group Flow (vph)	1	1104	0	26	502	0	296	289	0	28	9	0
Heavy Vehicles (%)	2%	2%	3%	2%	4%	2%	5%	2%	10%	2%	25%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Effective Green, g (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30		0.30	0.30	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	463	1742		132	1840		383	374		253	447	
v/s Ratio Prot		c0.33			0.14						0.01	
v/s Ratio Perm	0.00			0.10			0.23	c0.23		0.03		
v/c Ratio	0.00	0.63		0.20	0.27		0.77	0.77		0.11	0.02	
Uniform Delay, d1	8.1	12.2		9.1	9.5		23.4	23.4		18.6	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.8		3.3	0.4		8.6	8.7		0.1	0.0	
Delay (s)	8.1	14.0		12.4	9.9		31.9	32.1		18.7	18.1	
Level of Service	A	B		B	A		C	C		B	B	
Approach Delay (s)		14.0			10.0			32.0			18.5	
Approach LOS		B			A			C			B	

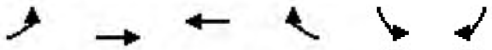
Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	595	680	36	42	15
Future Volume (Veh/h)	38	595	680	36	42	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	44	684	782	41	48	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	823				1574	802
vC1, stage 1 conf vol					802	
vC2, stage 2 conf vol					772	
vCu, unblocked vol	823				1574	802
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	95				85	96
cM capacity (veh/h)	807				321	384

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	44	684	823	65
Volume Left	44	0	0	48
Volume Right	0	0	41	17
cSH	807	1700	1700	335
Volume to Capacity	0.05	0.40	0.48	0.19
Queue Length 95th (m)	1.3	0.0	0.0	5.4
Control Delay (s)	9.7	0.0	0.0	18.3
Lane LOS	A			C
Approach Delay (s)	0.6		0.0	18.3
Approach LOS				C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	565	649	137	100	65
Future Volume (Veh/h)	72	565	649	137	100	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	78	614	705	149	109	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)			241			
pX, platoon unblocked	0.78				0.78	0.78
vC, conflicting volume	854				1475	705
vC1, stage 1 conf vol					705	
vC2, stage 2 conf vol					770	
vCu, unblocked vol	674				1468	483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	89				66	84
cM capacity (veh/h)	717				320	456

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	78	614	705	149	180
Volume Left	78	0	0	0	109
Volume Right	0	0	0	149	71
cSH	717	1700	1700	1700	362
Volume to Capacity	0.11	0.36	0.41	0.09	0.50
Queue Length 95th (m)	2.8	0.0	0.0	0.0	20.2
Control Delay (s)	10.6	0.0	0.0	0.0	24.3
Lane LOS	B				C
Approach Delay (s)	1.2		0.0		24.3
Approach LOS					C

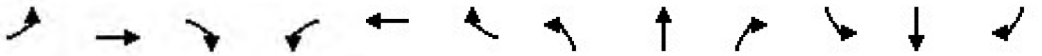
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Queues
104: Shaver Rd & Garner Rd W



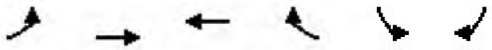
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	617	66	15	786	145	49	142	112	78
v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.22	0.44	0.52	0.25
Control Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	7.8	2.7	5.7	9.8	3.2	27.4	27.5	35.6	22.1
Queue Length 50th (m)	1.7	35.2	0.7	0.6	52.4	2.9	6.0	15.9	14.4	7.3
Queue Length 95th (m)	6.5	71.7	5.1	3.0	107.4	10.3	13.6	28.6	26.8	16.6
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	375	1356	1123	496	1343	1173	449	652	444	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.46	0.06	0.03	0.59	0.12	0.11	0.22	0.25	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Future Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1883	1541	1722	1865	1601	1706	1810		1789	1736	
Flt Permitted	0.28	1.00	1.00	0.38	1.00	1.00	0.71	1.00		0.67	1.00	
Satd. Flow (perm)	522	1883	1541	689	1865	1601	1268	1810		1255	1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	617	66	15	786	145	49	117	25	112	60	18
RTOR Reduction (vph)	0	0	15	0	0	23	0	14	0	0	15	0
Lane Group Flow (vph)	41	617	51	15	786	122	49	128	0	112	63	0
Heavy Vehicles (%)	4%	2%	6%	6%	3%	2%	7%	3%	5%	2%	5%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Effective Green, g (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69	0.15	0.15		0.15	0.15	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	358	1292	1057	472	1279	1098	185	264		183	253	
v/s Ratio Prot		0.33			c0.42			0.07			0.04	
v/s Ratio Perm	0.08		0.03	0.02		0.08	0.04			c0.09		
v/c Ratio	0.11	0.48	0.05	0.03	0.61	0.11	0.26	0.49		0.61	0.25	
Uniform Delay, d1	3.9	5.4	3.7	3.7	6.2	3.9	27.8	28.8		29.4	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.3	0.1	0.1	2.2	0.2	0.8	1.4		5.9	0.5	
Delay (s)	4.6	6.6	3.8	3.8	8.5	4.1	28.6	30.2		35.3	28.2	
Level of Service	A	A	A	A	A	A	C	C		D	C	
Approach Delay (s)		6.3			7.7			29.8			32.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	653	827	85	58	44
Future Volume (Veh/h)	41	653	827	85	58	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	710	899	92	63	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	991				1699	899
vC1, stage 1 conf vol					899	
vC2, stage 2 conf vol					800	
vCu, unblocked vol	991				1699	899
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.3				3.6	3.3
p0 queue free %	93				78	86
cM capacity (veh/h)	649				289	340

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	45	710	899	92	111
Volume Left	45	0	0	0	63
Volume Right	0	0	0	92	48
cSH	649	1700	1700	1700	309
Volume to Capacity	0.07	0.42	0.53	0.05	0.36
Queue Length 95th (m)	1.7	0.0	0.0	0.0	12.0
Control Delay (s)	11.0	0.0	0.0	0.0	23.0
Lane LOS	B				C
Approach Delay (s)	0.7		0.0		23.0
Approach LOS					C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

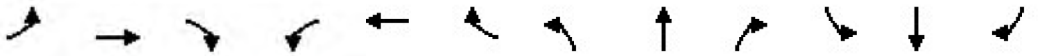
Queues
106: Panabaker Dr & Garner Rd W



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	103	845	3	1076	129	8	108	140
v/c Ratio	0.65	0.69	0.01	0.88	0.12	0.02	0.56	0.42
Control Delay	31.7	11.1	4.5	20.6	1.2	0.0	45.0	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	11.1	4.5	20.6	1.2	0.0	45.0	11.5
Queue Length 50th (m)	6.5	56.5	0.1	96.0	0.0	0.0	16.5	1.4
Queue Length 95th (m)	#25.2	81.3	0.8	129.5	2.9	0.0	26.1	10.0
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	177	1370	378	1370	1193	546	292	445
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	0.58	0.62	0.01	0.79	0.11	0.01	0.37	0.31

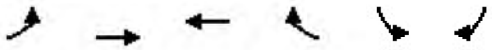
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Future Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	1762		1825	1762	1498		1662		1587		1484
Flt Permitted	0.13	1.00		0.25	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	230	1762		485	1762	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	103	845	0	3	1076	129	0	0	8	108	0	140
RTOR Reduction (vph)	0	0	0	0	0	39	0	7	0	0	0	110
Lane Group Flow (vph)	103	845	0	3	1076	90	0	1	0	108	0	30
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	54.4	54.4		54.4	54.4	54.4		12.0		12.0		12.0
Effective Green, g (s)	54.4	54.4		54.4	54.4	54.4		12.0		12.0		12.0
Actuated g/C Ratio	0.69	0.69		0.69	0.69	0.69		0.15		0.15		0.15
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	159	1224		336	1224	1040		254		192		227
v/s Ratio Prot		0.48			c0.61			0.00				
v/s Ratio Perm	0.45			0.01		0.06				c0.09		0.02
v/c Ratio	0.65	0.69		0.01	0.88	0.09		0.00		0.56		0.13
Uniform Delay, d1	6.6	7.0		3.7	9.4	3.9		28.1		30.7		28.6
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	6.6	1.4		0.0	7.2	0.0		0.0		2.2		0.1
Delay (s)	13.3	8.4		3.7	16.6	3.9		28.1		33.0		28.7
Level of Service	B	A		A	B	A		C		C		C
Approach Delay (s)		8.9			15.2			28.1			30.6	
Approach LOS		A			B			C			C	

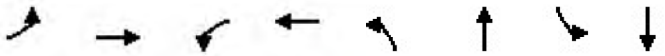
Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	11.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	694	888	34	25	18
Future Volume (Veh/h)	27	694	888	34	25	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	763	976	37	27	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1013				1799	976
vC1, stage 1 conf vol					976	
vC2, stage 2 conf vol					823	
vCu, unblocked vol	1013				1799	976
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				90	93
cM capacity (veh/h)	684				279	305

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	30	763	976	37	47
Volume Left	30	0	0	0	27
Volume Right	0	0	0	37	20
cSH	684	1700	1700	1700	289
Volume to Capacity	0.04	0.45	0.57	0.02	0.16
Queue Length 95th (m)	1.0	0.0	0.0	0.0	4.3
Control Delay (s)	10.5	0.0	0.0	0.0	19.8
Lane LOS	B				C
Approach Delay (s)	0.4		0.0		19.8
Approach LOS					C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

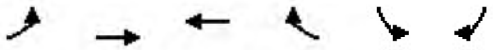


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	704	55	1102	52	252	226	254
v/c Ratio	0.27	0.39	0.18	0.78	0.23	0.67	0.62	0.42
Control Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Length 50th (m)	4.7	33.2	5.6	77.8	7.0	35.3	25.7	29.4
Queue Length 95th (m)	12.3	55.1	15.3	119.1	19.5	70.8	54.4	61.6
Internal Link Dist (m)		66.4		71.7		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	264	2631	448	2116	418	681	365	901
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	0.27	0.27	0.12	0.52	0.12	0.37	0.62	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Future Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3536		1789	3389		1772	1808		1789	1800	
Flt Permitted	0.12	1.00		0.38	1.00		0.60	1.00		0.39	1.00	
Satd. Flow (perm)	234	3536		723	3389		1122	1808		731	1800	
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)	70	666	38	55	876	226	52	195	57	226	191	63
RTOR Reduction (vph)	0	4	0	0	21	0	0	10	0	0	11	0
Lane Group Flow (vph)	70	700	0	55	1081	0	52	242	0	226	243	0
Heavy Vehicles (%)	2%	2%	9%	2%	5%	2%	3%	2%	5%	2%	3%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Effective Green, g (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Actuated g/C Ratio	0.51	0.51		0.41	0.41		0.20	0.20		0.33	0.33	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	217	1807		298	1398		229	369		330	588	
v/s Ratio Prot	0.02	c0.20			c0.32			0.13		c0.06	0.14	
v/s Ratio Perm	0.14			0.08			0.05			c0.16		
v/c Ratio	0.32	0.39		0.18	0.77		0.23	0.65		0.68	0.41	
Uniform Delay, d1	13.1	12.5		15.7	21.3		27.9	30.7		22.9	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	2.5		0.5	4.1		4.6	0.5	
Delay (s)	14.3	12.7		15.8	23.8		28.4	34.9		27.5	22.5	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s)		12.9			23.4			33.8			24.9	
Approach LOS		B			C			C			C	

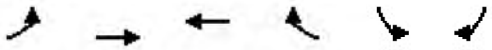
Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	877	1063	12	7	13
Future Volume (Veh/h)	5	877	1063	12	7	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	914	1107	12	7	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		331				
pX, platoon unblocked					0.73	
vC, conflicting volume	1119				2031	1107
vC1, stage 1 conf vol					1107	
vC2, stage 2 conf vol					924	
vCu, unblocked vol	1119				2232	1107
tC, single (s)	4.1				6.4	6.4
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.5
p0 queue free %	99				97	94
cM capacity (veh/h)	624				228	235

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	5	914	1107	12	21
Volume Left	5	0	0	0	7
Volume Right	0	0	0	12	14
cSH	624	1700	1700	1700	233
Volume to Capacity	0.01	0.54	0.65	0.01	0.09
Queue Length 95th (m)	0.2	0.0	0.0	0.0	2.2
Control Delay (s)	10.8	0.0	0.0	0.0	22.0
Lane LOS	B				C
Approach Delay (s)	0.1		0.0		22.0
Approach LOS					C

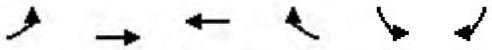
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	872	1068	46	13	7
Future Volume (Veh/h)	11	872	1068	46	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	928	1136	49	14	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1185				2088	1136
vC1, stage 1 conf vol					1136	
vC2, stage 2 conf vol					952	
vCu, unblocked vol	1185				2088	1136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				94	97
cM capacity (veh/h)	589				235	246

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	12	928	1136	49	21
Volume Left	12	0	0	0	14
Volume Right	0	0	0	49	7
cSH	589	1700	1700	1700	238
Volume to Capacity	0.02	0.55	0.67	0.03	0.09
Queue Length 95th (m)	0.5	0.0	0.0	0.0	2.2
Control Delay (s)	11.2	0.0	0.0	0.0	21.6
Lane LOS	B				C
Approach Delay (s)	0.1		0.0		21.6
Approach LOS					C

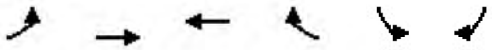
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	881	1109	7	7	5
Future Volume (Veh/h)	4	881	1109	7	7	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	937	1180	7	7	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1187				2128	1184
vC1, stage 1 conf vol					1184	
vC2, stage 2 conf vol					945	
vCu, unblocked vol	1187				2128	1184
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	98
cM capacity (veh/h)	588				229	231

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	4	937	1187	12
Volume Left	4	0	0	7
Volume Right	0	0	7	5
cSH	588	1700	1700	230
Volume to Capacity	0.01	0.55	0.70	0.05
Queue Length 95th (m)	0.2	0.0	0.0	1.2
Control Delay (s)	11.2	0.0	0.0	21.5
Lane LOS	B			C
Approach Delay (s)	0.0		0.0	21.5
Approach LOS				C

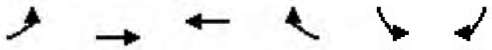
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Volume (veh/h)	0	916	1066	0	162	114
Future Volume (Veh/h)	0	916	1066	0	162	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	954	1110	0	169	119
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1110				2064	1110
vC1, stage 1 conf vol					1110	
vC2, stage 2 conf vol					954	
vCu, unblocked vol	1110				2064	1110
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				30	53
cM capacity (veh/h)	629				241	256

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	954	1110	288
Volume Left	0	0	169
Volume Right	0	0	119
cSH	1700	1700	247
Volume to Capacity	0.56	0.65	1.17
Queue Length 95th (m)	0.0	0.0	100.8
Control Delay (s)	0.0	0.0	151.9
Lane LOS			F
Approach Delay (s)	0.0	0.0	151.9
Approach LOS			F

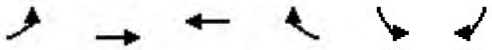
Intersection Summary			
Average Delay	18.6		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1045	1066	148	0	0
Future Volume (Veh/h)	33	1045	1066	148	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	1100	1122	156	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1278				2292	1122
vC1, stage 1 conf vol					1122	
vC2, stage 2 conf vol					1170	
vCu, unblocked vol	1278				2292	1122
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.3				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	502				202	251

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	35	1100	1122	156
Volume Left	35	0	0	0
Volume Right	0	0	0	156
cSH	502	1700	1700	1700
Volume to Capacity	0.07	0.65	0.66	0.09
Queue Length 95th (m)	1.7	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	0.4		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

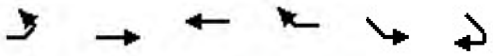


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		0.0
Approach LOS				A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
12: Garner Rd W & Wilson St

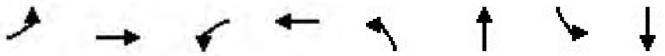


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1622				1023	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				
Approach Delay (s)	0.0		0.0	
Approach LOS				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St



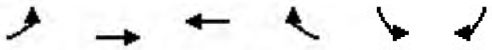
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1028	21	568	230	229	4	17
v/c Ratio	0.01	0.50	0.09	0.28	0.71	0.73	0.02	0.05
Control Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	4.1	10.8	9.3	36.5	37.2	16.8	12.9
Queue Length 50th (m)	0.4	9.5	1.1	18.2	30.5	30.0	0.4	1.0
Queue Length 95th (m)	2.5	26.2	5.6	35.1	45.7	45.5	2.1	4.5
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	477	2043	240	2019	539	525	417	624
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	0.01	0.50	0.09	0.28	0.43	0.44	0.01	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Future Volume (vph)	6	287	649	19	499	18	395	13	10	4	8	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3015		1690	3490		1667	1648		1789	1506	
Flt Permitted	0.44	1.00		0.23	1.00		0.75	0.74		0.54	1.00	
Satd. Flow (perm)	826	3015		416	3490		1310	1269		1013	1506	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	315	713	21	548	20	434	14	11	4	9	8
RTOR Reduction (vph)	0	301	0	0	3	0	0	3	0	0	6	0
Lane Group Flow (vph)	7	727	0	21	565	0	230	226	0	4	11	0
Heavy Vehicles (%)	2%	5%	10%	8%	4%	5%	4%	2%	33%	2%	20%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Effective Green, g (s)	42.1	42.1		42.1	42.1		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	477	1743		240	2018		322	312		249	370	
v/s Ratio Prot		c0.24			0.16						0.01	
v/s Ratio Perm	0.01			0.05			0.18	c0.18		0.00		
v/c Ratio	0.01	0.42		0.09	0.28		0.71	0.72		0.02	0.03	
Uniform Delay, d1	6.5	8.5		6.8	7.7		25.1	25.2		20.8	20.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.7		0.7	0.3		6.1	6.9		0.0	0.0	
Delay (s)	6.6	9.3		7.5	8.1		31.2	32.1		20.8	20.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.3			8.1			31.7			20.9	
Approach LOS		A			A			C			C	

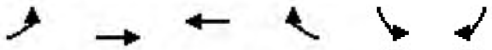
Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	713	438	25	11	23
Future Volume (Veh/h)	28	713	438	25	11	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	32	820	503	29	13	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	532				992	266
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	532				992	266
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				94	96
cM capacity (veh/h)	1032				235	732

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	32	410	410	335	197	39
Volume Left	32	0	0	0	0	13
Volume Right	0	0	0	0	29	26
cSH	1032	1700	1700	1700	1700	430
Volume to Capacity	0.03	0.24	0.24	0.20	0.12	0.09
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	2.3
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	14.2
Lane LOS	A					B
Approach Delay (s)	0.3			0.0		14.2
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	703	441	54	27	20
Future Volume (Veh/h)	16	703	441	54	27	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	18	773	485	59	30	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked						
vC, conflicting volume	544				908	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	544				908	242
tC, single (s)	4.1				7.0	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	98				88	97
cM capacity (veh/h)	1021				258	758

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	18	386	386	242	242	59	52
Volume Left	18	0	0	0	0	0	30
Volume Right	0	0	0	0	0	59	22
cSH	1021	1700	1700	1700	1700	1700	358
Volume to Capacity	0.02	0.23	0.23	0.14	0.14	0.03	0.15
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	0.0	3.8
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	0.0	16.8
Lane LOS	A						C
Approach Delay (s)	0.2			0.0			16.8
Approach LOS							C

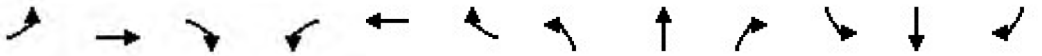
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
104: Shaver Rd & Garner Rd W



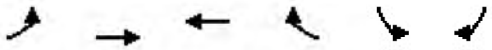
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	822	53	24	534	57	37	50	190	130
v/c Ratio	0.02	0.40	0.05	0.07	0.25	0.06	0.13	0.14	0.65	0.35
Control Delay	8.0	8.9	3.2	8.4	7.7	2.8	21.6	17.1	35.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	8.9	3.2	8.4	7.7	2.8	21.6	17.1	35.9	21.3
Queue Length 50th (m)	0.3	26.7	0.3	1.2	15.4	0.0	4.2	4.1	24.1	12.7
Queue Length 95th (m)	1.8	43.8	4.3	4.7	26.8	4.1	8.9	9.6	34.6	20.8
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	386	2069	998	333	2149	992	450	589	469	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.40	0.05	0.07	0.25	0.06	0.08	0.08	0.41	0.22

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Future Volume (vph)	5	682	44	20	443	47	31	31	11	158	85	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1323	3380	1601	1615	3510	1585	1789	1638		1738	1601	
Flt Permitted	0.45	1.00	1.00	0.32	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	631	3380	1601	544	3510	1585	1269	1638		1325	1601	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	6	822	53	24	534	57	37	37	13	190	102	28
RTOR Reduction (vph)	0	0	19	0	0	22	0	10	0	0	16	0
Lane Group Flow (vph)	6	822	34	24	534	35	37	40	0	190	114	0
Heavy Vehicles (%)	38%	8%	2%	13%	4%	3%	2%	13%	12%	5%	14%	24%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Effective Green, g (s)	44.9	44.9	44.9	44.9	44.9	44.9	16.1	16.1		16.1	16.1	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	386	2070	980	333	2150	970	278	359		291	351	
v/s Ratio Prot		c0.24			0.15			0.02			0.07	
v/s Ratio Perm	0.01		0.02	0.04		0.02	0.03			c0.14		
v/c Ratio	0.02	0.40	0.04	0.07	0.25	0.04	0.13	0.11		0.65	0.32	
Uniform Delay, d1	5.6	7.3	5.6	5.8	6.5	5.6	23.0	22.9		26.1	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.6	0.1	0.4	0.3	0.1	0.2	0.1		5.2	0.5	
Delay (s)	5.6	7.8	5.7	6.2	6.8	5.7	23.2	23.0		31.2	24.6	
Level of Service	A	A	A	A	A	A	C	C		C	C	
Approach Delay (s)		7.7			6.6			23.1			28.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	835	476	103	130	34
Future Volume (Veh/h)	16	835	476	103	130	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	908	517	112	141	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	629				1005	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				1005	258
tC, single (s)	4.4				6.9	6.9
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.3
p0 queue free %	98				38	95
cM capacity (veh/h)	866				227	747

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	17	454	454	258	258	112	178
Volume Left	17	0	0	0	0	0	141
Volume Right	0	0	0	0	0	112	37
cSH	866	1700	1700	1700	1700	1700	265
Volume to Capacity	0.02	0.27	0.27	0.15	0.15	0.07	0.67
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0	33.3
Control Delay (s)	9.2	0.0	0.0	0.0	0.0	0.0	42.5
Lane LOS	A						E
Approach Delay (s)	0.2			0.0			42.5
Approach LOS							E

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

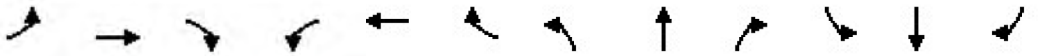
Queues
106: Panabaker Dr & Garner Rd W



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	292	995	17	460	532	8	244	312
v/c Ratio	0.61	0.53	0.06	0.25	0.50	0.02	0.78	0.52
Control Delay	15.9	10.1	7.3	7.7	2.4	0.0	44.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	10.1	7.3	7.7	2.4	0.0	44.9	7.0
Queue Length 50th (m)	22.4	37.7	0.9	14.2	0.0	0.0	25.6	0.0
Queue Length 95th (m)	33.0	41.0	2.8	17.6	2.7	0.0	#59.3	8.4
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	742	2869	403	2869	1359	639	410	695
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	0.39	0.35	0.04	0.16	0.39	0.01	0.60	0.45

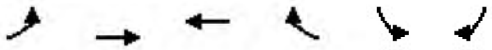
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Future Volume (vph)	219	744	2	13	345	399	0	0	6	183	0	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	3348		1825	3349	1498		1662		1587		1484
Flt Permitted	0.49	1.00		0.25	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	867	3348		471	3349	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	292	992	3	17	460	532	0	0	8	244	0	312
RTOR Reduction (vph)	0	0	0	0	0	232	0	6	0	0	0	233
Lane Group Flow (vph)	292	995	0	17	460	300	0	2	0	244	0	79
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	36.8	36.8		36.8	36.8	36.8		16.5		16.5		16.5
Effective Green, g (s)	36.8	36.8		36.8	36.8	36.8		16.5		16.5		16.5
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56		0.25		0.25		0.25
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	489	1889		265	1890	845		420		318		375
v/s Ratio Prot		0.30			0.14			0.00				
v/s Ratio Perm	c0.34			0.04		0.20				c0.19		0.05
v/c Ratio	0.60	0.53		0.06	0.24	0.36		0.00		0.77		0.21
Uniform Delay, d1	9.3	8.8		6.4	7.2	7.7		18.2		22.6		19.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	1.3	0.1		0.0	0.0	0.1		0.0		9.6		0.1
Delay (s)	10.6	8.9		6.5	7.2	7.8		18.2		32.1		19.3
Level of Service	B	A		A	A	A		B		C		B
Approach Delay (s)		9.3			7.5			18.2			24.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	11.9
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

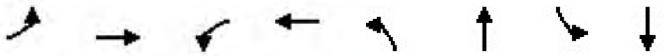


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	946	713	77	69	44
Future Volume (Veh/h)	13	946	713	77	69	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	17	1229	926	100	90	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1026				1574	463
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026				1574	463
tC, single (s)	4.1				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	97				6	89
cM capacity (veh/h)	673				96	535

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	17	614	614	463	463	100	147
Volume Left	17	0	0	0	0	0	90
Volume Right	0	0	0	0	0	100	57
cSH	673	1700	1700	1700	1700	1700	141
Volume to Capacity	0.03	0.36	0.36	0.27	0.27	0.06	1.04
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	0.0	59.3
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	149.9
Lane LOS	B						F
Approach Delay (s)	0.1			0.0			149.9
Approach LOS							F

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
108: Fiddlers Green Rd & Garner Rd W



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	1146	51	1036	101	247	315	244
v/c Ratio	0.56	0.71	0.38	0.84	0.44	0.66	0.83	0.41
Control Delay	21.1	19.5	30.2	30.1	34.4	37.4	40.3	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	19.5	30.2	30.1	34.4	37.4	40.3	17.9
Queue Length 50th (m)	8.7	66.2	5.5	69.4	13.8	34.1	36.0	22.1
Queue Length 95th (m)	17.7	87.3	15.2	89.5	24.2	48.5	#49.7	33.8
Internal Link Dist (m)		387.9		307.2		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	223	1690	143	1308	366	591	378	782
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	0.56	0.68	0.36	0.79	0.28	0.42	0.83	0.31

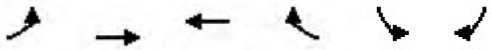
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Future Volume (vph)	99	850	66	41	624	205	81	170	27	252	110	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1573	3312		1644	3285		1807	1845		1690	1639	
Flt Permitted	0.12	1.00		0.21	1.00		0.61	1.00		0.40	1.00	
Satd. Flow (perm)	207	3312		368	3285		1155	1845		709	1639	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	124	1062	82	51	780	256	101	212	34	315	138	106
RTOR Reduction (vph)	0	6	0	0	34	0	0	7	0	0	34	0
Lane Group Flow (vph)	124	1140	0	51	1002	0	101	240	0	315	210	0
Heavy Vehicles (%)	16%	8%	22%	11%	7%	7%	1%	2%	2%	8%	10%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	38.5	38.5		29.0	29.0		15.7	15.7		27.1	27.1	
Effective Green, g (s)	38.5	38.5		29.0	29.0		15.7	15.7		27.1	27.1	
Actuated g/C Ratio	0.49	0.49		0.37	0.37		0.20	0.20		0.34	0.34	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	212	1610		134	1202		228	365		346	560	
v/s Ratio Prot	0.05	c0.34			c0.30			0.13		c0.10	0.13	
v/s Ratio Perm	0.24			0.14			0.09			c0.21		
v/c Ratio	0.58	0.71		0.38	0.83		0.44	0.66		0.91	0.38	
Uniform Delay, d1	14.1	15.9		18.5	22.9		27.9	29.3		23.5	19.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	1.6		0.7	4.9		1.4	4.2		26.7	0.4	
Delay (s)	18.9	17.5		19.1	27.8		29.3	33.5		50.1	20.1	
Level of Service	B	B		B	C		C	C		D	C	
Approach Delay (s)		17.6			27.4			32.3			37.0	
Approach LOS		B			C			C			D	

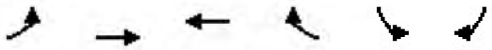
Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	19.6
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	1121	853	10	7	17
Future Volume (Veh/h)	8	1121	853	10	7	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	10	1456	1108	13	9	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.75	
vC, conflicting volume	1121				1856	554
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1121				1477	554
tC, single (s)	4.5				7.1	7.2
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.5
p0 queue free %	98				88	95
cM capacity (veh/h)	525				77	439

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	495	971	554	554	13	31
Volume Left	10	0	0	0	0	9
Volume Right	0	0	0	0	13	22
cSH	525	1700	1700	1700	1700	185
Volume to Capacity	0.02	0.57	0.33	0.33	0.01	0.17
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	4.4
Control Delay (s)	0.6	0.0	0.0	0.0	0.0	28.3
Lane LOS	A					D
Approach Delay (s)	0.2		0.0			28.3
Approach LOS						D

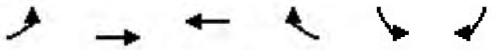
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	1119	852	50	26	11
Future Volume (Veh/h)	9	1119	852	50	26	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	11	1416	1078	63	33	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1141				1808	539
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141				1808	539
tC, single (s)	4.4				6.9	7.1
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	98				50	97
cM capacity (veh/h)	544				67	464

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	11	708	708	539	539	63	47
Volume Left	11	0	0	0	0	0	33
Volume Right	0	0	0	0	0	63	14
cSH	544	1700	1700	1700	1700	1700	89
Volume to Capacity	0.02	0.42	0.42	0.32	0.32	0.04	0.53
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0	17.6
Control Delay (s)	11.8	0.0	0.0	0.0	0.0	0.0	83.2
Lane LOS	B						F
Approach Delay (s)	0.1			0.0			83.2
Approach LOS							F

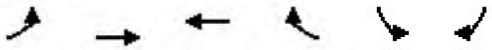
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	1144	890	1	2	12
Future Volume (Veh/h)	1	1144	890	1	2	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	1	1395	1085	1	2	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1086				1785	543
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1086				1785	543
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	97
cM capacity (veh/h)	638				73	484

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	466	930	723	363	17
Volume Left	1	0	0	0	2
Volume Right	0	0	0	1	15
cSH	638	1700	1700	1700	291
Volume to Capacity	0.00	0.55	0.43	0.21	0.06
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.4
Control Delay (s)	0.0	0.0	0.0	0.0	18.2
Lane LOS	A				C
Approach Delay (s)	0.0		0.0		18.2
Approach LOS					C

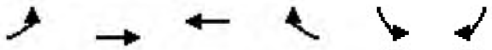
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	1157	864	0	82	41
Future Volume (Veh/h)	0	1157	864	0	82	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1411	1054	0	100	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1054				1760	527
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1054				1760	527
tC, single (s)	4.1				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				0	89
cM capacity (veh/h)	656				76	475

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	706	706	527	527	150
Volume Left	0	0	0	0	100
Volume Right	0	0	0	0	50
cSH	1700	1700	1700	1700	105
Volume to Capacity	0.41	0.41	0.31	0.31	1.43
Queue Length 95th (m)	0.0	0.0	0.0	0.0	82.1
Control Delay (s)	0.0	0.0	0.0	0.0	311.5
Lane LOS					F
Approach Delay (s)	0.0		0.0		311.5
Approach LOS					F

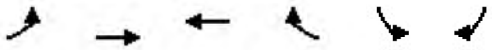
Intersection Summary			
Average Delay	17.9		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	1128	864	206	0	0
Future Volume (Veh/h)	112	1128	864	206	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	133	1343	1029	245	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1274				1966	514
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1274				1966	514
tC, single (s)	4.3				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	74				100	100
cM capacity (veh/h)	509				41	505

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3
Volume Total	133	672	672	514	514	245
Volume Left	133	0	0	0	0	0
Volume Right	0	0	0	0	0	245
cSH	509	1700	1700	1700	1700	1700
Volume to Capacity	0.26	0.40	0.40	0.30	0.30	0.14
Queue Length 95th (m)	7.9	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	14.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	1.3			0.0		
Approach LOS						

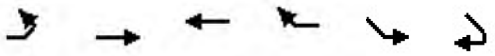
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		0.0
Approach LOS				A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

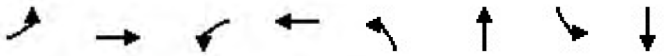


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1622				1023	1084

Direction, Lane #	EB 1	WB 1	WB 2
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0	0.0	
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
101: Garner Rd/Mason Dr & Wilson St

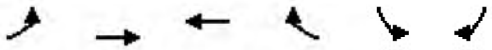


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	1291	26	506	296	298	28	20
v/c Ratio	0.00	0.67	0.20	0.27	0.77	0.78	0.11	0.04
Control Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	11.7	17.4	11.2	36.2	35.7	16.5	8.6
Queue Length 50th (m)	0.1	43.0	1.8	18.7	38.1	36.8	2.7	0.5
Queue Length 95th (m)	0.9	78.0	8.3	33.7	53.7	53.0	6.7	3.9
Internal Link Dist (m)		205.5		89.6		29.6		100.9
Turn Bay Length (m)	55.0		45.0					
Base Capacity (vph)	462	1928	132	1842	532	526	352	630
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	0.00	0.67	0.20	0.27	0.56	0.57	0.08	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Future Volume (vph)	1	585	551	23	425	20	483	5	34	25	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96		0.95	1.00	
Satd. Flow (prot)	1789	3303		1789	3489		1651	1625		1789	1509	
Flt Permitted	0.47	1.00		0.13	1.00		0.74	0.74		0.45	1.00	
Satd. Flow (perm)	878	3303		252	3489		1294	1261		854	1509	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	665	626	26	483	23	549	6	39	28	5	15
RTOR Reduction (vph)	0	187	0	0	4	0	0	9	0	0	11	0
Lane Group Flow (vph)	1	1104	0	26	502	0	296	289	0	28	9	0
Heavy Vehicles (%)	2%	2%	3%	2%	4%	2%	5%	2%	10%	2%	25%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Effective Green, g (s)	38.4	38.4		38.4	38.4		21.6	21.6		21.6	21.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.30	0.30		0.30	0.30	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	463	1742		132	1840		383	374		253	447	
v/s Ratio Prot		c0.33			0.14						0.01	
v/s Ratio Perm	0.00			0.10			0.23	c0.23		0.03		
v/c Ratio	0.00	0.63		0.20	0.27		0.77	0.77		0.11	0.02	
Uniform Delay, d1	8.1	12.2		9.1	9.5		23.4	23.4		18.6	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.8		3.3	0.4		8.6	8.7		0.1	0.0	
Delay (s)	8.1	14.0		12.4	9.9		31.9	32.1		18.7	18.1	
Level of Service	A	B		B	A		C	C		B	B	
Approach Delay (s)		14.0			10.0			32.0			18.5	
Approach LOS		B			A			C			B	

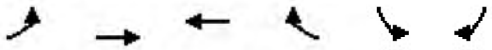
Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	12.8
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	595	680	36	42	15
Future Volume (Veh/h)	38	595	680	36	42	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	44	684	782	41	48	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	823				1232	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823				1232	412
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				70	97
cM capacity (veh/h)	803				160	589

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	44	342	342	521	302	65
Volume Left	44	0	0	0	0	48
Volume Right	0	0	0	0	41	17
cSH	803	1700	1700	1700	1700	198
Volume to Capacity	0.05	0.20	0.20	0.31	0.18	0.33
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	10.3
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	31.9
Lane LOS	A					D
Approach Delay (s)	0.6			0.0		31.9
Approach LOS						D

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	565	649	137	100	65
Future Volume (Veh/h)	72	565	649	137	100	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	78	614	705	149	109	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			241			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	854				1168	352
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	777				1102	258
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				40	90
cM capacity (veh/h)	806				181	716

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	78	307	307	352	352	149	180
Volume Left	78	0	0	0	0	0	109
Volume Right	0	0	0	0	0	149	71
cSH	806	1700	1700	1700	1700	1700	256
Volume to Capacity	0.10	0.18	0.18	0.21	0.21	0.09	0.70
Queue Length 95th (m)	2.4	0.0	0.0	0.0	0.0	0.0	35.9
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0	46.5
Lane LOS	A						E
Approach Delay (s)	1.1			0.0			46.5
Approach LOS							E

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
104: Shaver Rd & Garner Rd W



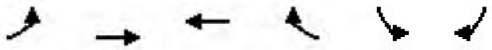
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	617	66	15	786	145	49	142	112	78
v/c Ratio	0.09	0.24	0.06	0.03	0.31	0.12	0.22	0.44	0.52	0.25
Control Delay	6.1	5.4	1.9	5.6	5.7	1.6	27.4	27.5	35.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	5.4	1.9	5.6	5.7	1.6	27.4	27.5	35.6	22.1
Queue Length 50th (m)	1.7	15.1	0.0	0.6	20.3	0.2	6.0	15.9	14.4	7.3
Queue Length 95th (m)	6.2	27.7	4.1	2.9	36.6	6.2	13.6	28.6	26.8	16.6
Internal Link Dist (m)		217.4			809.7			105.8		192.0
Turn Bay Length (m)	85.0		20.0	140.0		25.0	40.0			
Base Capacity (vph)	464	2577	1128	545	2551	1192	449	652	444	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.24	0.06	0.03	0.31	0.12	0.11	0.22	0.25	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Future Volume (vph)	38	568	61	14	723	133	45	108	23	103	55	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	3579	1541	1722	3544	1601	1706	1810		1789	1736	
Flt Permitted	0.35	1.00	1.00	0.42	1.00	1.00	0.71	1.00		0.67	1.00	
Satd. Flow (perm)	644	3579	1541	758	3544	1601	1268	1810		1255	1736	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	617	66	15	786	145	49	117	25	112	60	18
RTOR Reduction (vph)	0	0	21	0	0	44	0	14	0	0	15	0
Lane Group Flow (vph)	41	617	45	15	786	101	49	128	0	112	63	0
Heavy Vehicles (%)	4%	2%	6%	6%	3%	2%	7%	3%	5%	2%	5%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Effective Green, g (s)	50.3	50.3	50.3	50.3	50.3	50.3	10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69	0.15	0.15		0.15	0.15	
Clearance Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2		6.2	6.2	
Vehicle Extension (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	441	2455	1057	520	2431	1098	185	264		183	253	
v/s Ratio Prot		0.17			c0.22			0.07			0.04	
v/s Ratio Perm	0.06		0.03	0.02		0.06	0.04			c0.09		
v/c Ratio	0.09	0.25	0.04	0.03	0.32	0.09	0.26	0.49		0.61	0.25	
Uniform Delay, d1	3.9	4.4	3.7	3.7	4.6	3.9	27.8	28.8		29.4	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2	0.1	0.1	0.4	0.2	0.8	1.4		5.9	0.5	
Delay (s)	4.3	4.6	3.8	3.8	5.0	4.0	28.6	30.2		35.3	28.2	
Level of Service	A	A	A	A	A	A	C	C		D	C	
Approach Delay (s)		4.5			4.8			29.8			32.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	653	827	85	58	44
Future Volume (Veh/h)	41	653	827	85	58	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	710	899	92	63	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	991				1344	450
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	991				1344	450
tC, single (s)	4.4				6.9	6.9
tC, 2 stage (s)						
tF (s)	2.4				3.6	3.3
p0 queue free %	93				51	91
cM capacity (veh/h)	620				128	562

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	45	355	355	450	450	92	111
Volume Left	45	0	0	0	0	0	63
Volume Right	0	0	0	0	0	92	48
cSH	620	1700	1700	1700	1700	1700	192
Volume to Capacity	0.07	0.21	0.21	0.26	0.26	0.05	0.58
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	0.0	23.8
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	0.0	46.6
Lane LOS	B						E
Approach Delay (s)	0.7			0.0			46.6
Approach LOS							E

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
106: Panabaker Dr & Garner Rd W

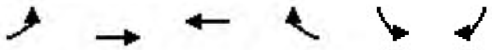


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBR
Lane Group Flow (vph)	103	845	3	1076	129	8	108	140
v/c Ratio	0.43	0.43	0.01	0.55	0.14	0.02	0.44	0.35
Control Delay	13.1	7.1	5.0	8.2	1.5	0.0	28.7	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	7.1	5.0	8.2	1.5	0.0	28.7	9.1
Queue Length 50th (m)	4.6	19.9	0.1	28.0	0.0	0.0	8.0	0.7
Queue Length 95th (m)	12.2	28.4	0.8	38.2	3.0	0.0	23.9	9.5
Internal Link Dist (m)		522.5		648.1		39.5		
Turn Bay Length (m)	152.0		50.0		85.0			
Base Capacity (vph)	388	3180	584	3180	1429	688	415	577
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	0.27	0.27	0.01	0.34	0.09	0.01	0.26	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Future Volume (vph)	77	634	0	2	807	97	0	0	6	81	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00		1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.86		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95		1.00
Satd. Flow (prot)	1690	3349		1825	3349	1498		1662		1587		1484
Flt Permitted	0.23	1.00		0.32	1.00	1.00		1.00		0.75		1.00
Satd. Flow (perm)	410	3349		615	3349	1498		1662		1257		1484
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	103	845	0	3	1076	129	0	0	8	108	0	140
RTOR Reduction (vph)	0	0	0	0	0	53	0	6	0	0	0	104
Lane Group Flow (vph)	103	845	0	3	1076	76	0	2	0	108	0	36
Heavy Vehicles (%)	8%	9%	2%	0%	9%	9%	0%	0%	0%	15%	0%	10%
Turn Type	Perm	NA		Perm	NA	Perm		NA		D.Pm		Perm
Protected Phases		2			2			4				
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	33.1	33.1		33.1	33.1	33.1		11.2		11.2		11.2
Effective Green, g (s)	33.1	33.1		33.1	33.1	33.1		11.2		11.2		11.2
Actuated g/C Ratio	0.59	0.59		0.59	0.59	0.59		0.20		0.20		0.20
Clearance Time (s)	6.2	6.2		6.2	6.2	6.2		5.7		5.7		5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		1.0		1.0		1.0
Lane Grp Cap (vph)	241	1972		362	1972	882		331		250		295
v/s Ratio Prot		0.25			c0.32			0.00				
v/s Ratio Perm	0.25			0.00		0.05				c0.09		0.02
v/c Ratio	0.43	0.43		0.01	0.55	0.09		0.00		0.43		0.12
Uniform Delay, d1	6.3	6.3		4.8	7.0	5.0		18.0		19.7		18.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	0.4	0.1		0.0	0.2	0.0		0.0		0.4		0.1
Delay (s)	6.8	6.4		4.8	7.2	5.0		18.0		20.2		18.5
Level of Service	A	A		A	A	A		B		C		B
Approach Delay (s)		6.4			6.9			18.0			19.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	56.2	Sum of lost time (s)	11.9
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

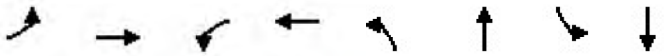


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	694	888	34	25	18
Future Volume (Veh/h)	27	694	888	34	25	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	763	976	37	27	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1013				1418	488
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1013				1418	488
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				78	96
cM capacity (veh/h)	680				122	526

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	30	382	382	488	488	37	47
Volume Left	30	0	0	0	0	0	27
Volume Right	0	0	0	0	0	37	20
cSH	680	1700	1700	1700	1700	1700	182
Volume to Capacity	0.04	0.22	0.22	0.29	0.29	0.02	0.26
Queue Length 95th (m)	1.1	0.0	0.0	0.0	0.0	0.0	7.5
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	31.6
Lane LOS	B						D
Approach Delay (s)	0.4			0.0			31.6
Approach LOS							D

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
108: Fiddlers Green Rd & Garner Rd W

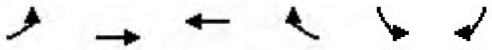


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	704	55	1102	52	252	226	254
v/c Ratio	0.27	0.39	0.18	0.78	0.23	0.67	0.62	0.42
Control Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	13.5	19.3	25.8	33.3	40.1	30.6	24.9
Queue Length 50th (m)	4.7	33.2	5.6	77.8	7.0	35.3	25.7	29.4
Queue Length 95th (m)	12.3	55.1	15.3	119.1	19.5	70.8	54.4	61.6
Internal Link Dist (m)		387.9		307.2		39.1		128.7
Turn Bay Length (m)	65.0		70.0		10.0		40.0	
Base Capacity (vph)	264	2631	448	2116	418	681	365	901
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	0.27	0.27	0.12	0.52	0.12	0.37	0.62	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Future Volume (vph)	65	619	35	51	815	210	48	181	53	210	178	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3536		1789	3389		1772	1808		1789	1800	
Flt Permitted	0.12	1.00		0.38	1.00		0.60	1.00		0.39	1.00	
Satd. Flow (perm)	234	3536		723	3389		1122	1808		731	1800	
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)	70	666	38	55	876	226	52	195	57	226	191	63
RTOR Reduction (vph)	0	4	0	0	21	0	0	10	0	0	11	0
Lane Group Flow (vph)	70	700	0	55	1081	0	52	242	0	226	243	0
Heavy Vehicles (%)	2%	2%	9%	2%	5%	2%	3%	2%	5%	2%	3%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Effective Green, g (s)	43.0	43.0		34.7	34.7		17.2	17.2		27.5	27.5	
Actuated g/C Ratio	0.51	0.51		0.41	0.41		0.20	0.20		0.33	0.33	
Clearance Time (s)	3.0	6.9		6.9	6.9		6.7	6.7		3.0	6.7	
Vehicle Extension (s)	4.0	4.0		2.0	2.0		3.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	217	1807		298	1398		229	369		330	588	
v/s Ratio Prot	0.02	c0.20			c0.32			0.13		c0.06	0.14	
v/s Ratio Perm	0.14			0.08			0.05			c0.16		
v/c Ratio	0.32	0.39		0.18	0.77		0.23	0.65		0.68	0.41	
Uniform Delay, d1	13.1	12.5		15.7	21.3		27.9	30.7		22.9	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	2.5		0.5	4.1		4.6	0.5	
Delay (s)	14.3	12.7		15.8	23.8		28.4	34.9		27.5	22.5	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s)		12.9			23.4			33.8			24.9	
Approach LOS		B			C			C			C	

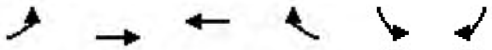
Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	877	1063	12	7	13
Future Volume (Veh/h)	5	877	1063	12	7	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	914	1107	12	7	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		331				
pX, platoon unblocked					0.91	
vC, conflicting volume	1119				1574	554
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1119				1441	554
tC, single (s)	4.1				6.8	7.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.5
p0 queue free %	99				94	97
cM capacity (veh/h)	620				112	433

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	310	609	554	554	12	21
Volume Left	5	0	0	0	0	7
Volume Right	0	0	0	0	12	14
cSH	620	1700	1700	1700	1700	221
Volume to Capacity	0.01	0.36	0.33	0.33	0.01	0.09
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	2.4
Control Delay (s)	0.3	0.0	0.0	0.0	0.0	23.0
Lane LOS	A					C
Approach Delay (s)	0.1		0.0			23.0
Approach LOS						C

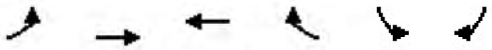
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	872	1068	46	13	7
Future Volume (Veh/h)	11	872	1068	46	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	928	1136	49	14	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1185				1624	568
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185				1624	568
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				85	98
cM capacity (veh/h)	585				91	466

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	12	464	464	568	568	49	21
Volume Left	12	0	0	0	0	0	14
Volume Right	0	0	0	0	0	49	7
cSH	585	1700	1700	1700	1700	1700	125
Volume to Capacity	0.02	0.27	0.27	0.33	0.33	0.03	0.17
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0	4.4
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	0.0	39.6
Lane LOS	B						E
Approach Delay (s)	0.1			0.0			39.6
Approach LOS							E

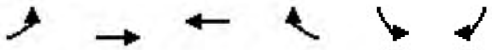
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	881	1109	7	7	5
Future Volume (Veh/h)	4	881	1109	7	7	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	937	1180	7	7	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1187				1660	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1187				1660	594
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	584				88	448

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	316	625	787	400	12
Volume Left	4	0	0	0	7
Volume Right	0	0	0	7	5
cSH	584	1700	1700	1700	132
Volume to Capacity	0.01	0.37	0.46	0.24	0.09
Queue Length 95th (m)	0.2	0.0	0.0	0.0	2.2
Control Delay (s)	0.2	0.0	0.0	0.0	35.0
Lane LOS	A				E
Approach Delay (s)	0.1		0.0		35.0
Approach LOS					E

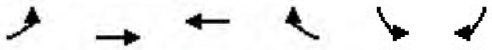
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Volume (veh/h)	0	916	1066	0	162	114
Future Volume (Veh/h)	0	916	1066	0	162	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	954	1110	0	169	119
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1110				1587	555
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110				1587	555
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	75
cM capacity (veh/h)	625				99	478

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	477	477	555	555	288
Volume Left	0	0	0	0	169
Volume Right	0	0	0	0	119
cSH	1700	1700	1700	1700	147
Volume to Capacity	0.28	0.28	0.33	0.33	1.96
Queue Length 95th (m)	0.0	0.0	0.0	0.0	170.6
Control Delay (s)	0.0	0.0	0.0	0.0	507.1
Lane LOS					F
Approach Delay (s)	0.0		0.0		507.1
Approach LOS					F

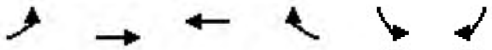
Intersection Summary			
Average Delay	62.1		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	1045	1066	148	0	0
Future Volume (Veh/h)	33	1045	1066	148	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	1100	1122	156	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1278				1742	561
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1278				1742	561
tC, single (s)	4.4				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	93				100	100
cM capacity (veh/h)	474				72	471

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3
Volume Total	35	550	550	561	561	156
Volume Left	35	0	0	0	0	0
Volume Right	0	0	0	0	0	156
cSH	474	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.32	0.32	0.33	0.33	0.09
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	13.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	0.4			0.0		
Approach LOS						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	0	0	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		0.0
Approach LOS				A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	18.2	80.2	1.11	49.9	B
Panabaker Dr	II	70	71.0	26.4	97.4	1.38	51.0	B
Fiddlers Green Rd	II	66	59.3	19.5	78.8	1.08	49.5	B
Total	II		192.3	64.1	256.4	3.58	50.2	B

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	30.1	128.0	1.64	46.0	B
Panabaker Dr	II	67	58.6	9.1	67.7	1.08	57.6	A
Shaver Rd	II	70	71.0	10.7	81.7	1.38	60.8	A
Total	II		227.5	49.9	277.4	4.10	53.2	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	7.8	69.8	1.11	57.4	A
Panabaker Dr	II	70	71.0	11.1	82.1	1.38	60.5	A
Fiddlers Green Rd	II	66	59.3	13.5	72.8	1.08	53.6	B
Total	II		192.3	32.4	224.7	3.58	57.3	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	25.8	123.7	1.64	47.6	B
Panabaker Dr	II	66	59.3	20.6	79.9	1.08	48.8	B
Shaver Rd	II	70	71.0	9.8	80.8	1.38	61.5	A
Total	II		228.2	56.2	284.4	4.10	51.9	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	18.2	80.2	1.11	49.9	B
Panabaker Dr	II	70	71.0	26.4	97.4	1.38	51.0	B
Fiddlers Green Rd	II	66	59.3	19.5	78.8	1.08	49.5	B
Total	II		192.3	64.1	256.4	3.58	50.2	B

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	30.1	128.0	1.64	46.0	B
Panabaker Dr	II	67	58.6	9.1	67.7	1.08	57.6	A
Shaver Rd	II	70	71.0	10.7	81.7	1.38	60.8	A
Total	II		227.5	49.9	277.4	4.10	53.2	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	7.8	69.8	1.11	57.4	A
Panabaker Dr	II	70	71.0	11.1	82.1	1.38	60.5	A
Fiddlers Green Rd	II	66	59.3	13.5	72.8	1.08	53.6	B
Total	II		192.3	32.4	224.7	3.58	57.3	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	97.9	25.8	123.7	1.64	47.6	B
Panabaker Dr	II	66	59.3	20.6	79.9	1.08	48.8	B
Shaver Rd	II	70	71.0	9.8	80.8	1.38	61.5	A
Total	II		228.2	56.2	284.4	4.10	51.9	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	8.9	70.9	1.11	56.5	A
Panabaker Dr	II	70	71.0	10.1	81.1	1.38	61.3	A
Fiddlers Green Rd	II	66	59.3	19.5	78.8	1.08	49.5	B
Total	II		192.3	38.5	230.8	3.58	55.8	B

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	98.0	30.1	128.1	1.64	46.0	B
Panabaker Dr	II	66	59.3	7.7	67.0	1.08	58.2	A
Shaver Rd	II	70	71.0	7.7	78.7	1.38	63.1	A
Total	II		228.3	45.5	273.8	4.10	53.9	B

Arterial Level of Service: EB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Shaver Rd	II	65	62.0	5.4	67.4	1.11	59.4	A
Panabaker Dr	II	70	71.0	7.1	78.1	1.38	63.6	A
Fiddlers Green Rd	II	66	59.3	13.5	72.8	1.08	53.6	B
Total	II		192.3	26.0	218.3	3.58	59.0	A

Arterial Level of Service: WB Garner Rd W

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Fiddlers Green Rd	II	60	98.0	25.8	123.8	1.64	47.6	B
Panabaker Dr	II	66	59.3	8.2	67.5	1.08	57.8	A
Shaver Rd	II	70	71.0	5.7	76.7	1.38	64.8	A
Total	II		228.3	39.7	268.0	4.10	55.1	B

APPENDIX E:
MMLOS OUTPUTS

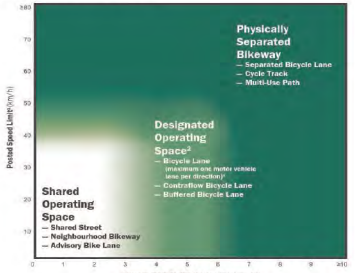
SCENARIO:	***Existing 2021 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**E**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	B	11 - 20
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

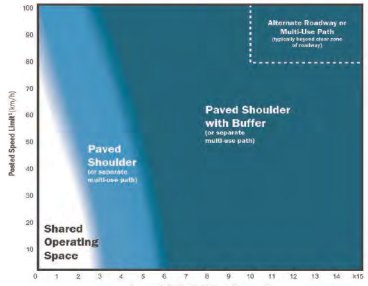
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

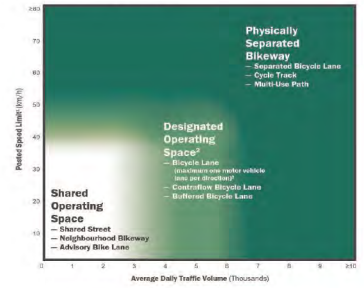
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

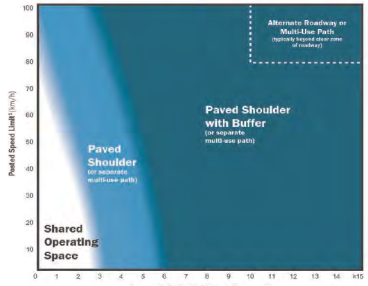
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

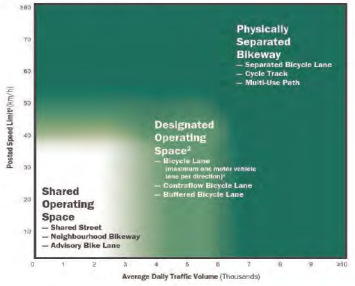
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

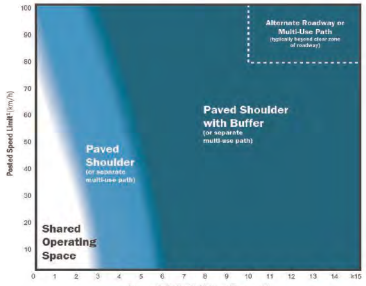
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

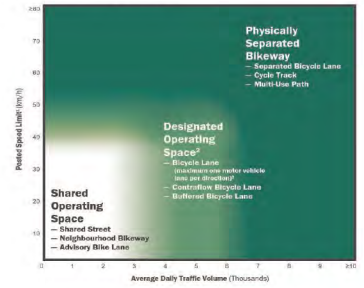
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
Measure 2	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	D		
	2.6 - 3.0	2.6 - 3.0			

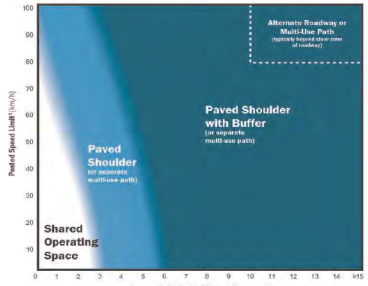
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

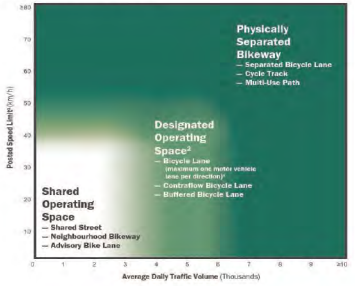
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

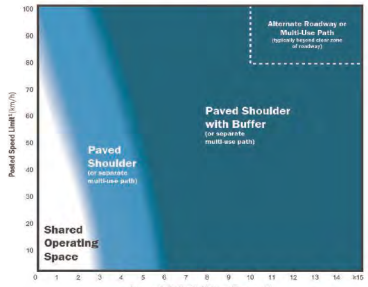
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

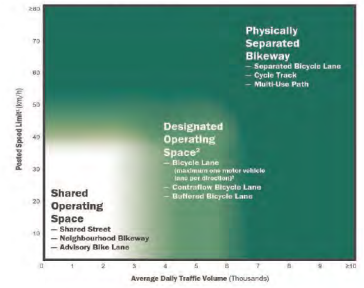
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	D	C	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	0 - 10	B	11 - 20
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

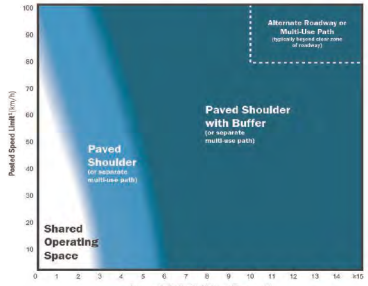
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

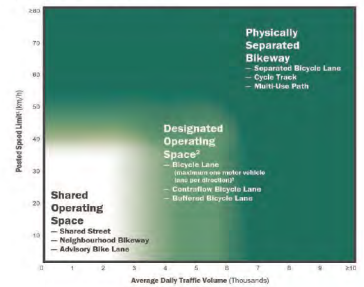
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	61 - 75			
	2.6 - 3.0	2.6 - 3.0			

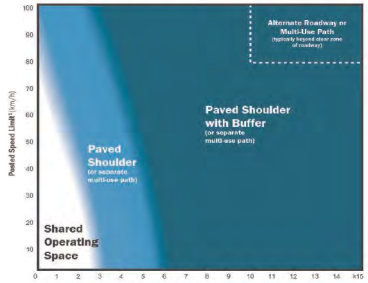
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

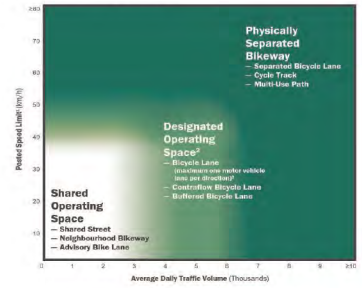
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**E**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	106 -120	106 - 120	E		
	2.6 - 3.0	2.1 - 2.5			

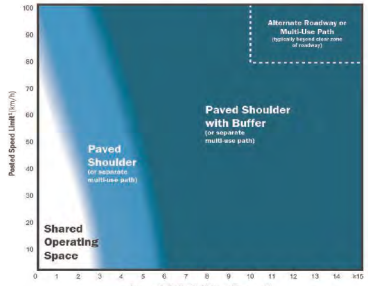
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

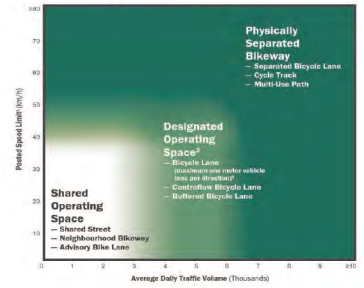
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

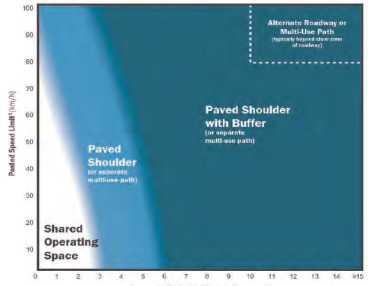
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

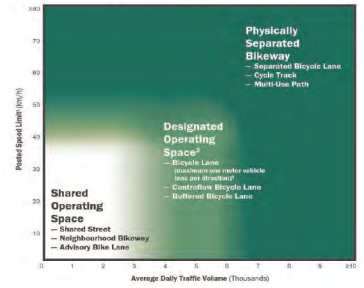
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

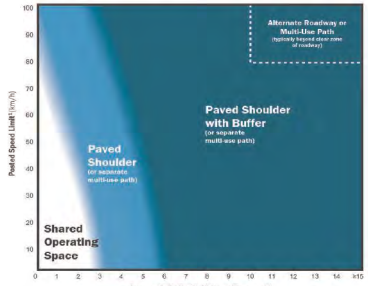
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

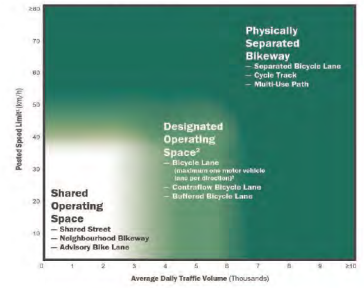
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

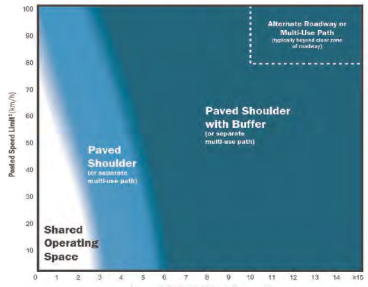
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

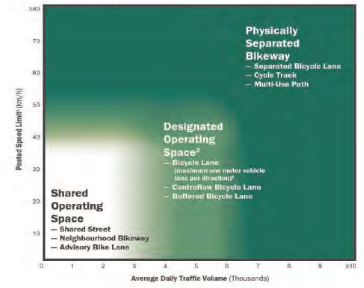
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	11 - 20
	Less than 50% of movements	0 - 15 %	F	B	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

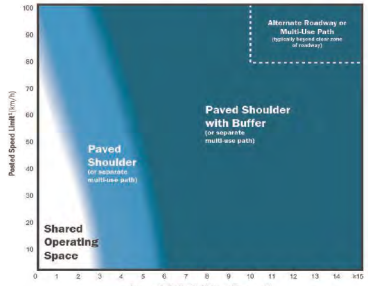
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

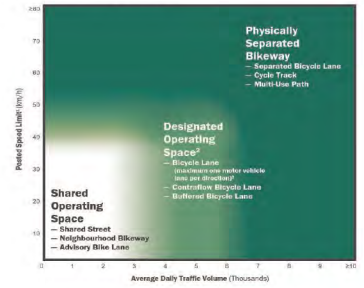
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

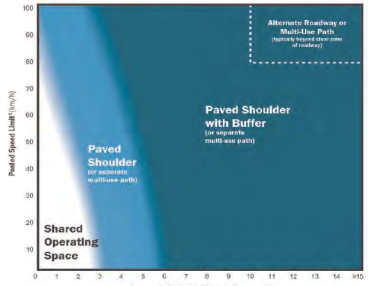
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

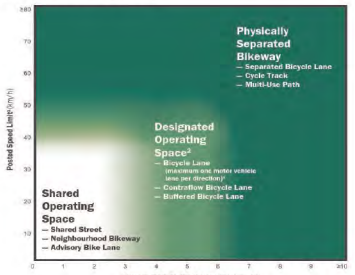
SCENARIO:	***Existing 2021 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	D	C	**E**	**C**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	13 - 14	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	B	11 - 20
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

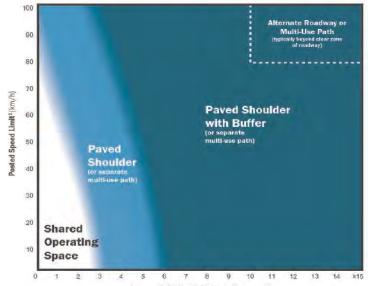
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

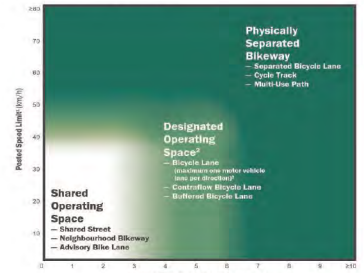
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	61 - 75			
	2.6 - 3.0	2.6 - 3.0			

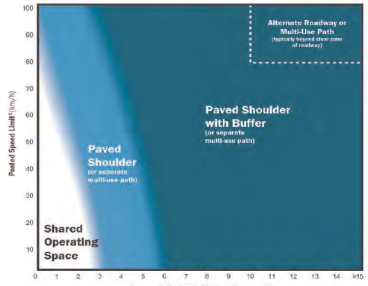
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

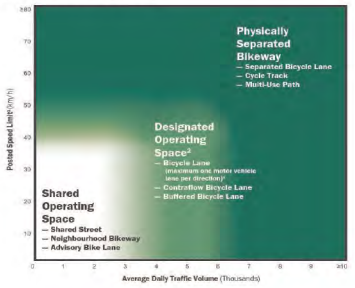
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

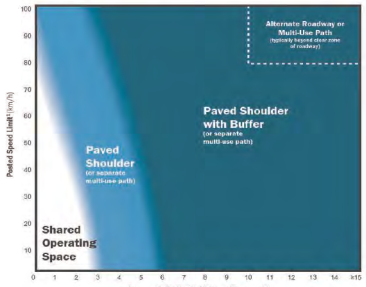
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

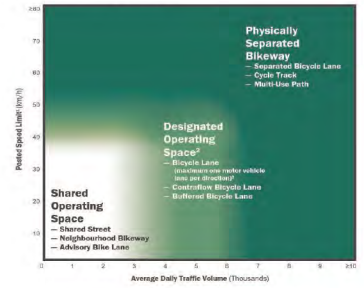
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	D		
	2.6 - 3.0	2.6 - 3.0			

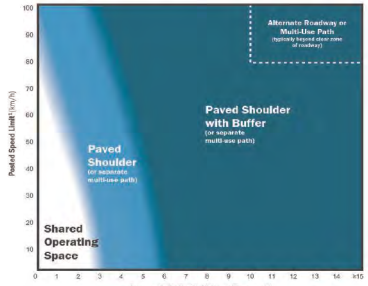
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

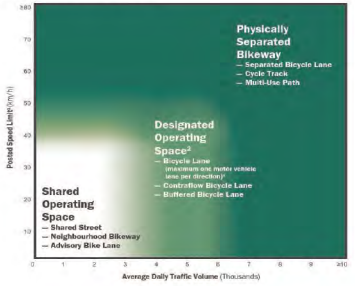
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

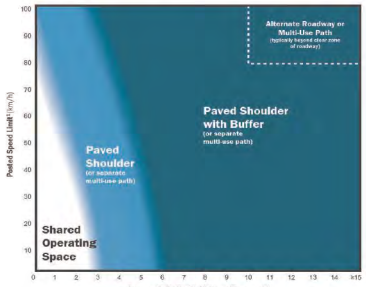
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

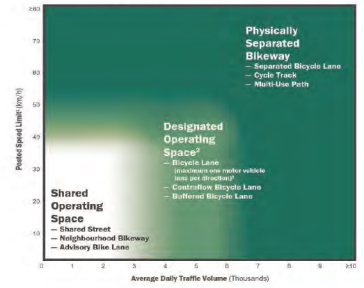
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	D	C	**D**	**B**	**A**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	0 - 10	A	0 - 10
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

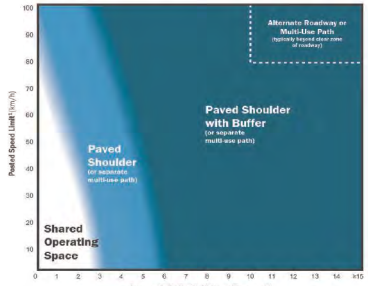
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

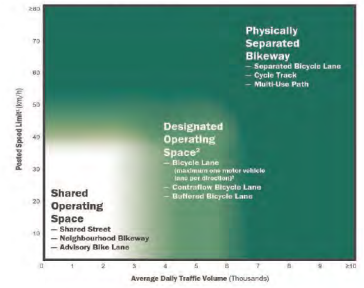
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

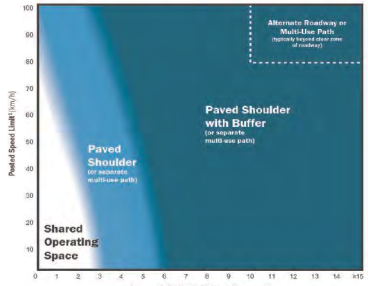
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

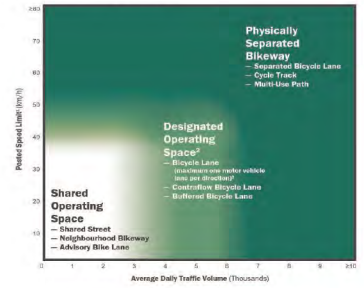
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**E**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	106 -120	106 - 120	E		
	2.6 - 3.0	2.1 - 2.5			

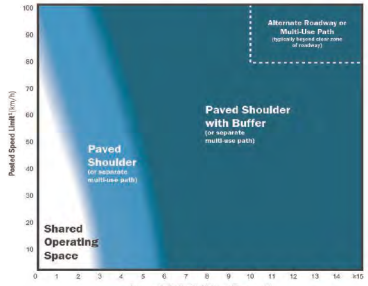
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

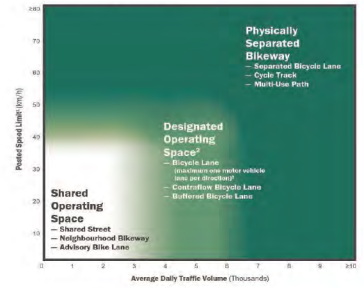
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

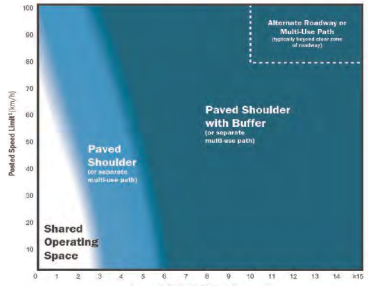
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

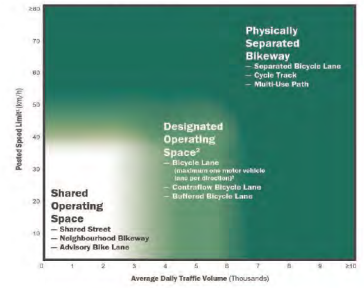
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

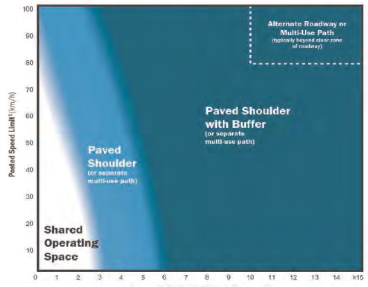
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

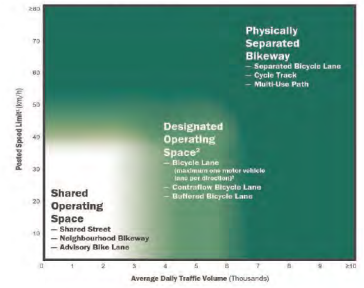
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

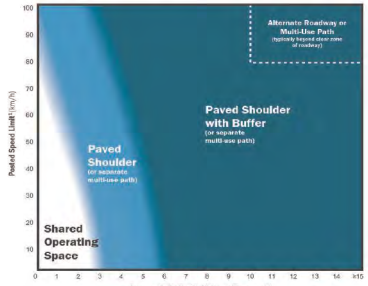
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

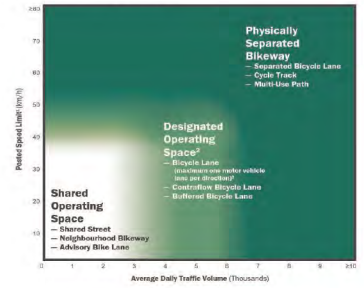
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	11 - 20
	Less than 50% of movements	0 - 15 %	F	B	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

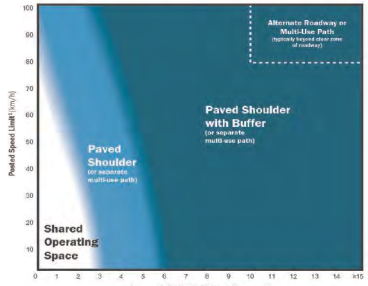
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

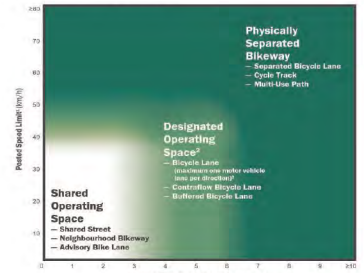
SCENARIO:	***Existing 2021***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

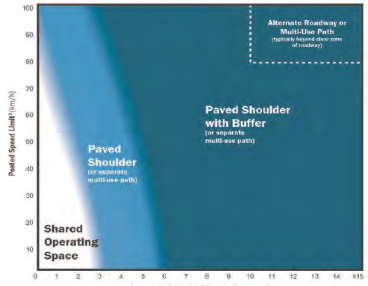
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

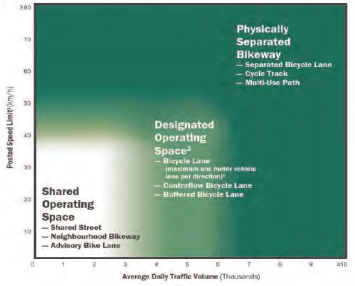
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
			Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
			No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
			F		

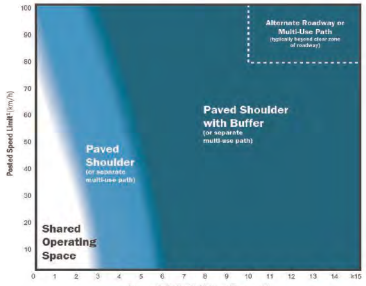
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

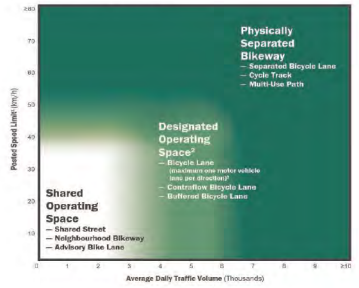
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

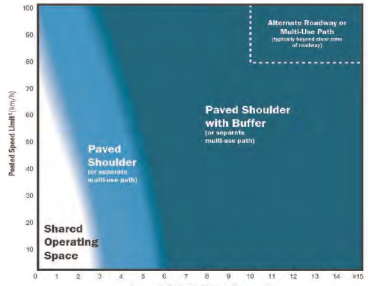
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

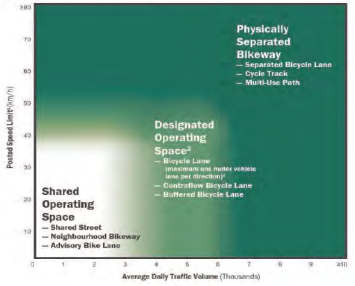
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

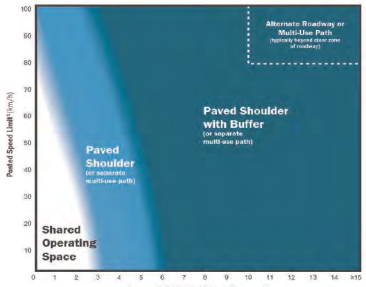
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

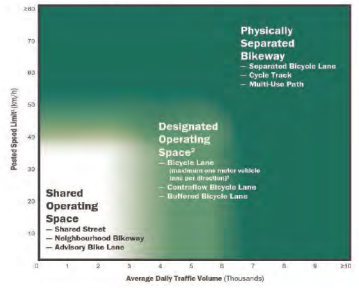
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

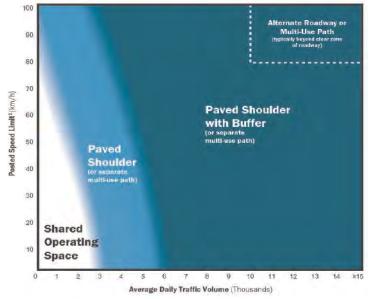
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
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Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

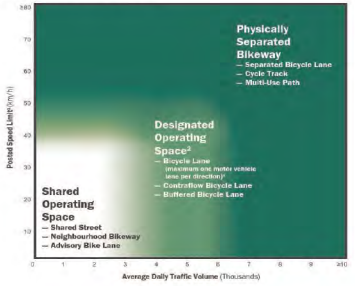
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**E**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	Low presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

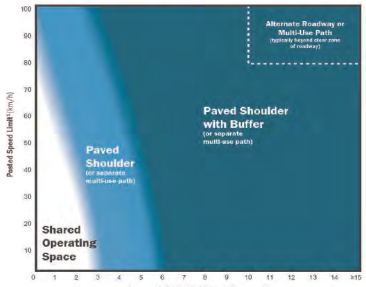
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

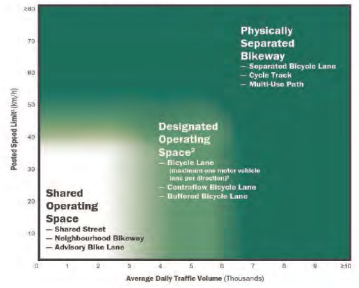
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	A	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

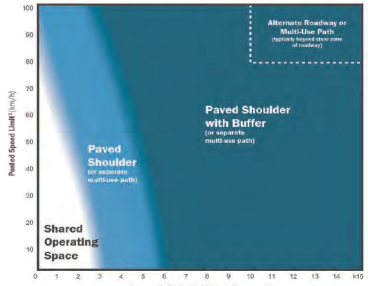
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



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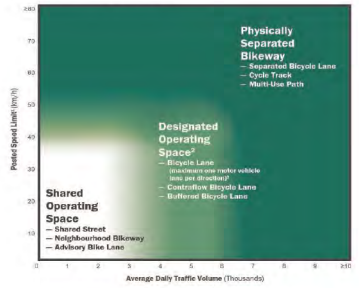
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

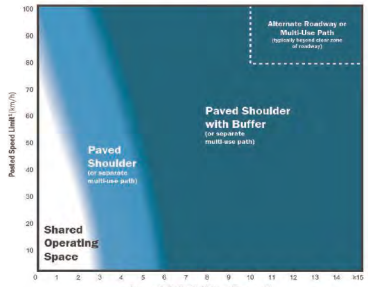
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
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Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

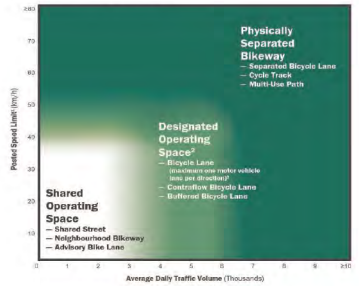
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	106 -120	106 - 120	F		
	2.1 - 2.5	2.1 - 2.5			

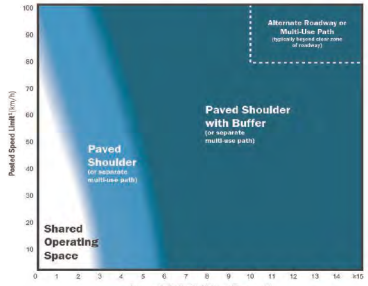
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



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2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

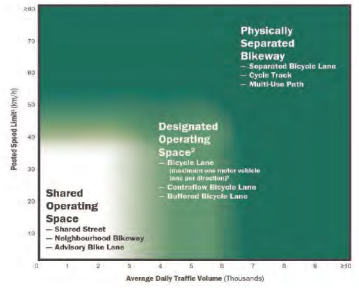
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

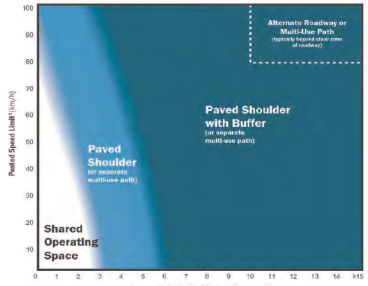
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

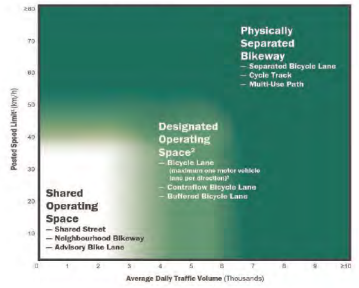
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
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	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

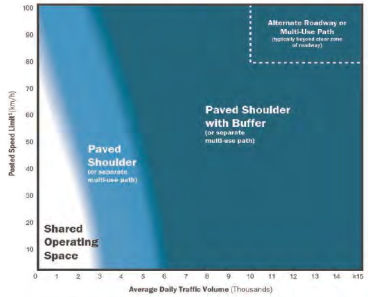
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

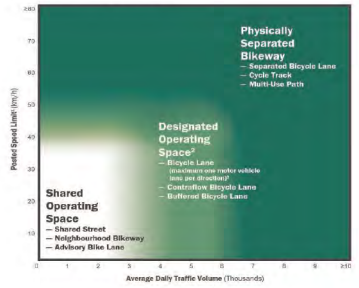
SCENARIO:	***Existing 2021 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

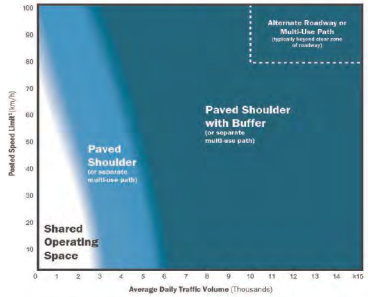
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

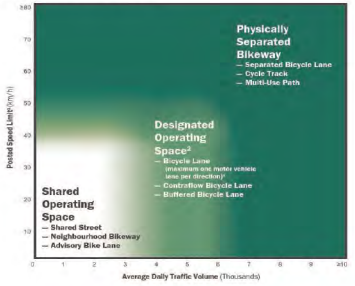
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

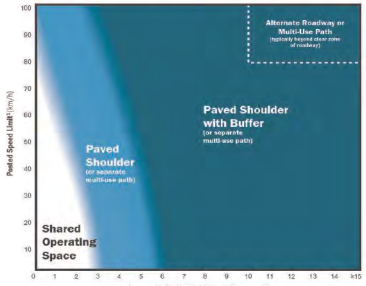
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

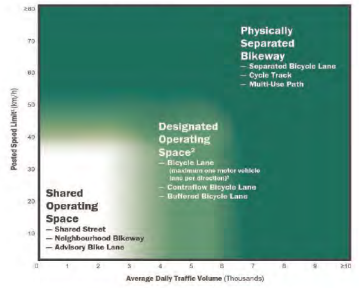
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**E**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

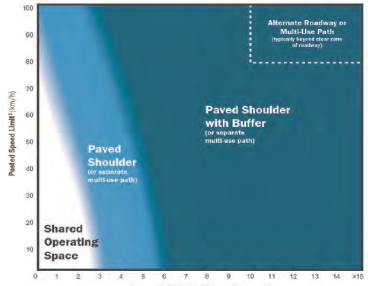
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

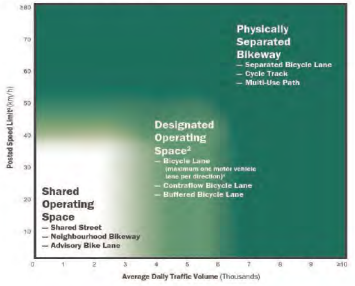
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

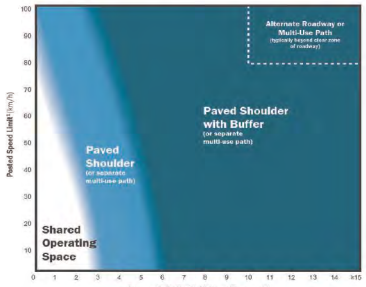
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

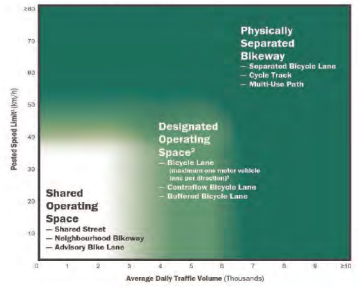
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**E**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

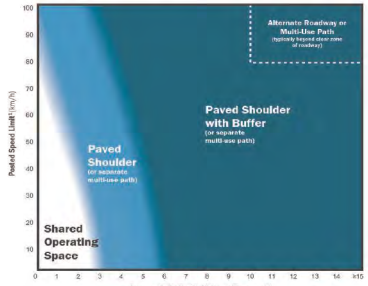
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

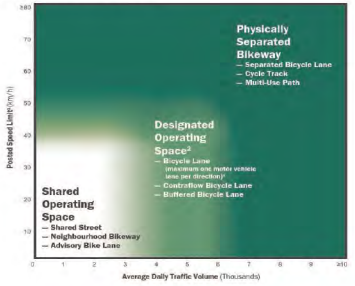
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

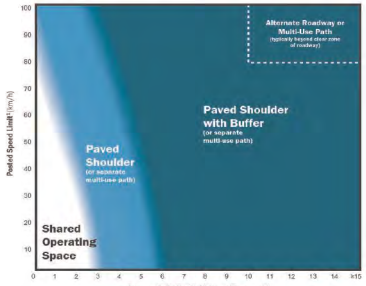
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

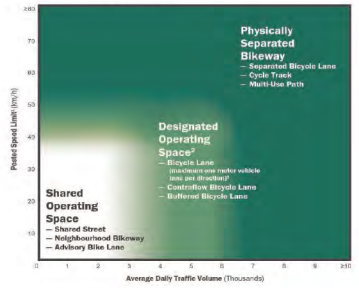
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

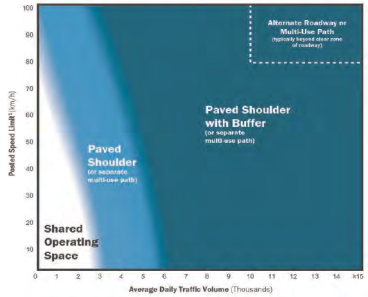
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
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Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

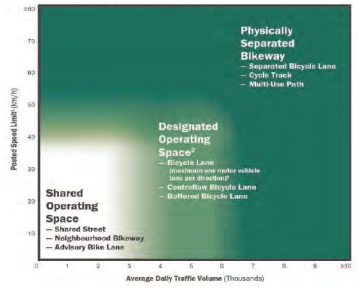
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

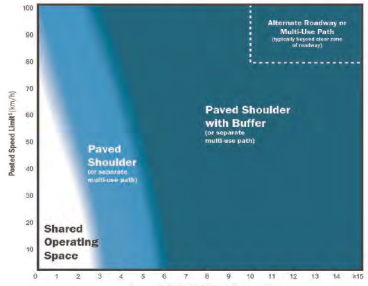
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

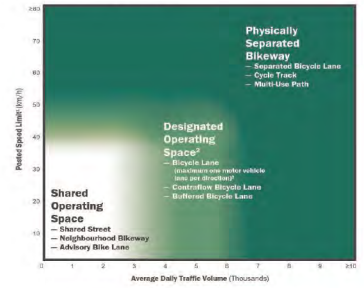
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	106 -120	106 - 120	F		
	2.1 - 2.5	2.1 - 2.5			

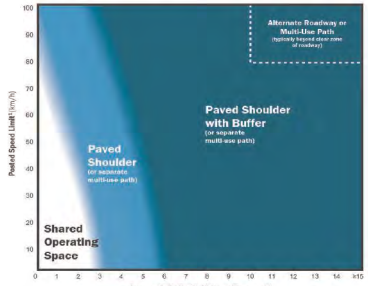
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

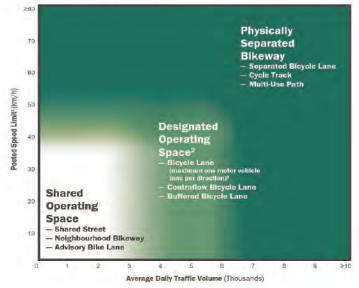
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

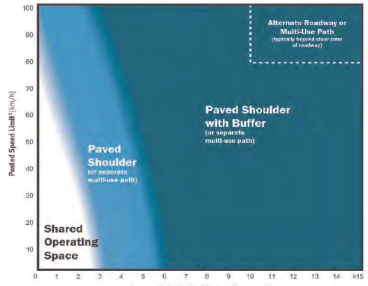
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

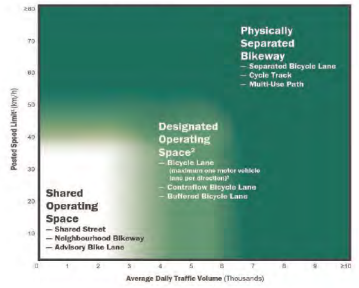
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

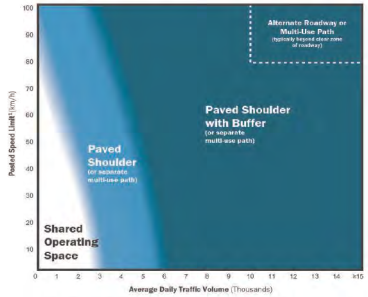
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

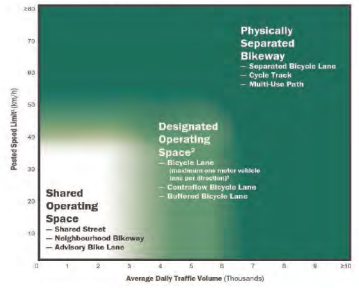
SCENARIO:	***Existing 2021 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

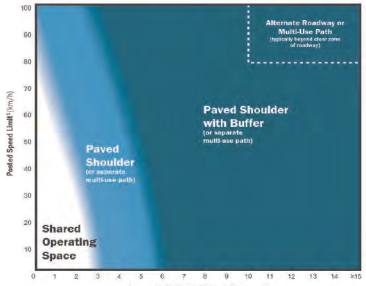
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

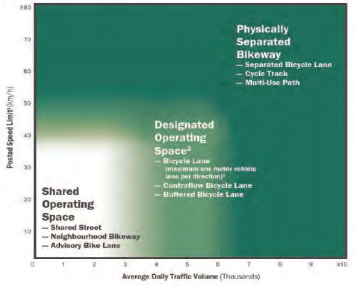
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

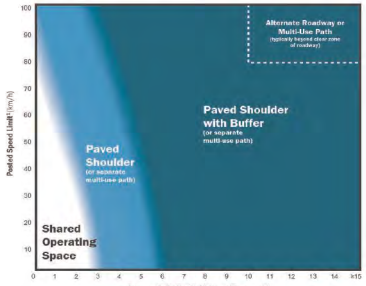
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

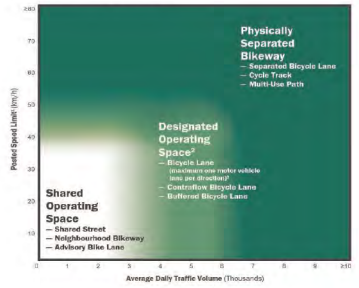
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	**FB2031 EB**				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**E**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

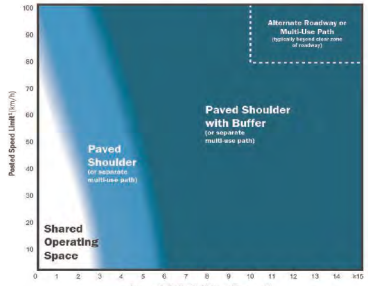
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

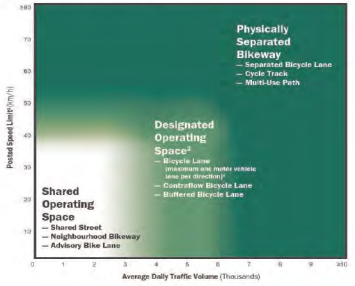
SCENARIO:	**FB2031 EB**				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.70 - 0.79
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

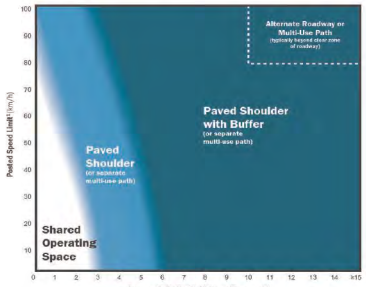
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

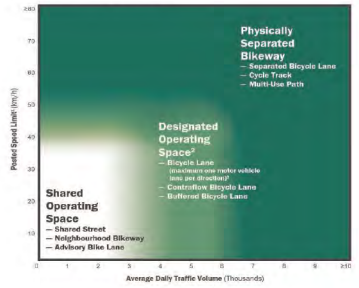
SCENARIO:	**FB2031 EB**				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**E**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.70 - 0.79
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

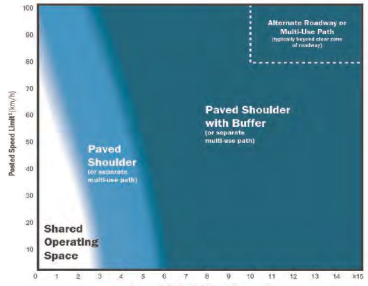
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

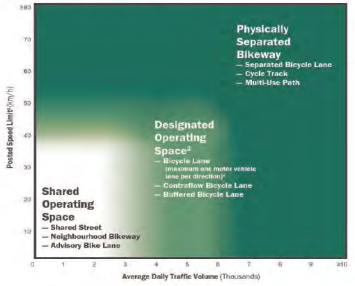
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

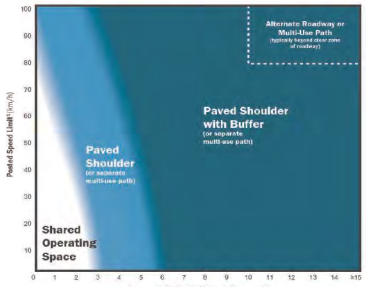
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

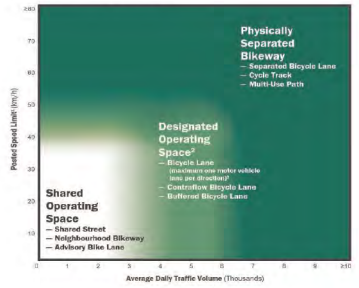
SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

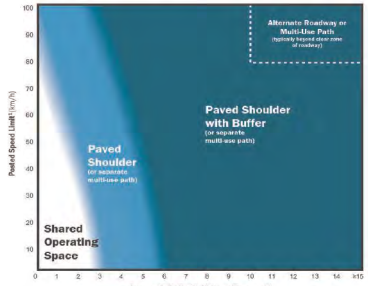
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

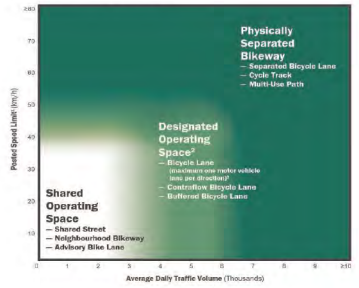
SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

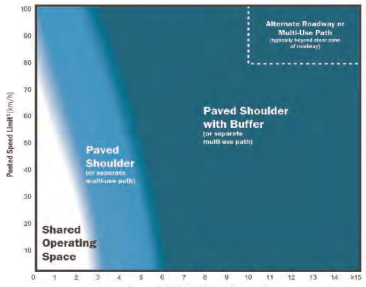
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

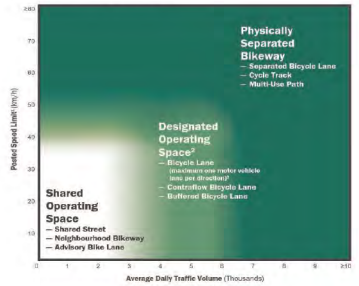
SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	106 -120	106 - 120	F		
	2.1 - 2.5	2.1 - 2.5			

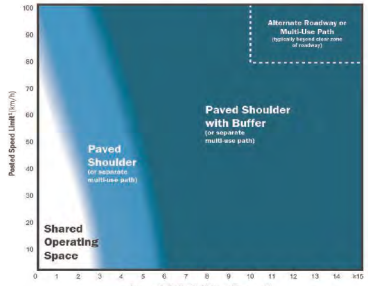
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

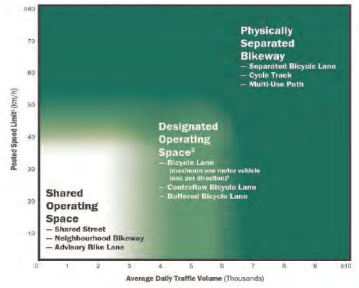
SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

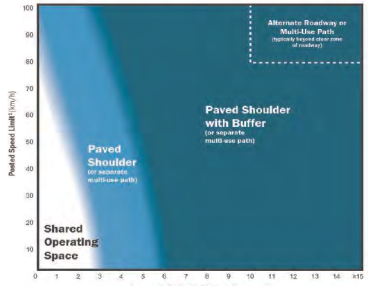
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

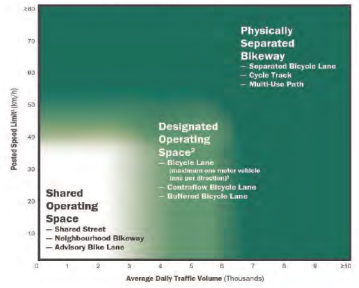
SCENARIO:	**FB2031 EB**				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

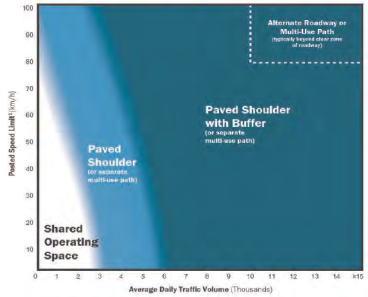
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

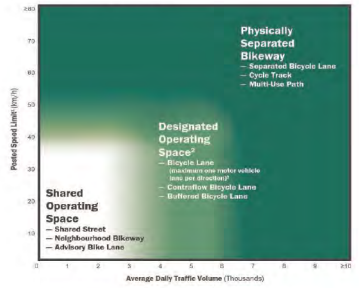
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FB2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

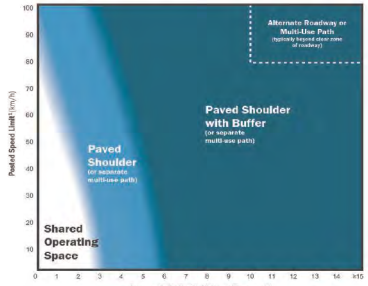
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

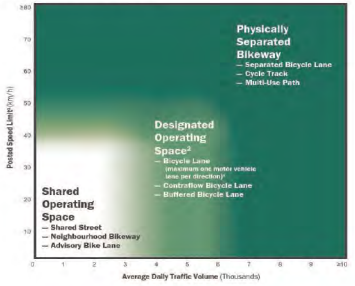
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
			Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
			No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
			F		

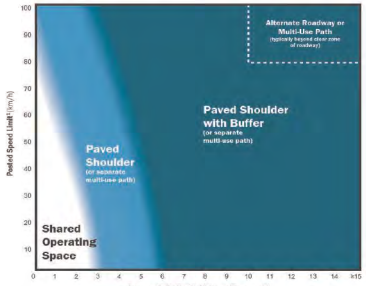
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context¹



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

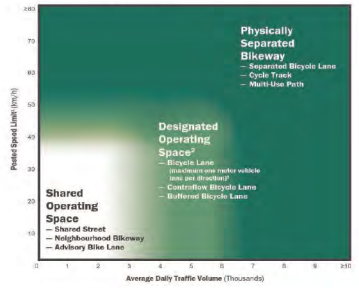
SCENARIO:	**FB2031 WB**				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

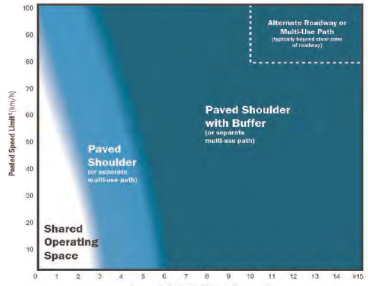
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

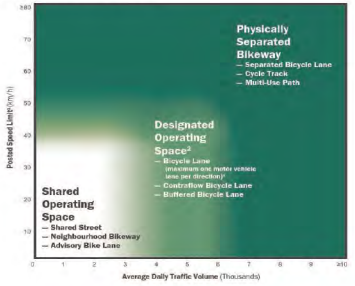
SCENARIO:	**FB2031 WB**				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

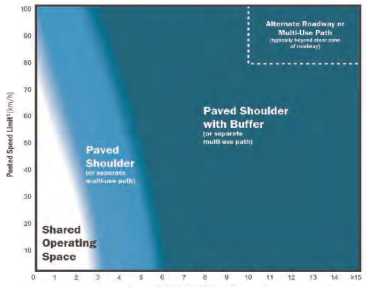
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

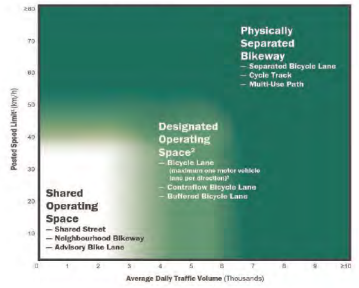
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

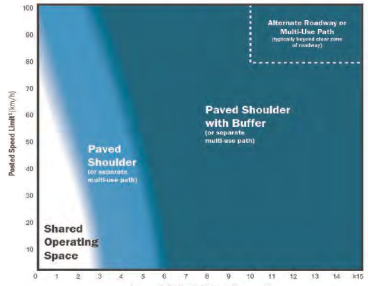
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

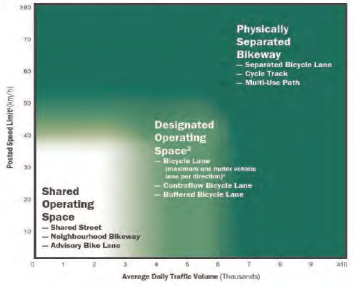
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**E**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	Low presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

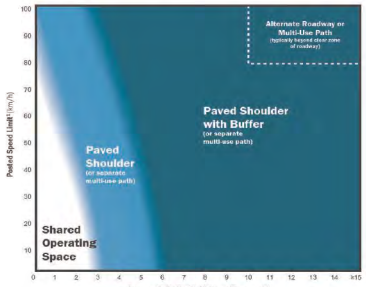
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

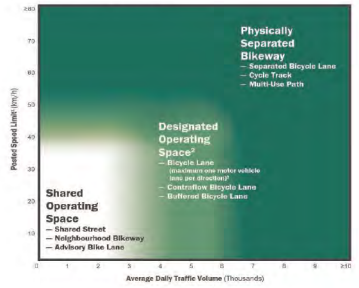
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0.76 - 1	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

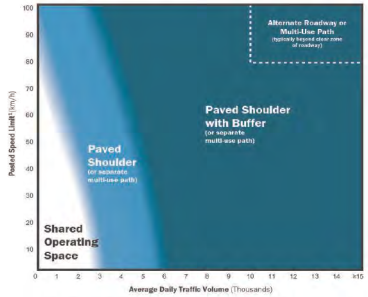
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

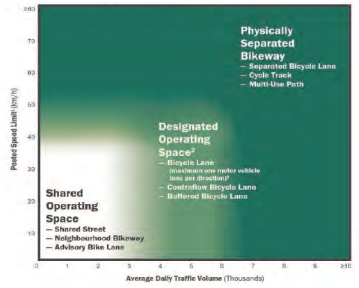
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

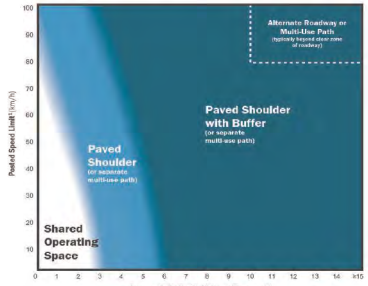
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

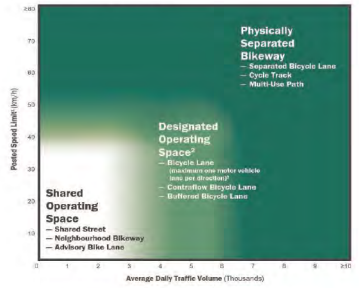
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	0.76 - 1	0	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	15.0 - 17.9	15.0 - 17.9	No presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	106 -120	106 - 120	F		
	2.1 - 2.5	2.1 - 2.5			

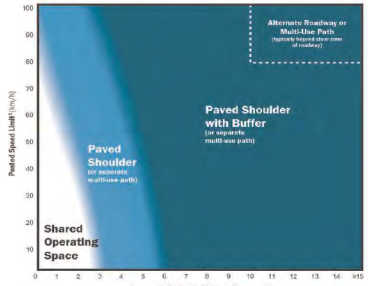
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

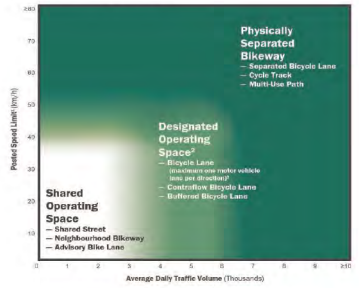
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

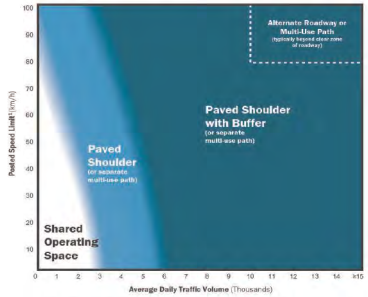
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

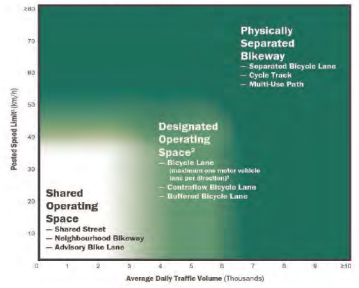
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type			**SEGMENTS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

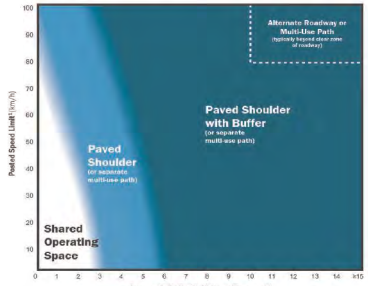
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

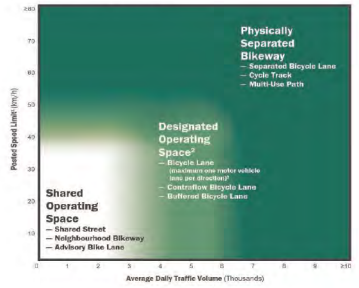
SCENARIO:	***FB2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**F**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	No
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	No

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	Greater than 11	No bike facility	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Less than 50% of movements	0 - 15 %	No presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	15.0 - 17.9	15.0 - 17.9	F		
	2.6 - 3.0	2.6 - 3.0			

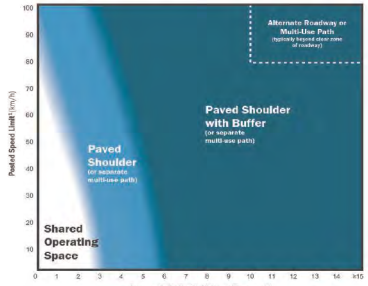
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

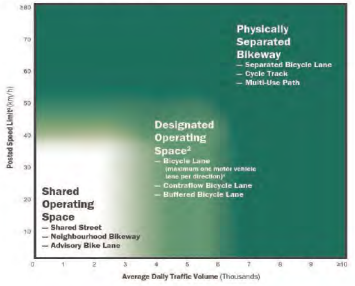
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	C	C	**E**	**C**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	13 - 14	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	B	11 - 20
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

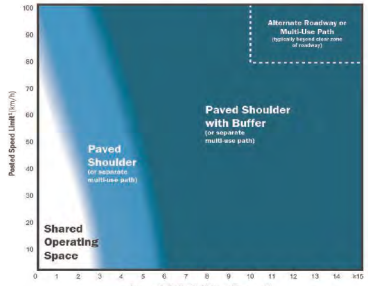
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

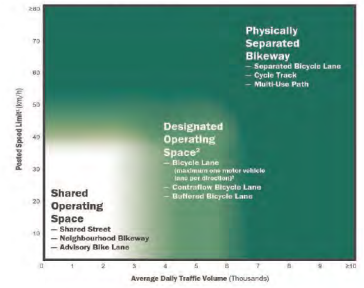
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	61 - 75			
	2.6 - 3.0	2.6 - 3.0			

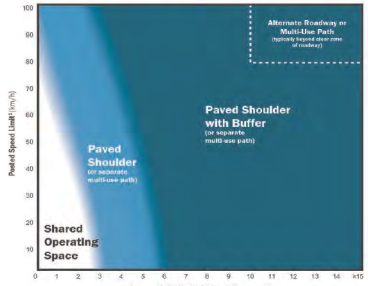
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

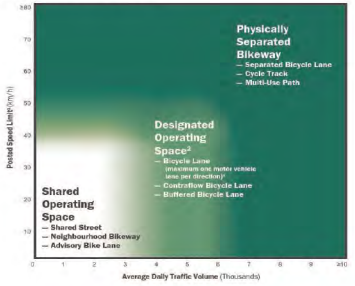
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**C**	**E**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	21 - 35
	Less than 50% of movements	0 - 15 %	F	C	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

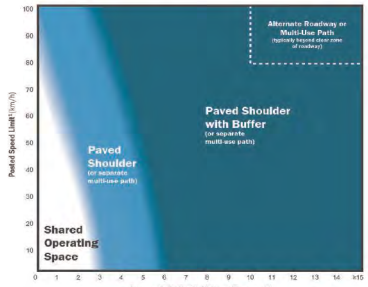
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

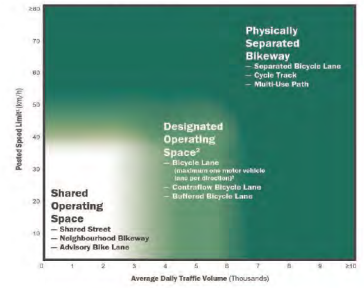
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	D		
	2.6 - 3.0	2.6 - 3.0			

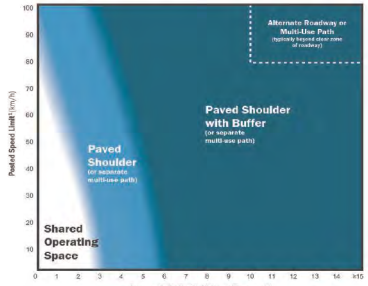
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

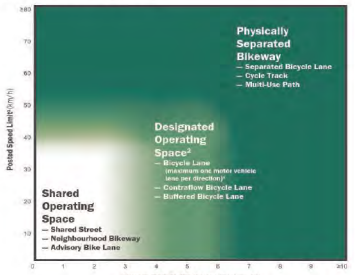
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

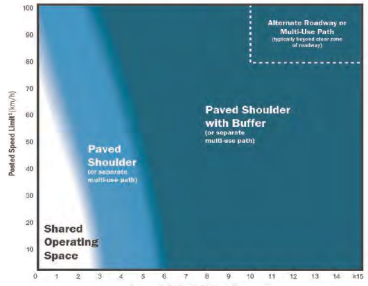
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

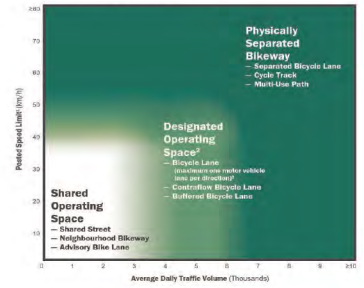
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	**ATMP**	**ATMP**	**ATMP**	**ATMP**	**ATMP**
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	C	C	**E**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

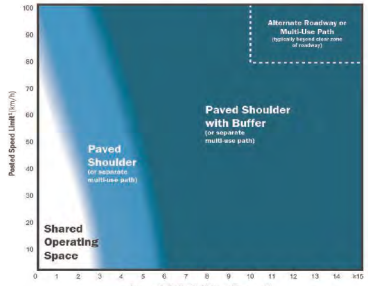
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

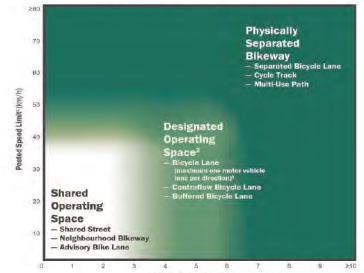
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

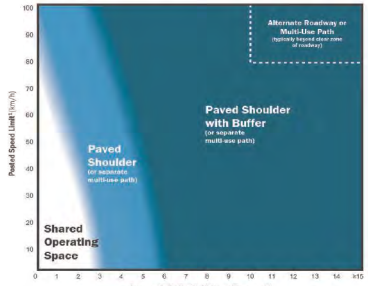
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

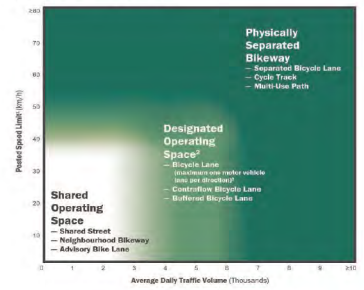
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**E**		**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	C	21 - 35
	106 -120	106 - 120	E		
	2.6 - 3.0	2.1 - 2.5			

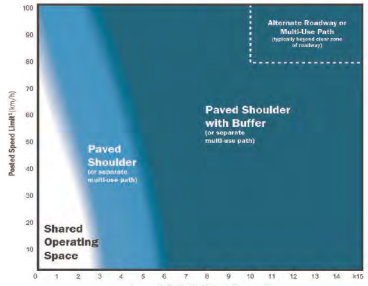
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

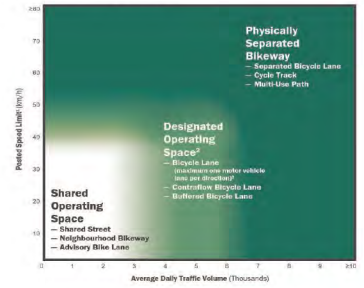
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

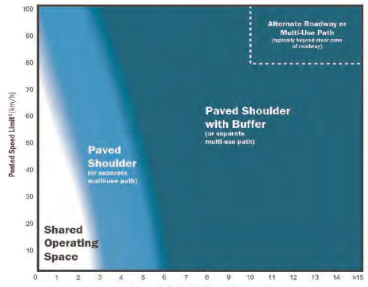
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

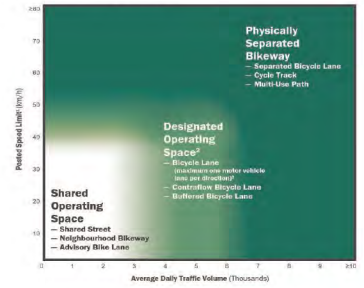
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

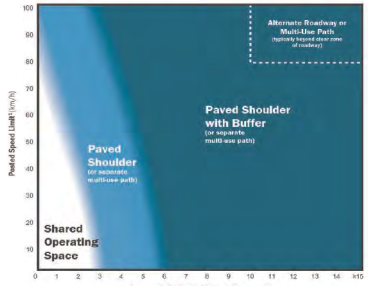
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

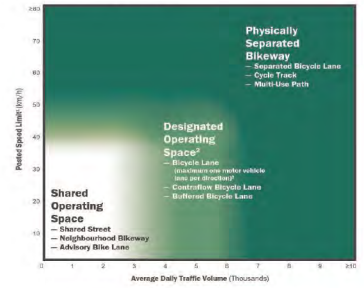
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

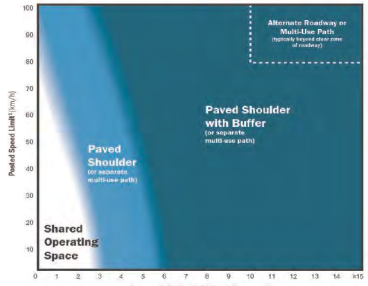
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

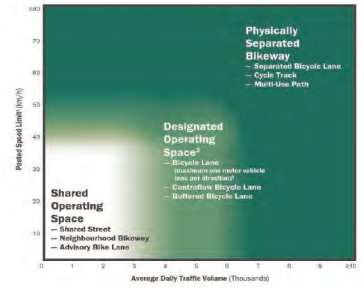
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	Greater than 80
	Less than 50% of movements	0 - 15 %	F	F	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

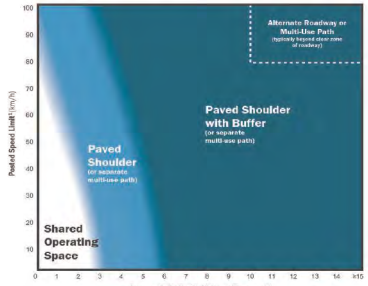
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

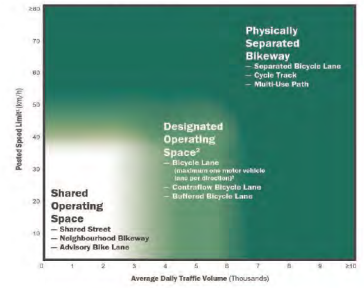
SCENARIO:	***FB2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

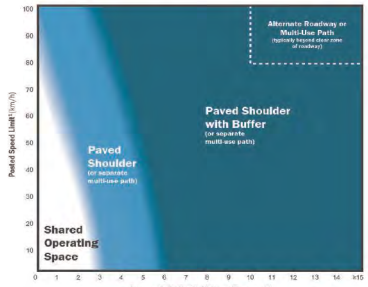
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

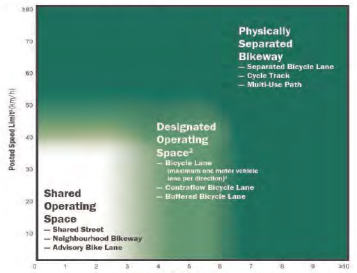
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	C		**E**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		F		
	2.6 - 3.0				

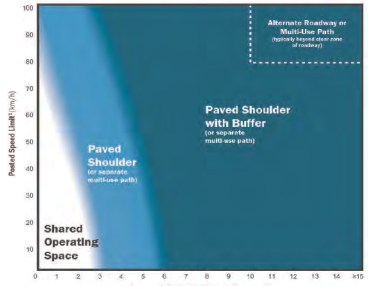
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

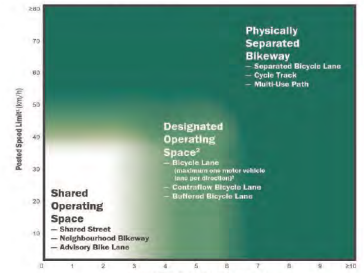
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	E	D	**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			

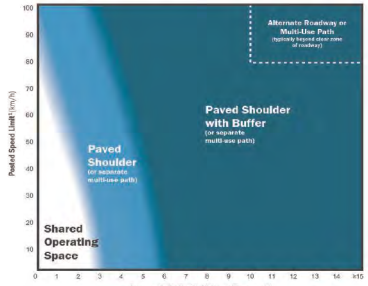
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

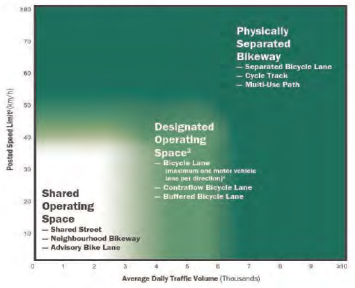
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

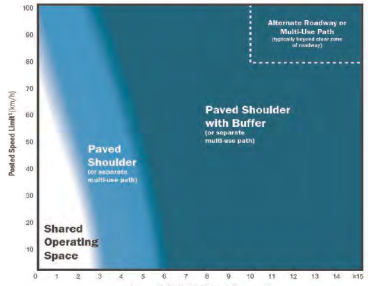
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

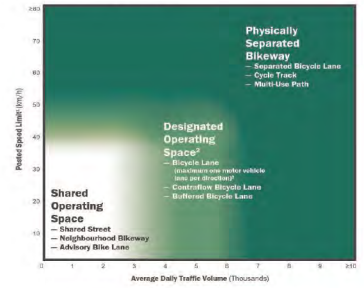
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	D		
	2.6 - 3.0	2.6 - 3.0			

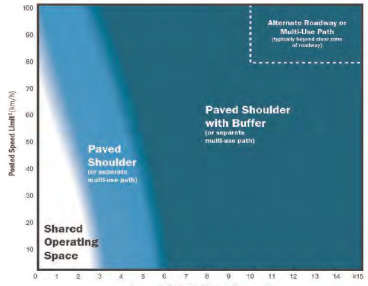
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

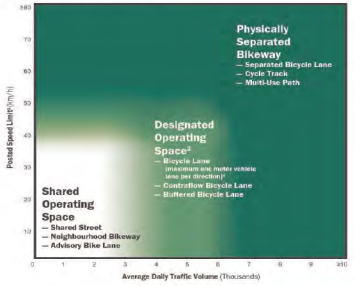
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	11 - 20
	Less than 50% of movements	0 - 15 %	F	B	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

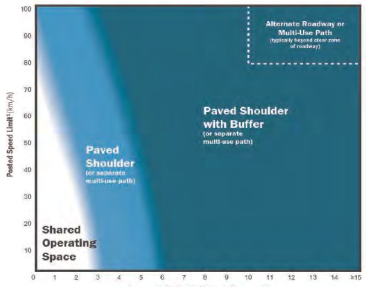
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

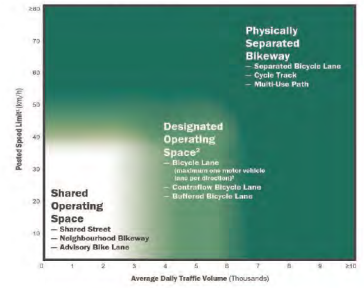
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	C	C	**E**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	B	21 - 35
	61 - 75	61 - 75	F		
	2.6 - 3.0	2.6 - 3.0			

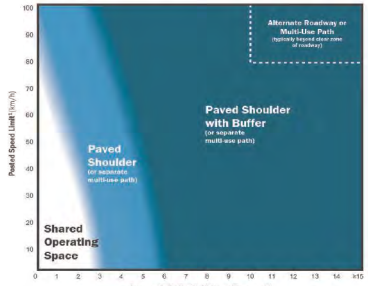
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

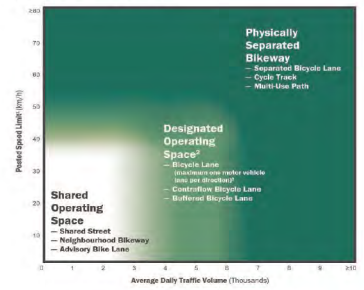
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**C**	**E**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	36 - 55
	Less than 50% of movements	0 - 15 %	F	D	
	15.0 - 17.9	61 - 75			
	2.6 - 3.0	2.6 - 3.0			

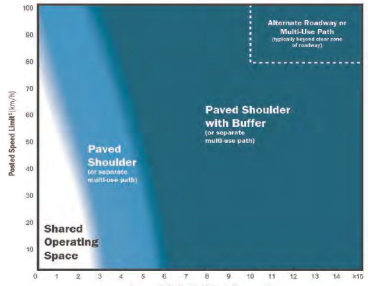
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

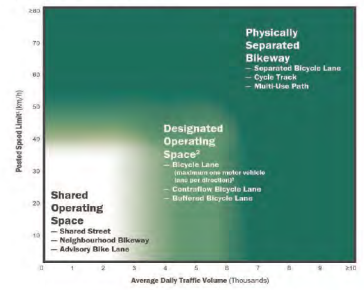
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**E**		**E**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0	0	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	C	21 - 35
	106 -120	106 - 120	E		
	2.6 - 3.0	2.1 - 2.5			

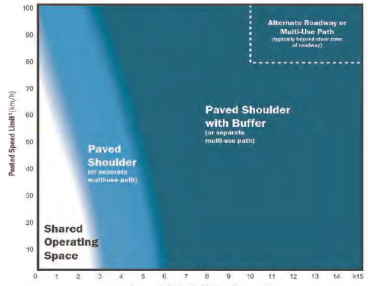
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

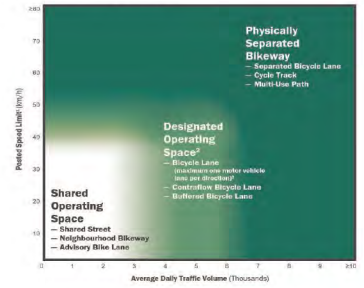
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	Greater than 80
	Less than 50% of movements	0 - 15 %	F	F	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

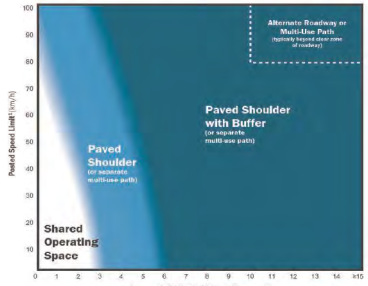
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

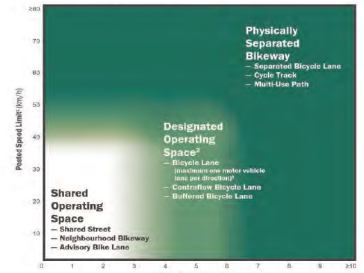
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

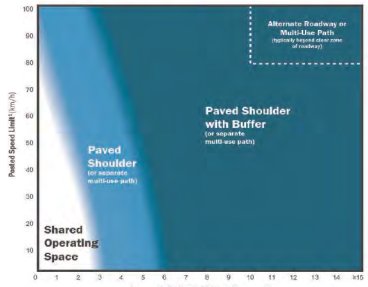
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

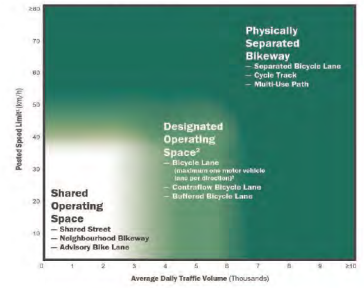
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

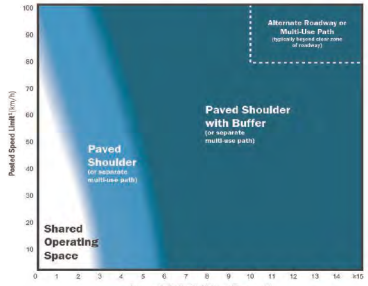
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

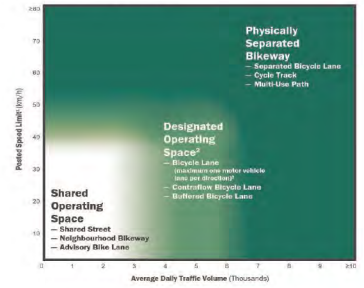
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	Greater than 80
	Less than 50% of movements	0 - 15 %	F	F	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

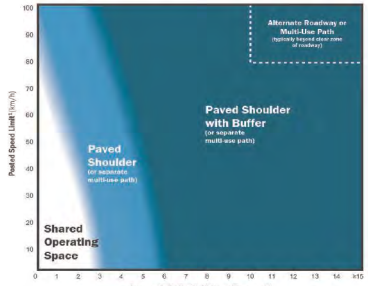
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

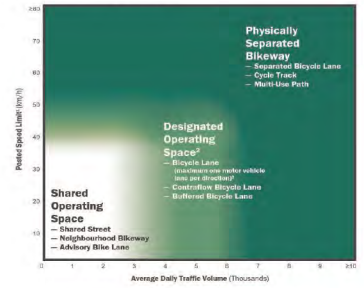
SCENARIO:	***FB2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual			**C**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	No
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	No
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	No
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	No

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	No bike facility	0 - 10	15 - 16	0 - 10
	Less than 50% of movements	0 - 15 %	F	A	
	15.0 - 17.9	15.0 - 17.9			
	2.6 - 3.0	2.6 - 3.0			

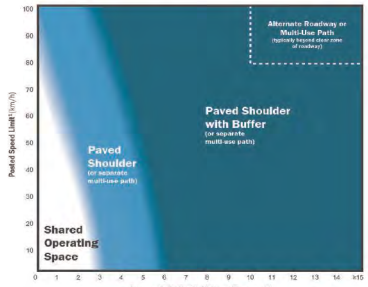
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

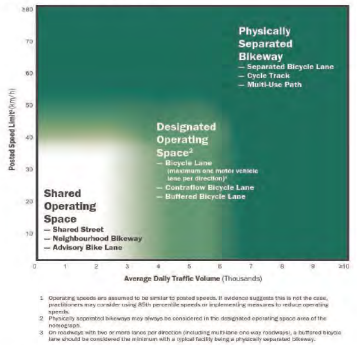
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		C		
	2.6 - 3.0				

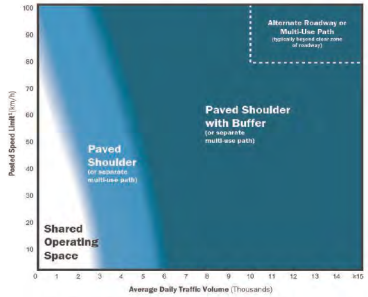
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
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Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

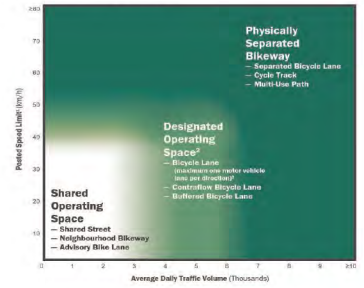
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

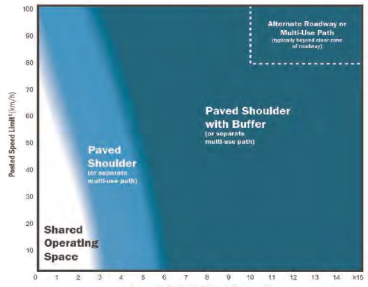
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
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Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

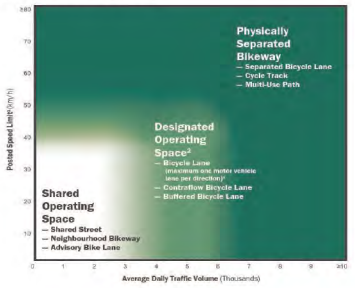
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

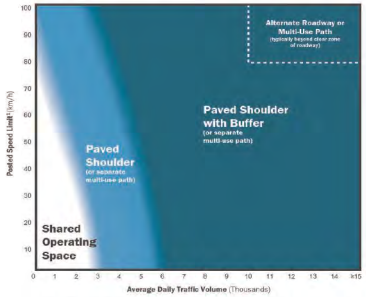
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

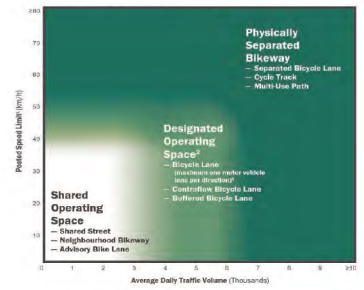
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	C		
	2.6 - 3.0	2.6 - 3.0			

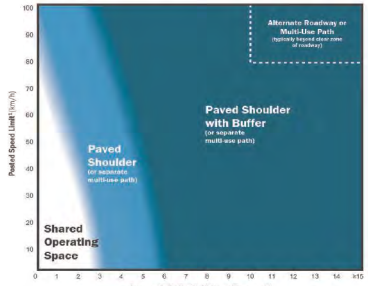
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

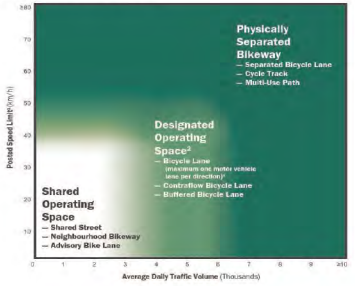
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	11 - 20
	100% of movements	0 - 15 %	C	B	
	15.0 - 17.9	15.0 - 17.9			

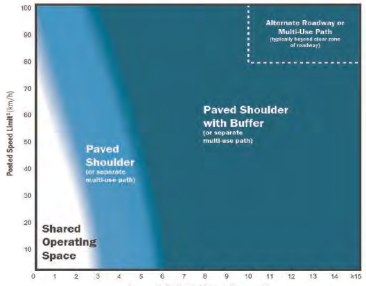
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

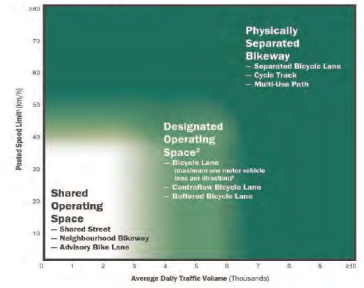
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

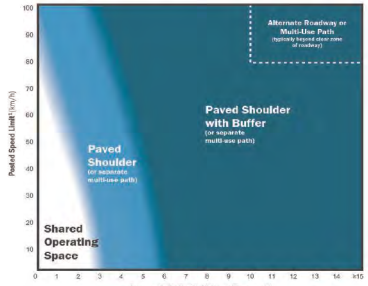
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

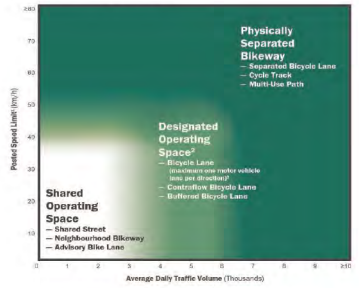
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**C**	**E**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	36 - 55
	100% of movements	0 - 15 %	D	D	
	15.0 - 17.9	15.0 - 17.9			

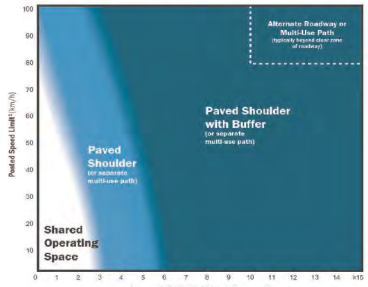
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

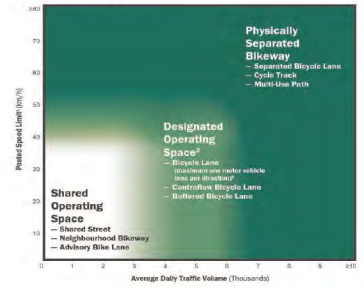
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	C	21 - 35
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

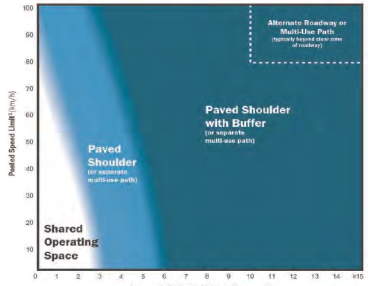
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

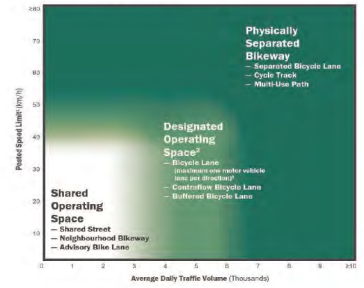
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	Greater than 80
	100% of movements	0 - 15 %	C	F	
	15.0 - 17.9	15.0 - 17.9			

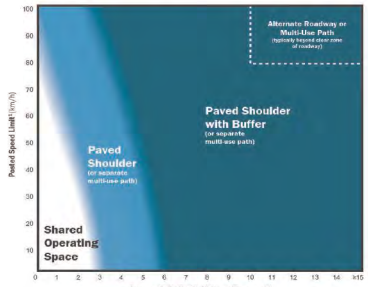
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

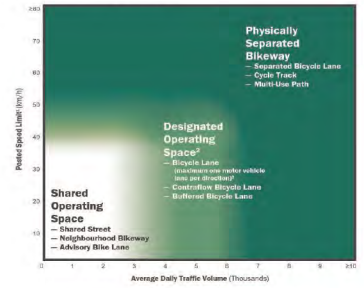
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

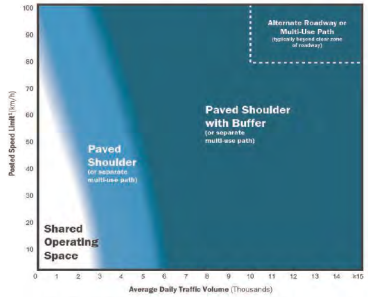
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

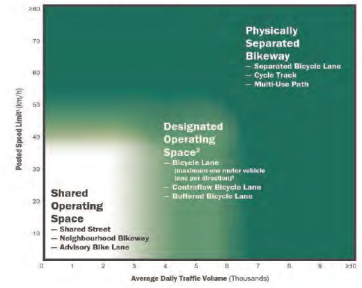
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

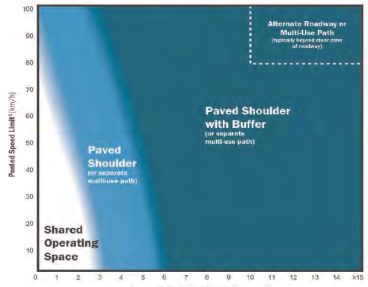
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

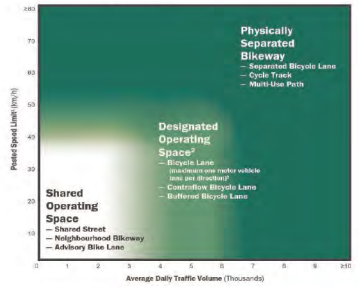
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	Greater than 80
	100% of movements	0 - 15 %	D	F	
	15.0 - 17.9	15.0 - 17.9			

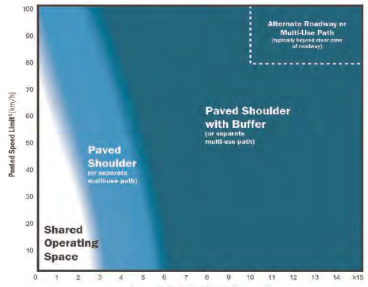
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

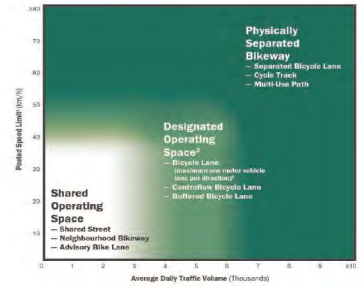
SCENARIO:	***FDS Alt 1 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

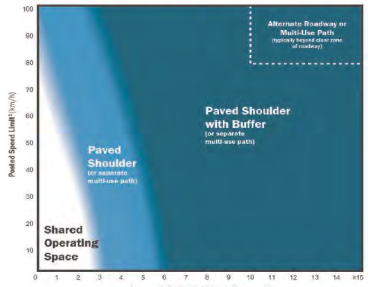
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

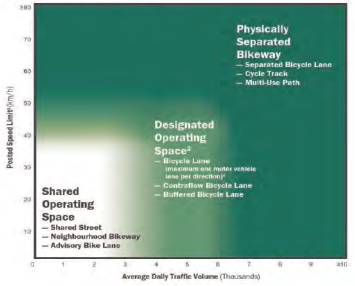
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

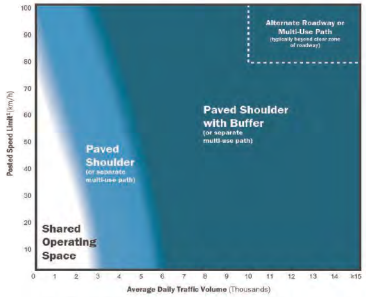
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

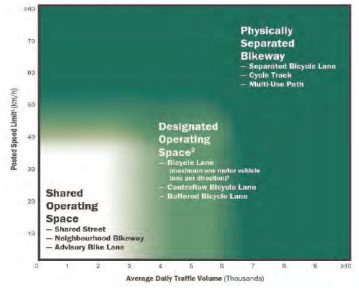
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

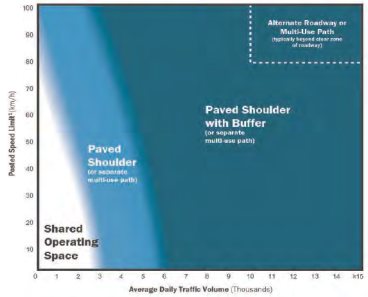
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

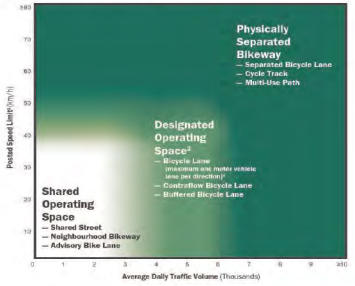
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

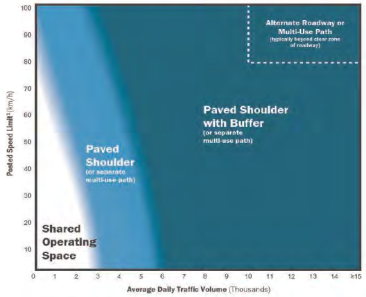
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

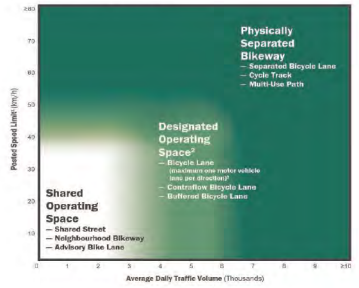
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

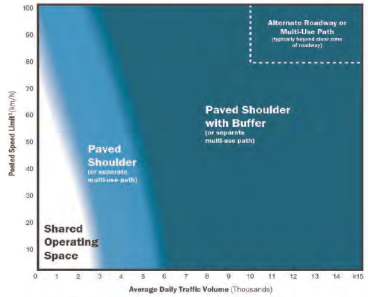
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

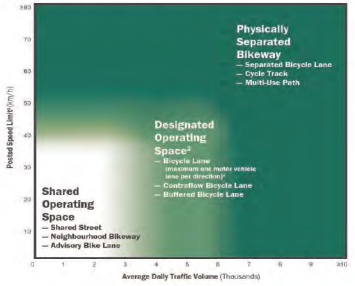
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

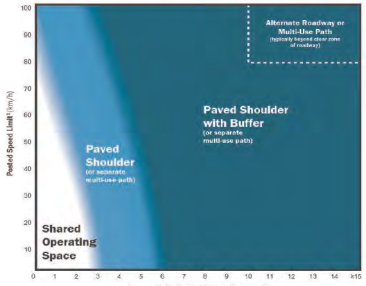
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

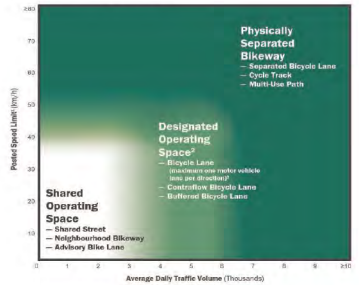
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

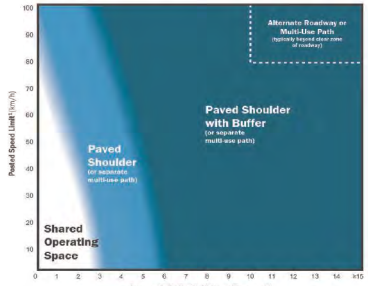
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

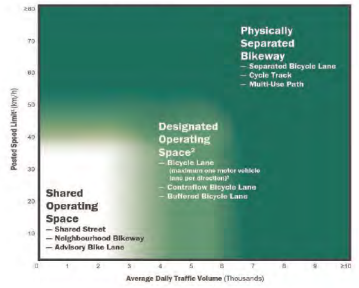
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

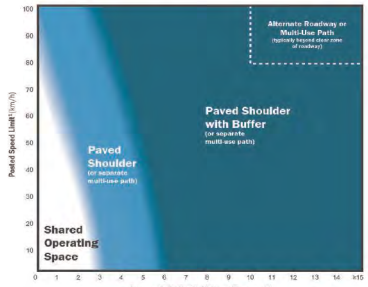
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

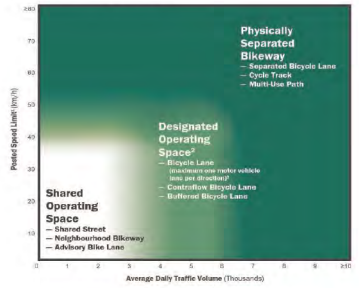
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

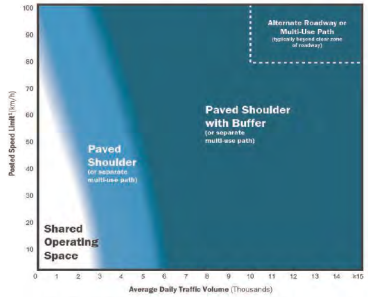
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

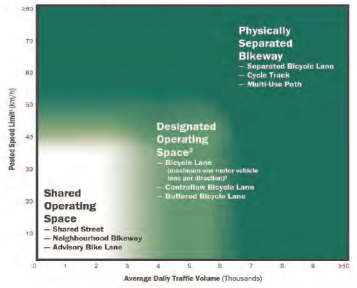
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

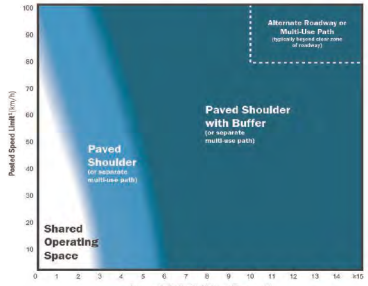
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

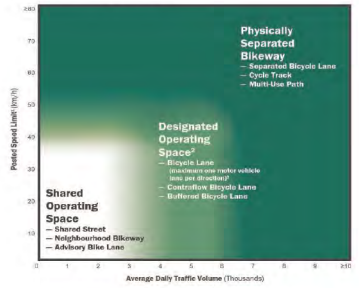
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

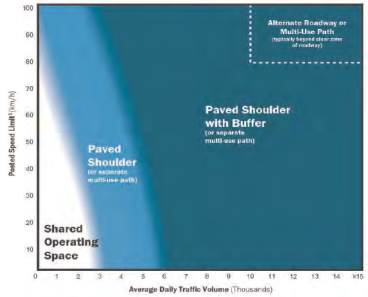
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

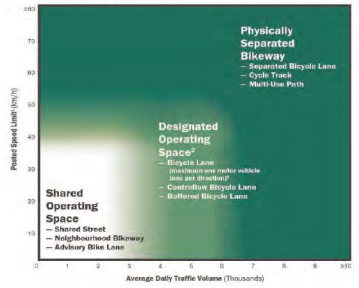
SCENARIO:	***FDS Alt 1 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

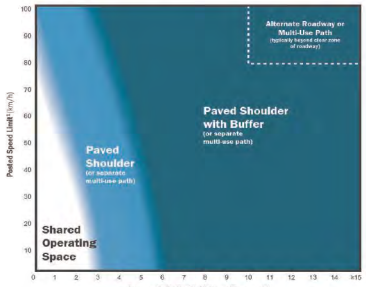
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

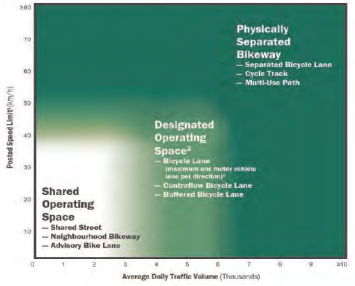
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

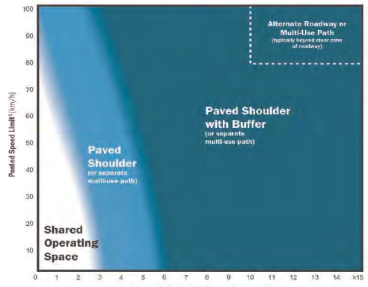
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

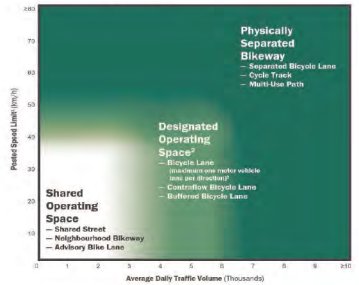
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

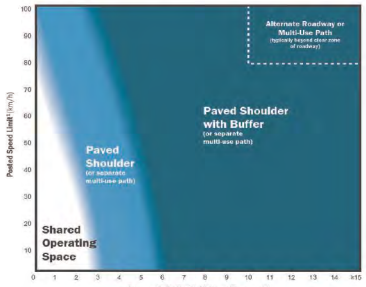
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

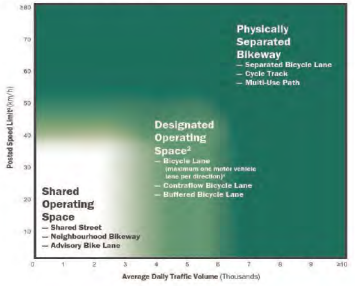
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

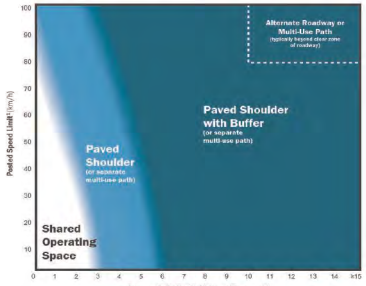
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

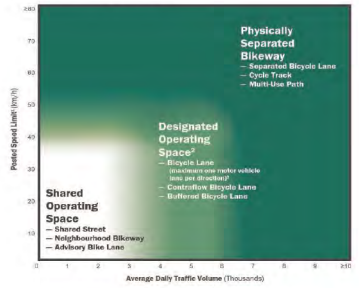
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

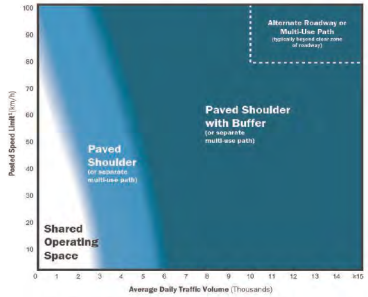
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

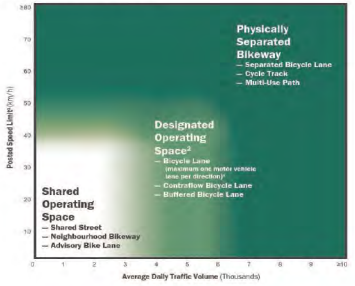
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

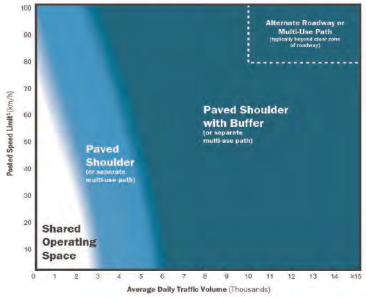
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context¹



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

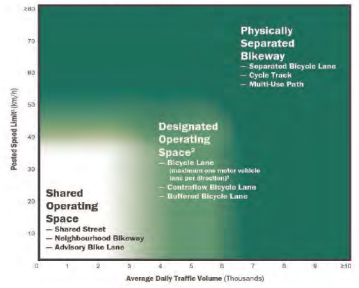
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

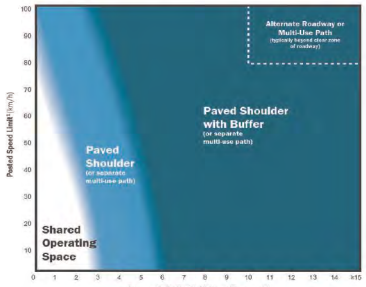
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

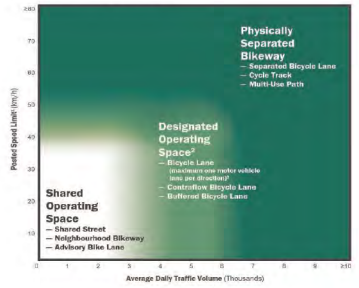
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

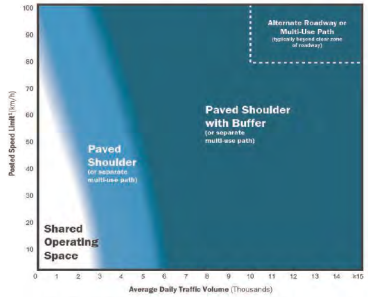
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

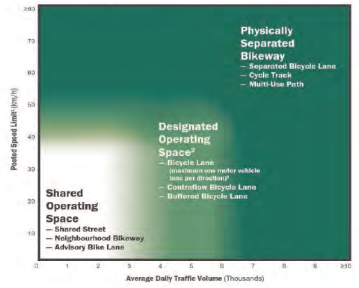
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

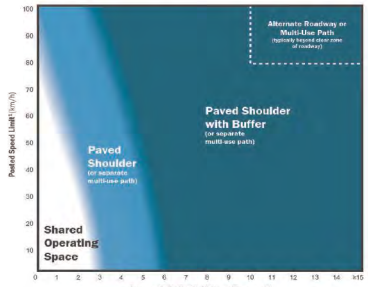
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

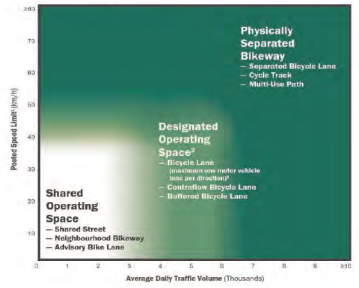
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

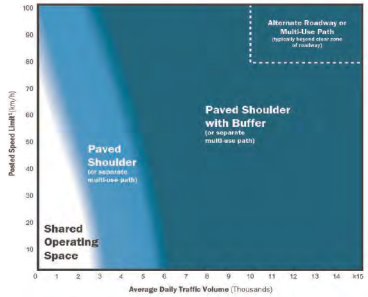
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

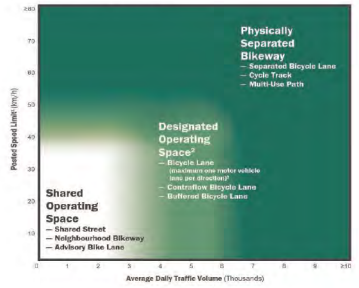
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

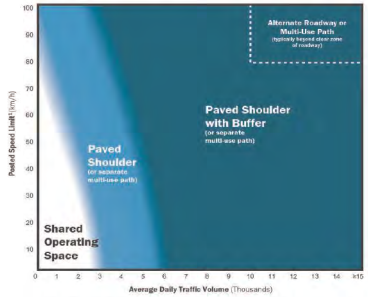
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

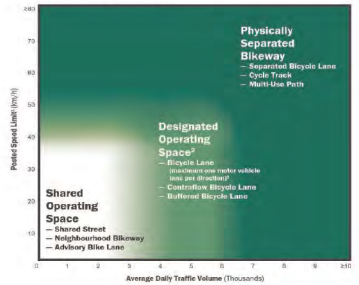
SCENARIO:	***FDS Alt 1 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

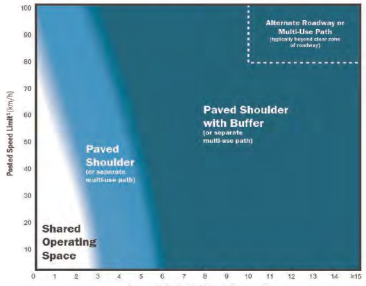
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

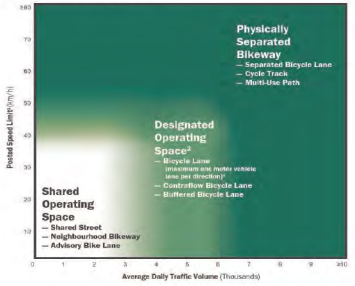
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

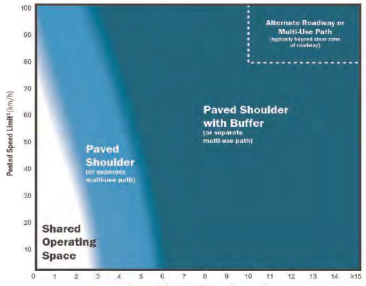
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

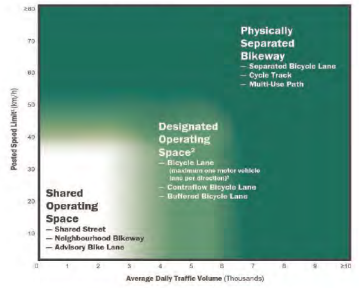
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

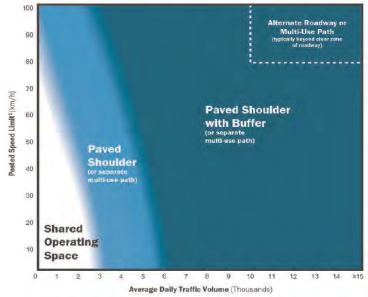
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

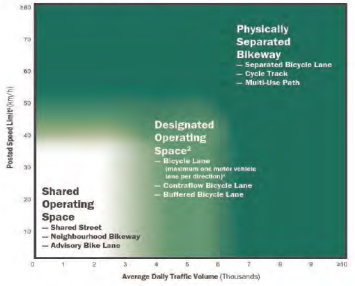
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

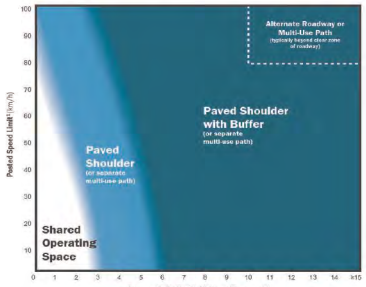
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

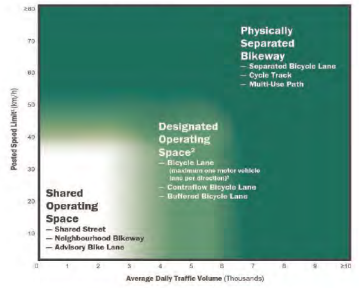
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

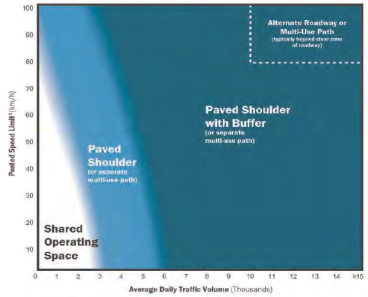
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

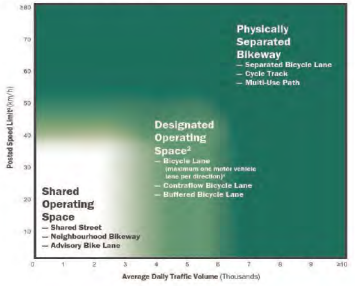
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

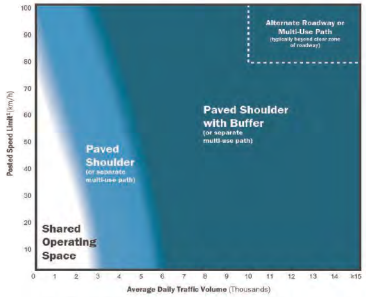
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

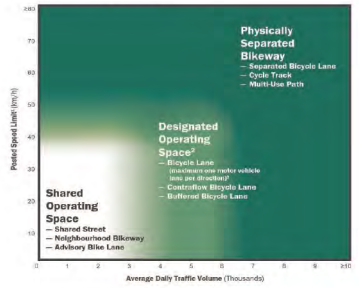
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

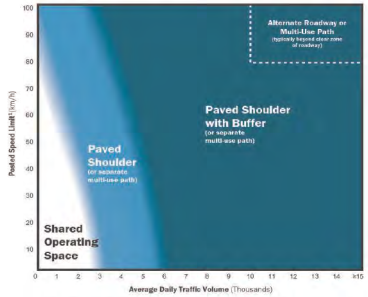
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

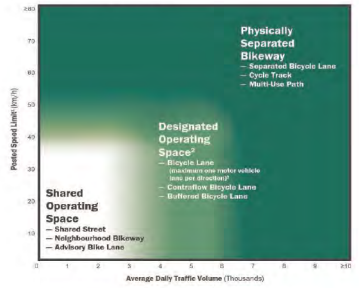
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

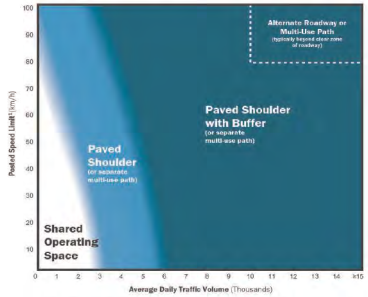
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

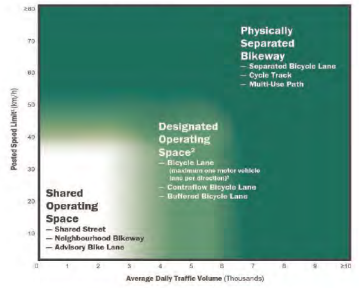
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

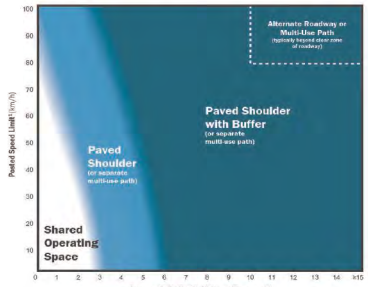
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

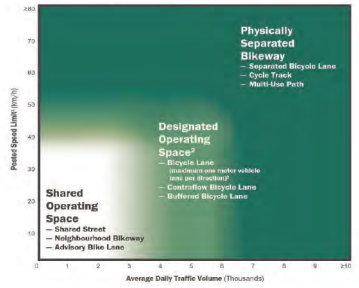
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

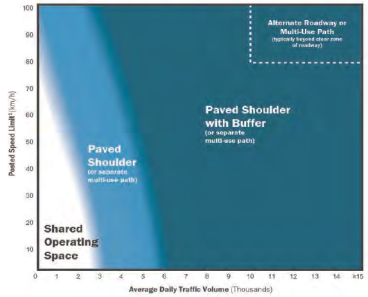
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

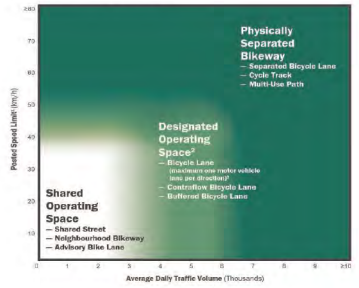
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

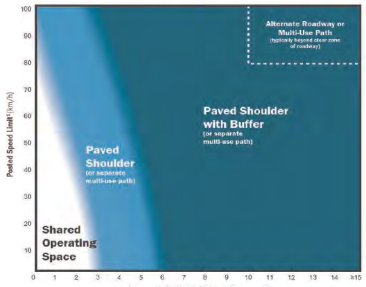
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

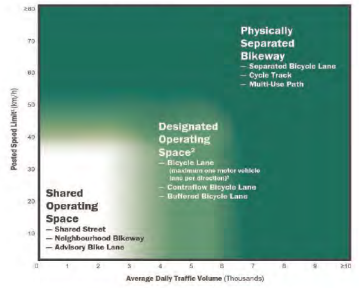
SCENARIO:	***FDS Alt 2 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

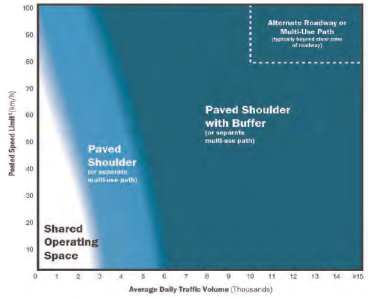
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

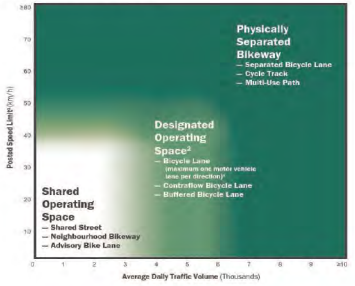
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

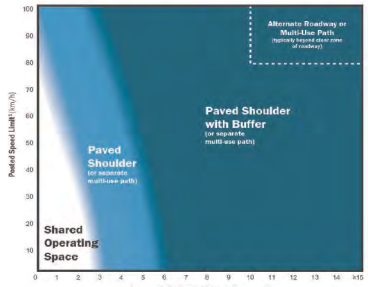
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

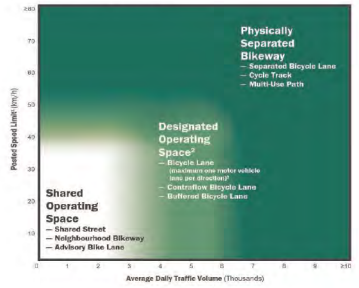
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

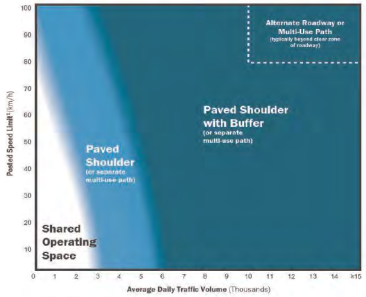
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

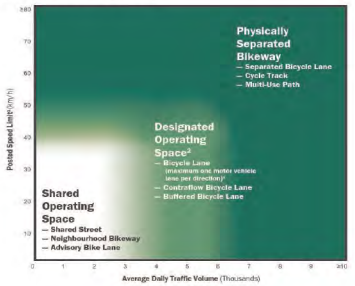
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

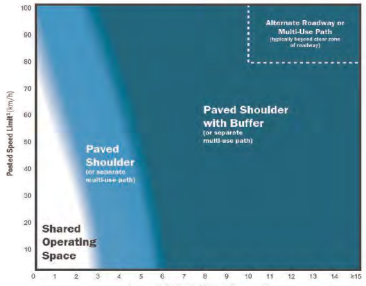
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

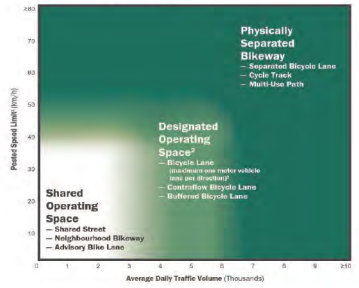
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

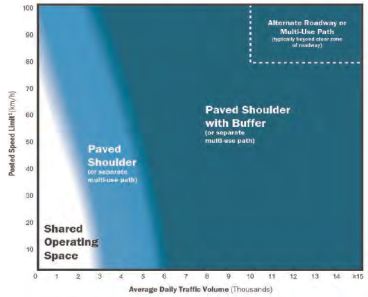
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

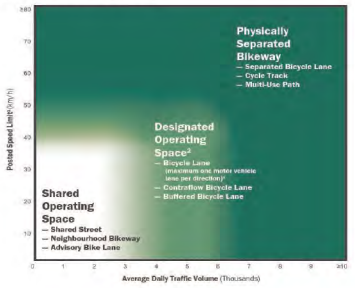
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

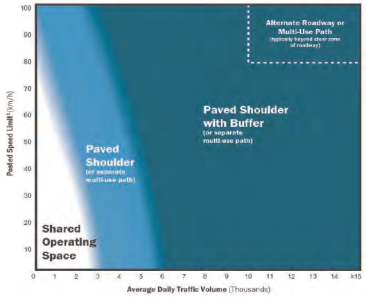
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

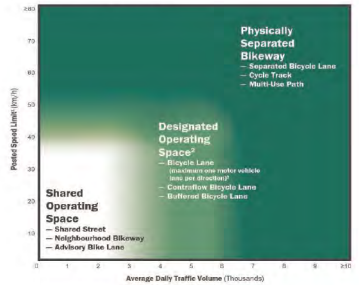
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

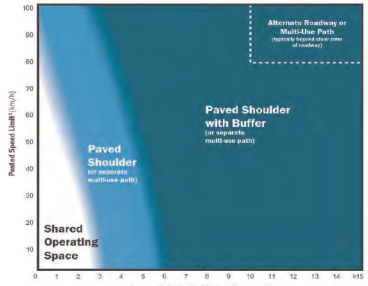
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

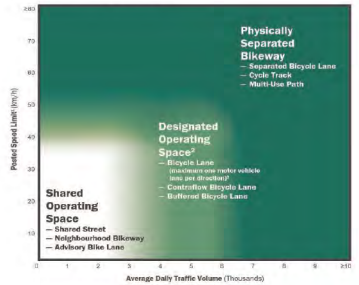
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

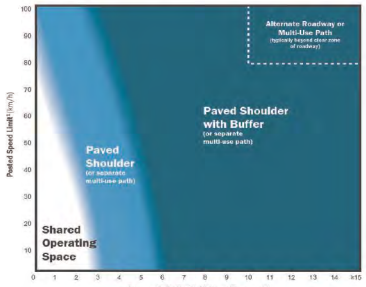
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

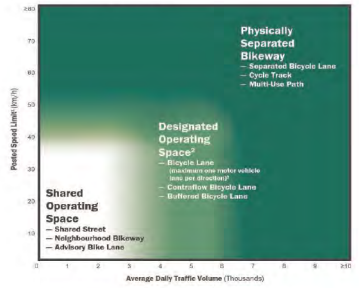
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

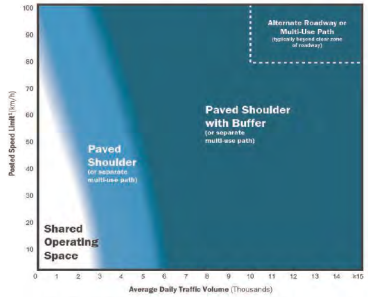
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



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2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

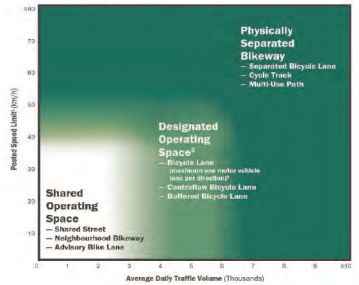
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

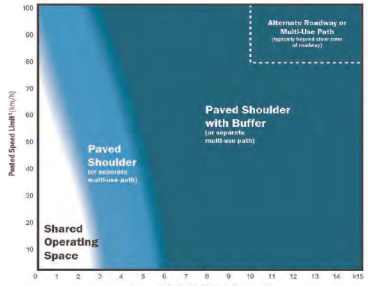
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

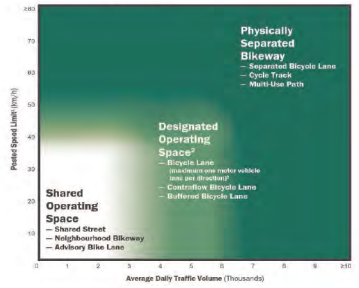
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

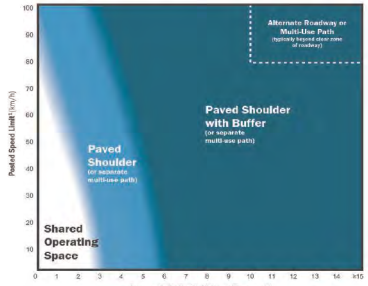
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

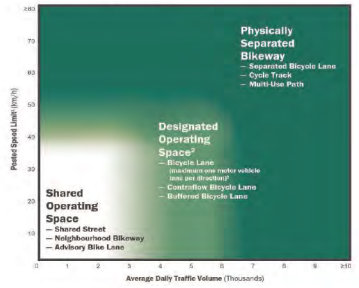
SCENARIO:	***FDS Alt 2 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

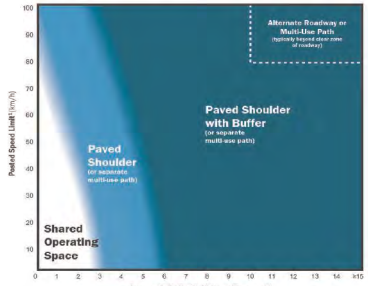
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

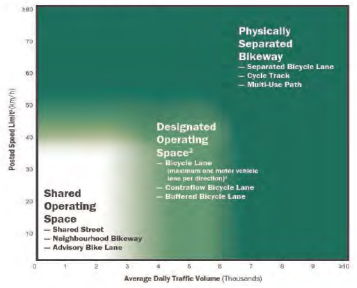
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		C		
	2.6 - 3.0				

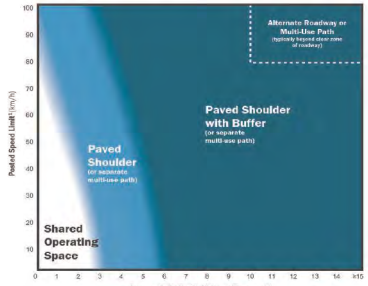
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

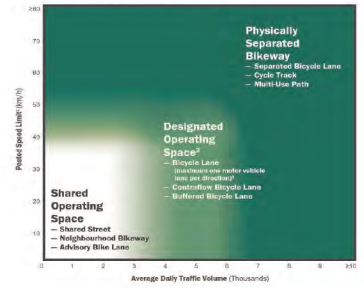
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

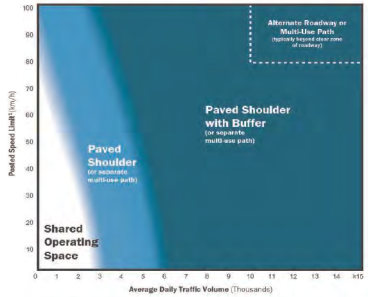
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

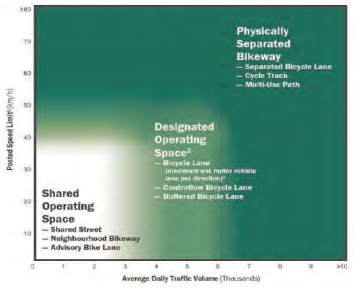
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

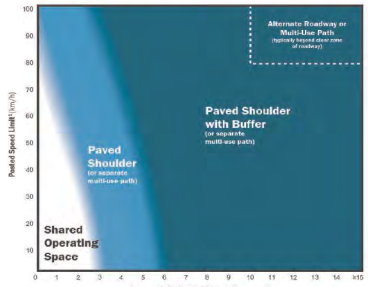
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

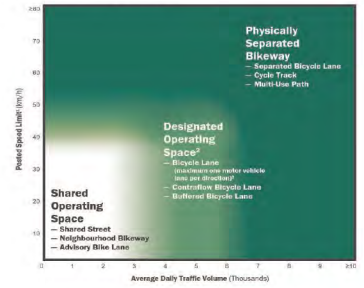
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	C		
	2.6 - 3.0	2.6 - 3.0			

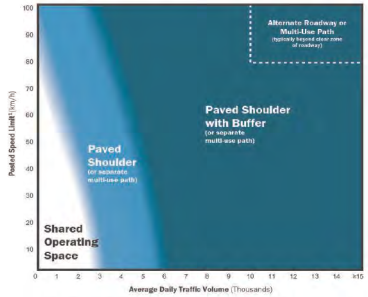
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

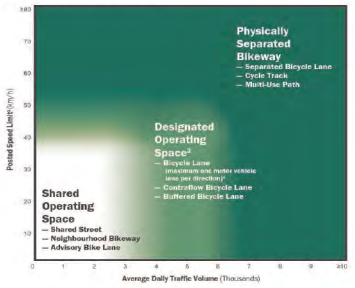
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

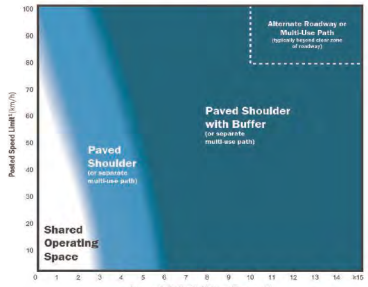
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

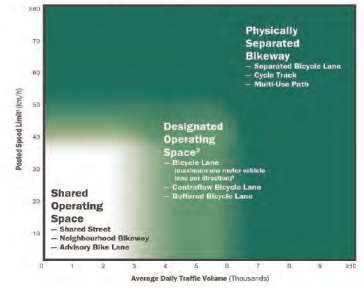
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

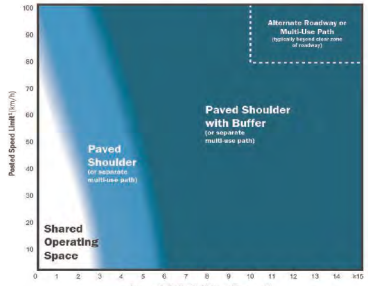
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

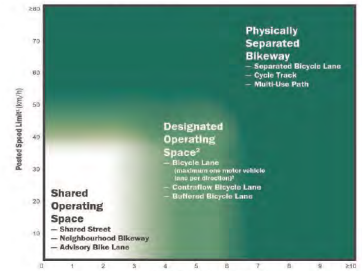
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

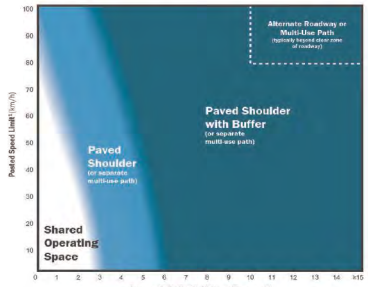
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

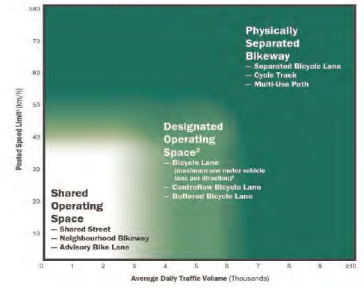
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	C	21 - 35
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

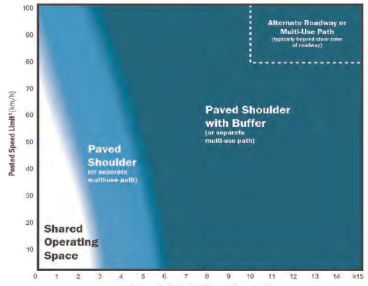
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

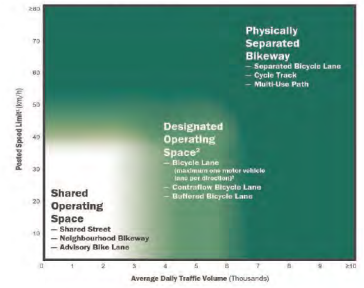
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

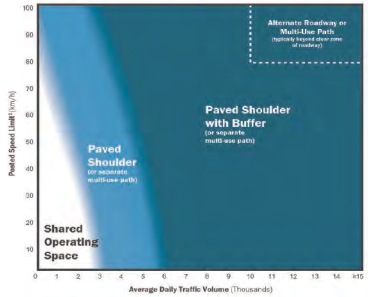
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

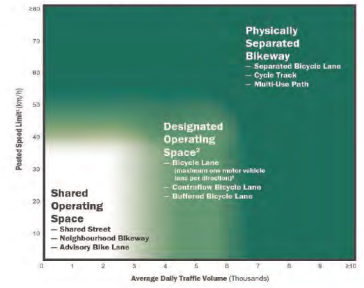
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

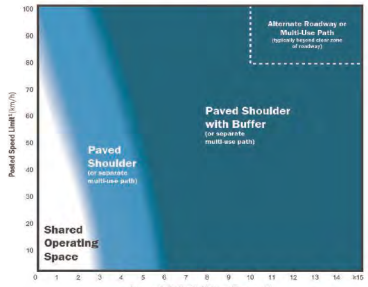
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

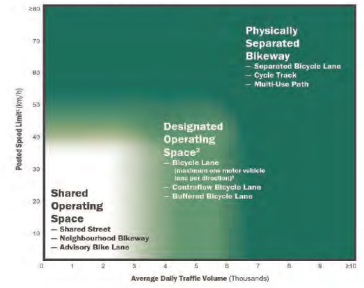
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

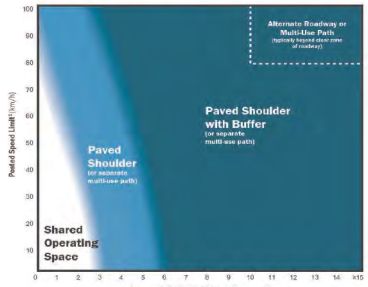
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

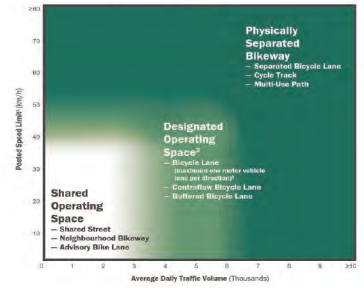
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

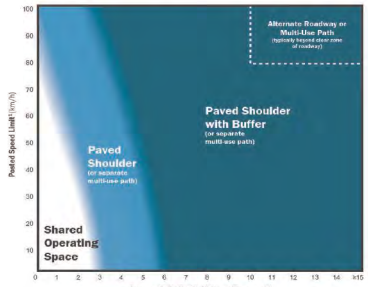
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

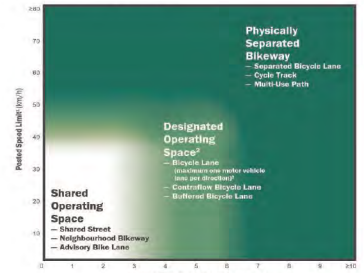
SCENARIO:	***FDS Alt 2 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

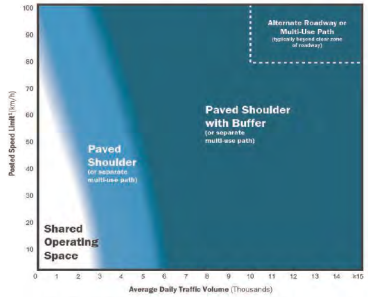
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

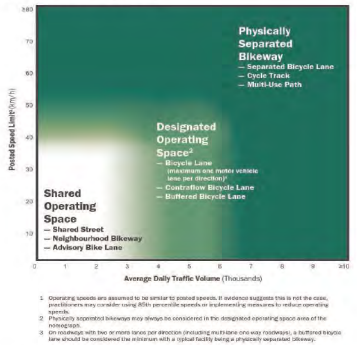
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		C		
	2.6 - 3.0				

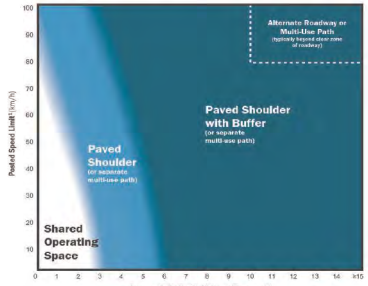
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

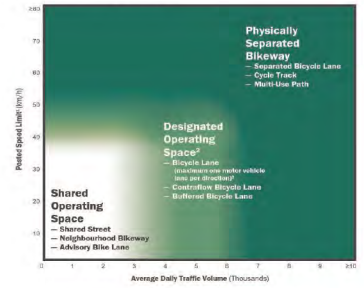
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
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Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

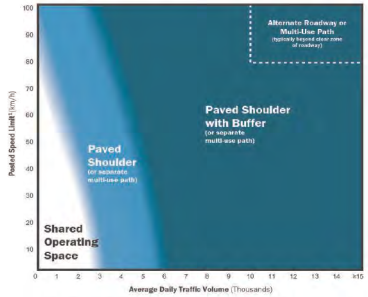
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

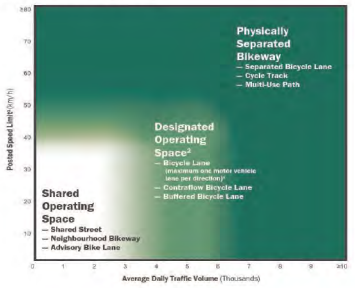
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
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Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

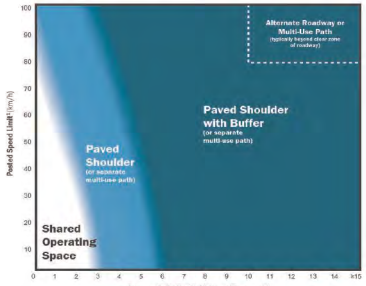
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

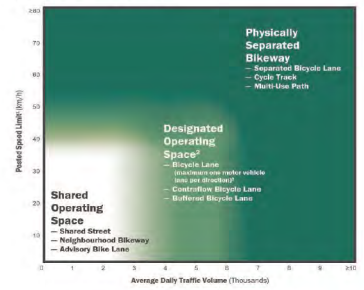
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	C		
	2.6 - 3.0	2.6 - 3.0			

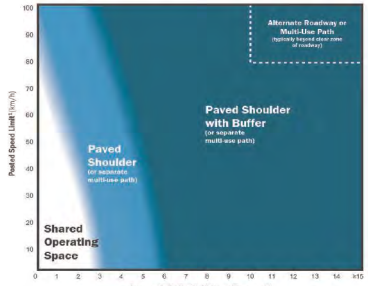
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

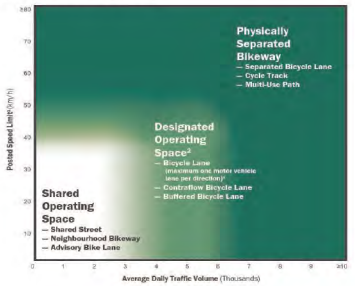
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

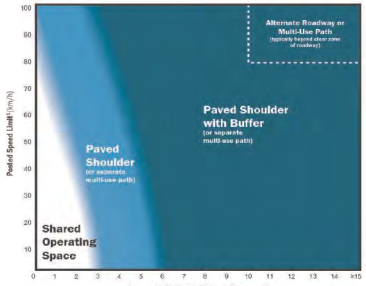
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

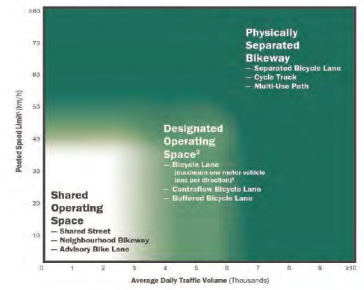
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	0 - 10	B	11 - 20
	61 - 75	61 - 75	D		
	2.6 - 3.0	2.6 - 3.0			

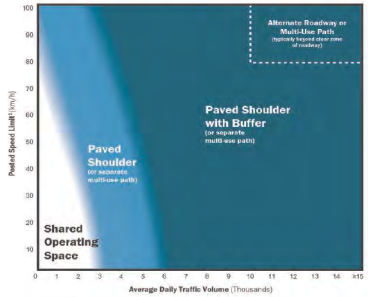
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

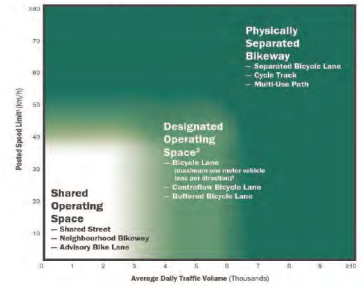
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

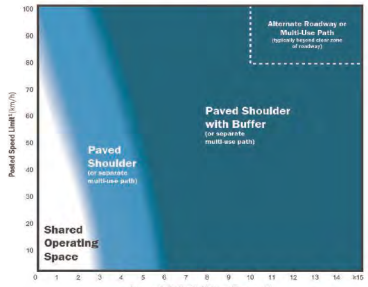
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

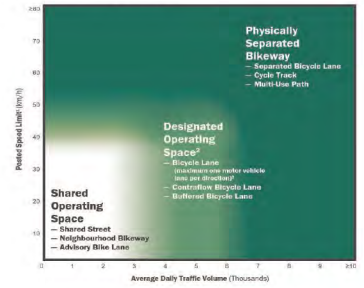
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	21 - 35	C	21 - 35
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

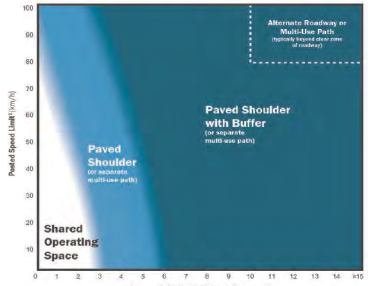
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

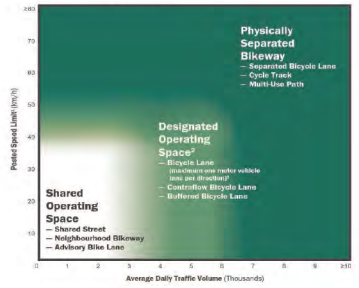
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

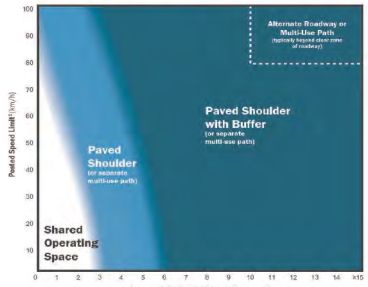
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

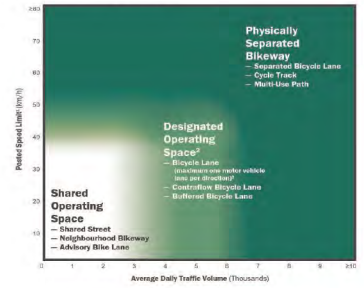
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

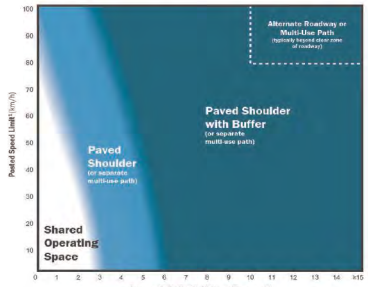
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

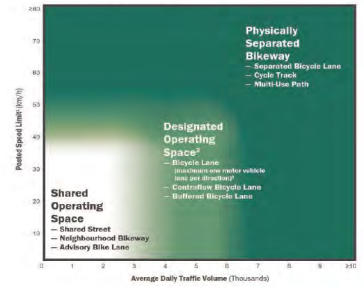
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

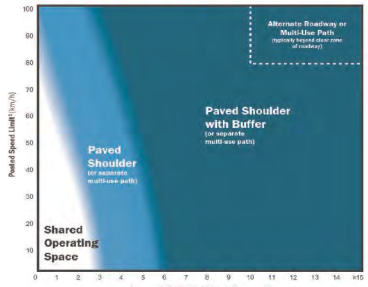
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

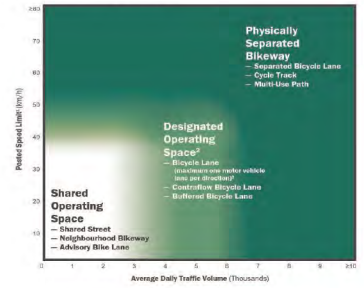
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	11 - 20
	100% of movements	0 - 15 %	D	B	
	15.0 - 17.9	15.0 - 17.9			

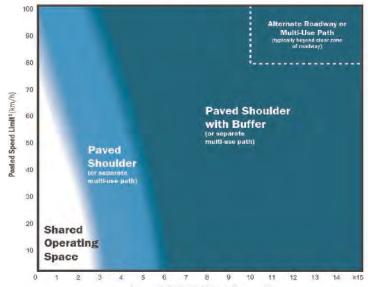
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

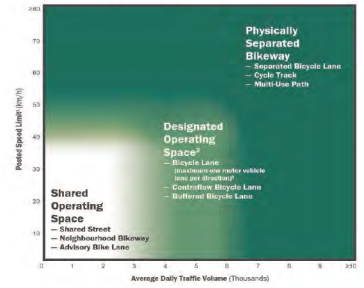
SCENARIO:	***FDS Alt 3 2031 AM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

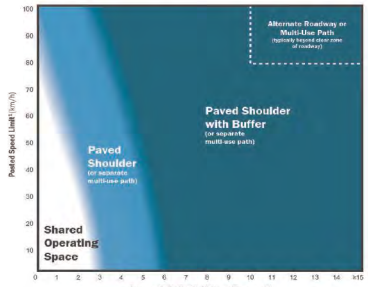
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

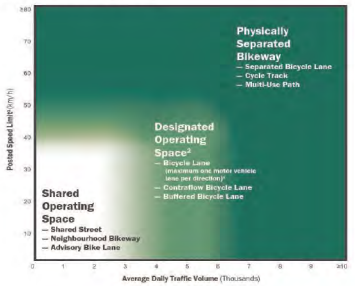
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

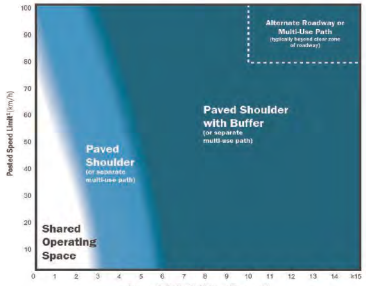
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context¹



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

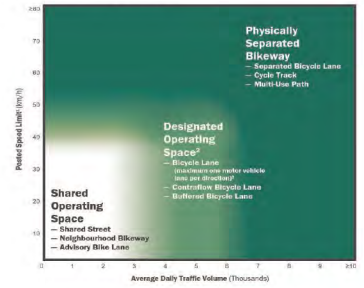
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

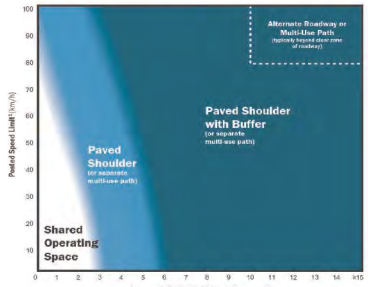
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

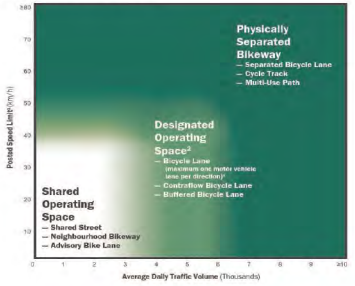
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

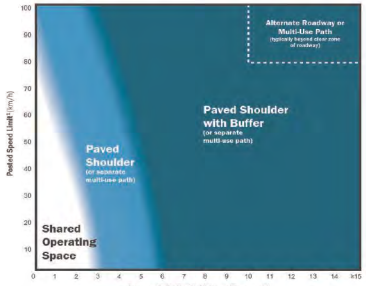
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

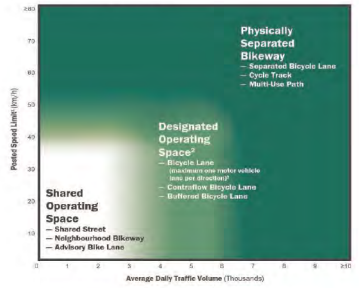
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

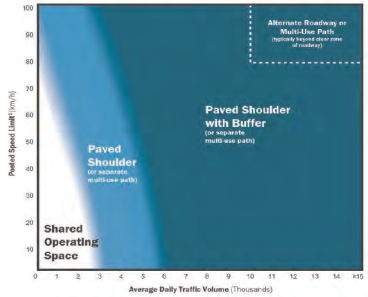
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

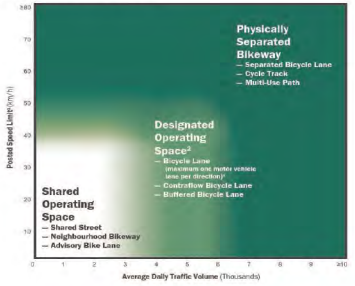
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

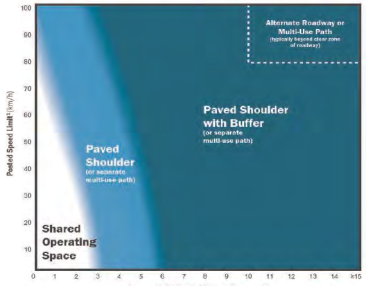
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

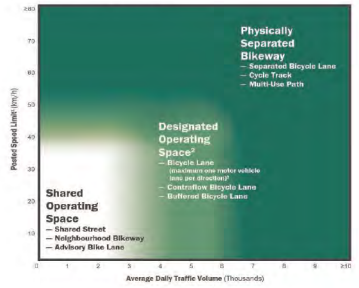
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

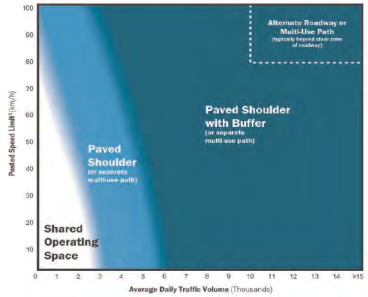
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

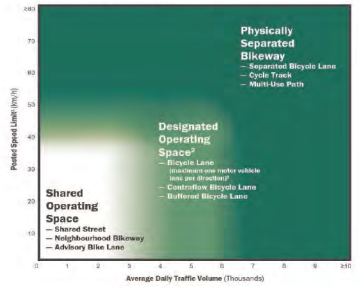
Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation					
Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

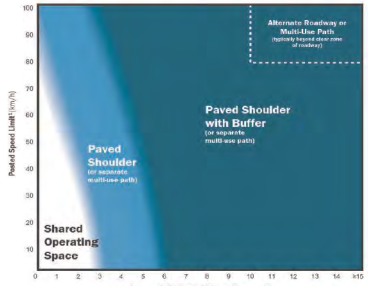
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

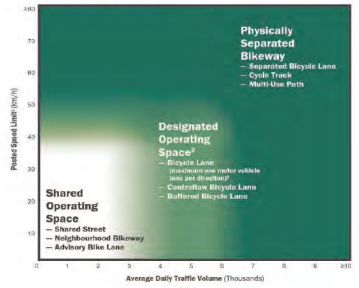
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	1-2
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

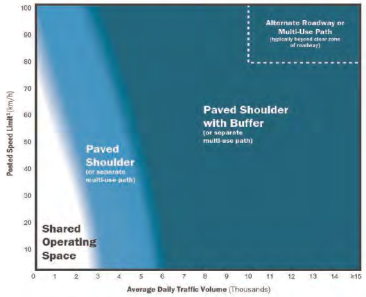
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

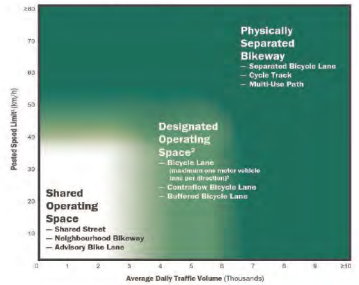
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	5-6
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

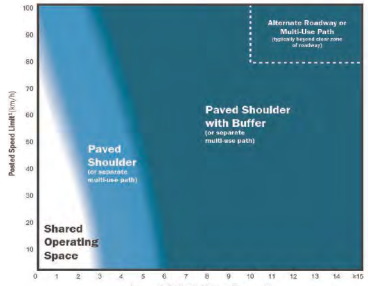
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

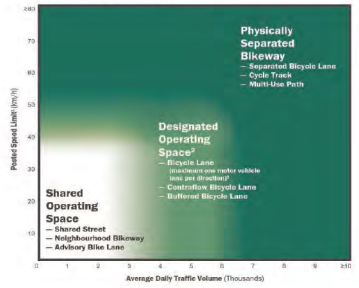
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

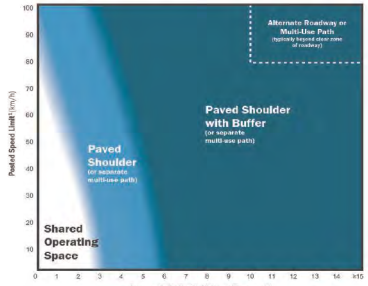
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

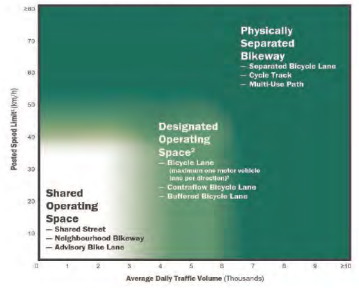
SCENARIO:	***FDS Alt 3 2031 WB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

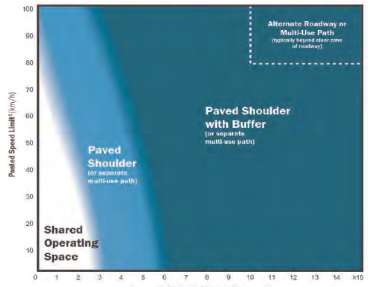
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

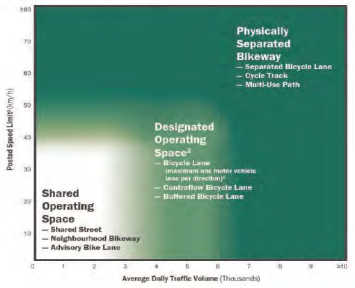
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Mason Drive to McClure Road					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

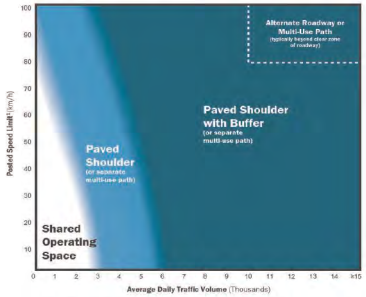
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

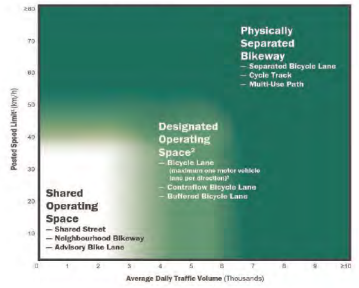
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W McClure Rd to Shaver Rd					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

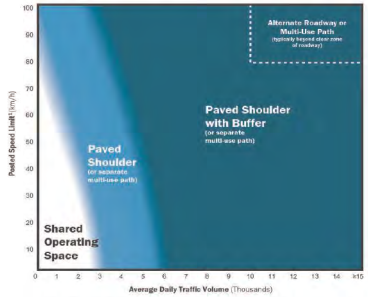
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

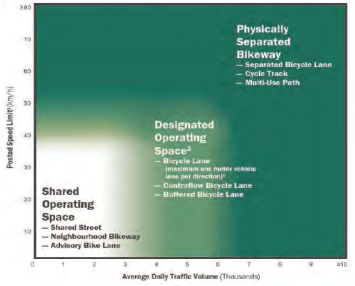
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Shaver Rd to Hamilton Dr					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

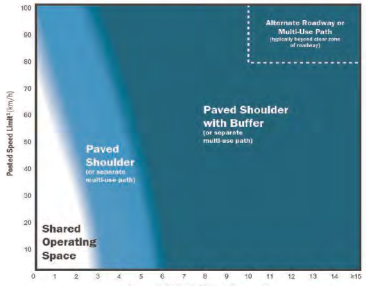
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

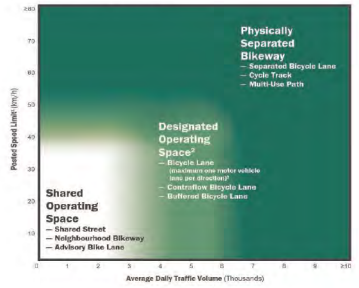
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Hamilton Dr to Panabaker Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	Less than 0.60
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

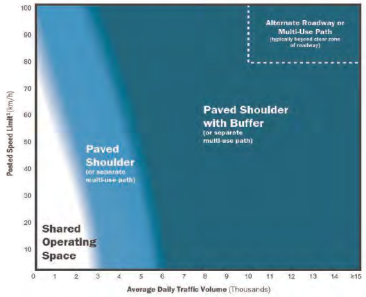
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

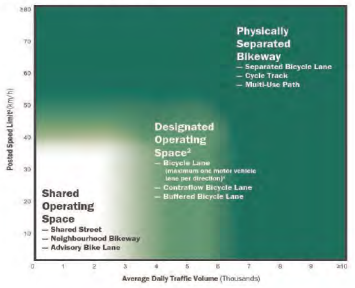
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Panabaker Dr. to Braithwaite Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

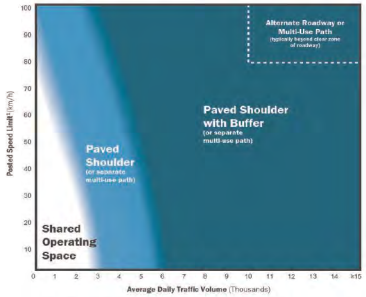
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

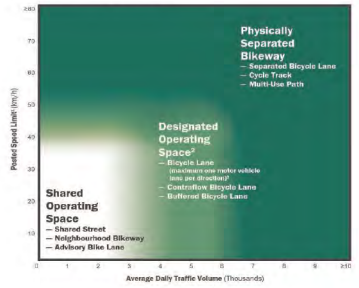
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West	**Braithwaite Ave to Fiddlers Green Rd**				
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

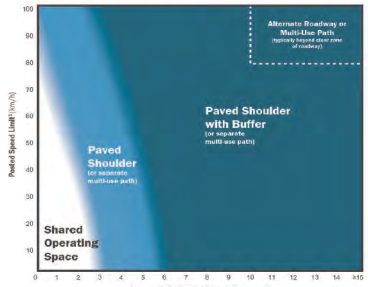
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

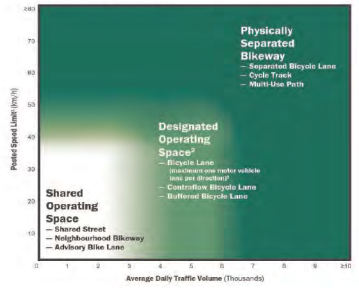
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Fiddlers Green Rd to Anson Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

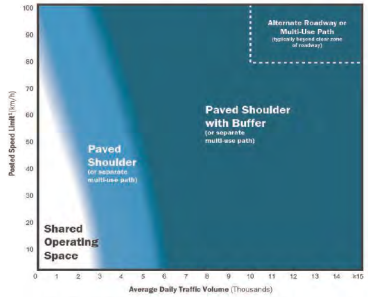
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

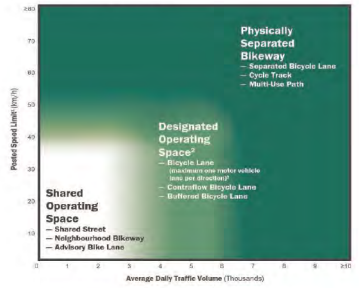
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West Anson Dr. to Miller Dr.					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	C	7-8
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

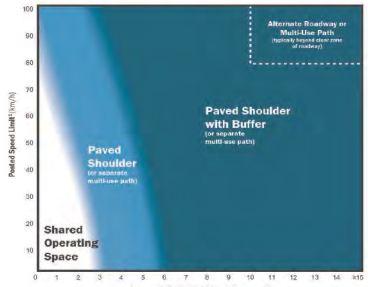
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

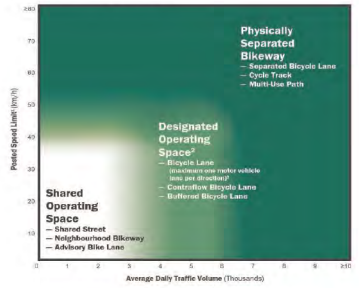
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Miller Dr to Woodmount Ave					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**B**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	B	3-4
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "moderate" conflict indicator	D		

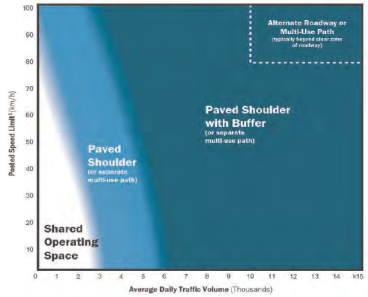
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

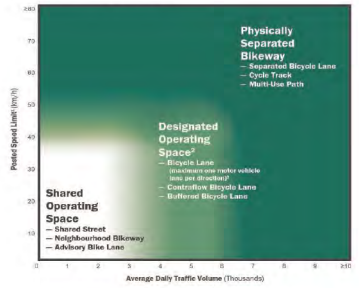
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W Woodmount Ave to HWY 403 Exit Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**D**	**D**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	D	9+
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	One "low" conflict indicator and one "high" conflict indicator	D		

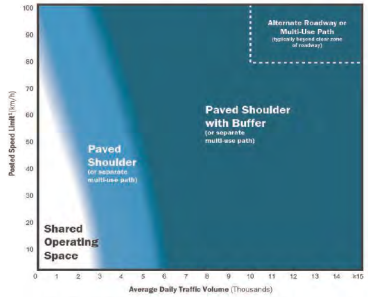
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

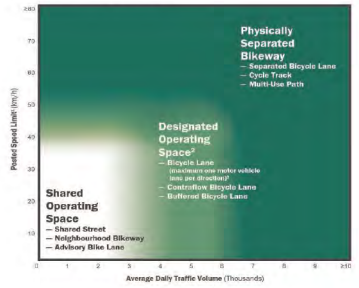
SCENARIO:	***FDS Alt 3 2031 EB***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W HWY 403 off Ramp to HWY 403 on Ramp					
Type	**SEGMENTS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**B**	**D**	**B**	**A**

Active Transportation Design Check	
Do the pedestrian facilities provide direct access to all properties along the segment? (Direct access can be provided by an adjacent facility or designated crossing to the property in question)	Yes
Does the bicycle facility selected correspond with the minimum appropriate facility type identified in the context appropriate nomograph (Figure 6.1, 6.2)?	Yes

MMLOS Evaluation

Measure 1	Pedestrian Facility Width (m)	Bike Facility Width per Direction (m)	Transit Facility Type	Width of Curb Lane (m)	Mid-block V/C Ratio
	1.8 - 2.0	1.2 - 1.5	Mixed traffic with 1 lane per direction	3.4 - 3.6	0.60 - 0.69
Measure 2	Pedestrian Buffer Width (m)	Bike Buffer Width (m)	Transit Passenger Amenities	Car Level of Service	Curb Lane Conflicts
	Greater than 2.5	Has physical measures AND buffer width > 1	Moderate presence of passenger amenities such as shelters, seating, shade trees, etc.	A	None
- - -	Max Distance Between Controlled Crossings (m)	Conflicts with Other Modes (in-lane conflicts and cross point conflicts)	Pedestrian Level of Service	-	-
	Greater than 320	Two "low" conflict indicators	D		

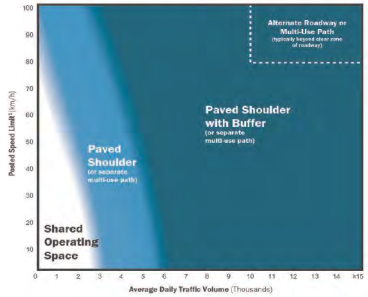
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

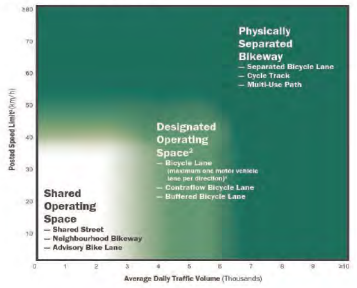
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		C		
	2.6 - 3.0				

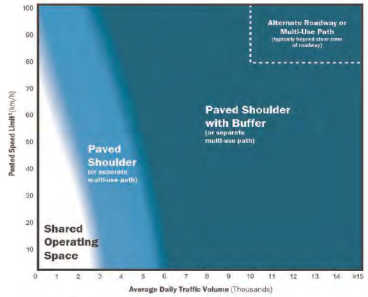
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

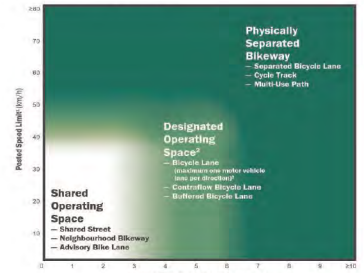
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

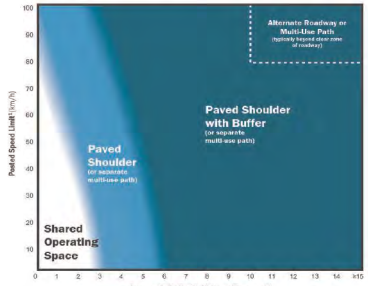
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

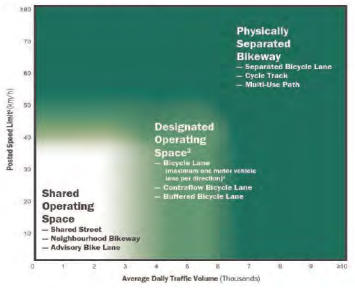
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

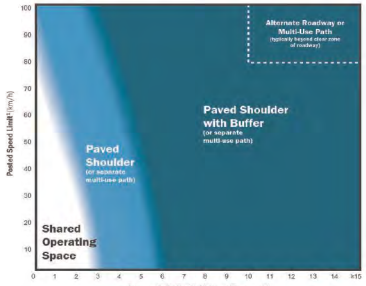
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

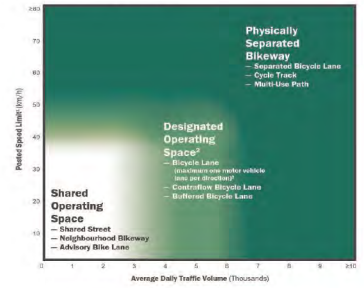
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	C		
	2.6 - 3.0	2.6 - 3.0			

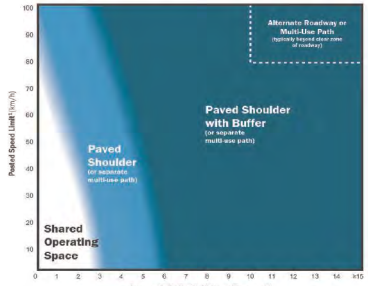
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

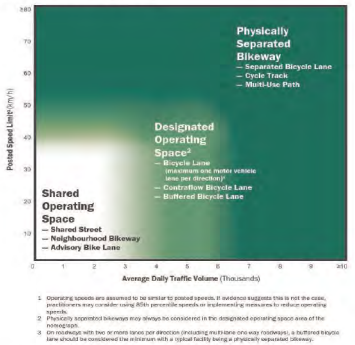
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

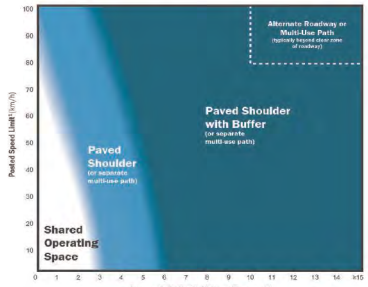
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

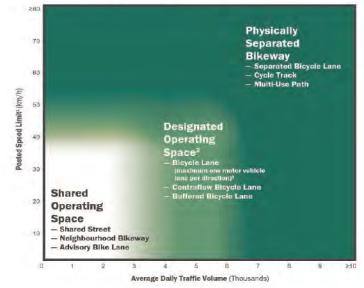
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
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Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

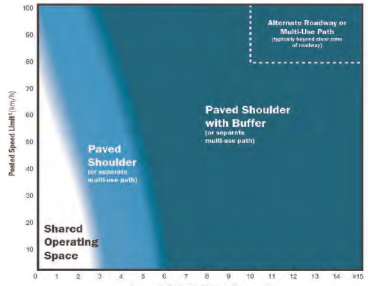
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

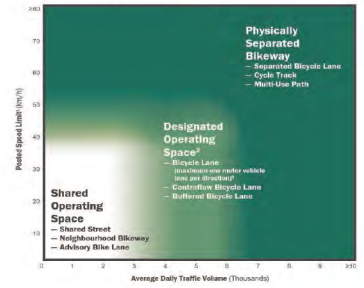
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

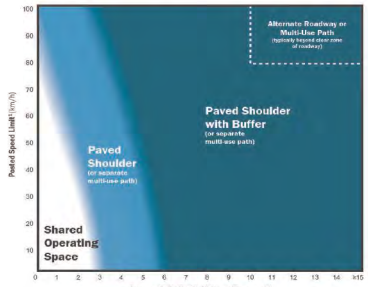
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

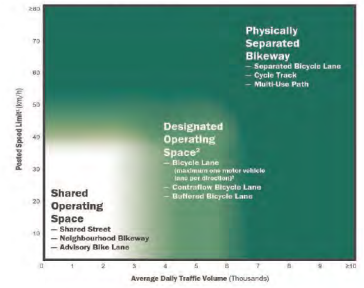
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**D**	**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	C	21 - 35
	106 -120	106 - 120	D		
	2.6 - 3.0	2.1 - 2.5			

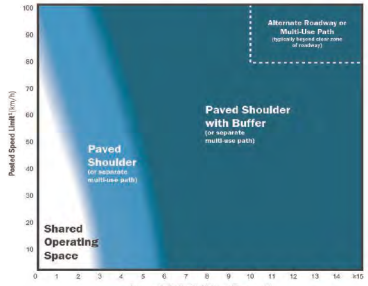
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

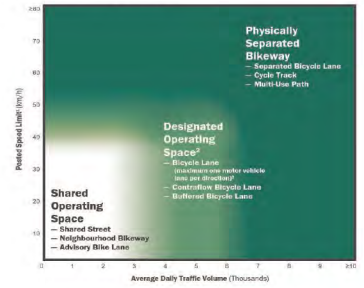
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

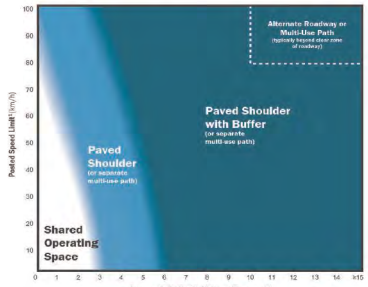
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

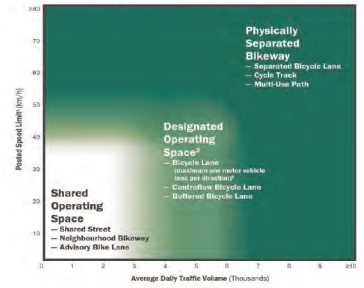
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

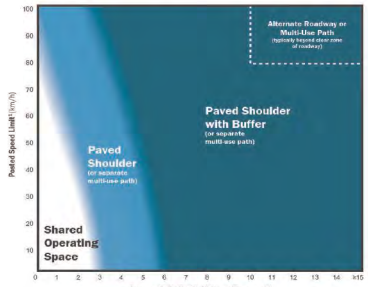
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

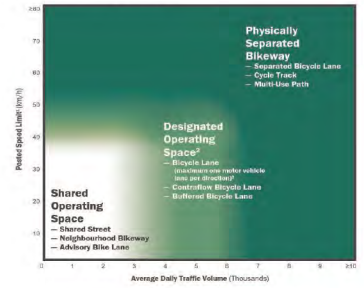
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

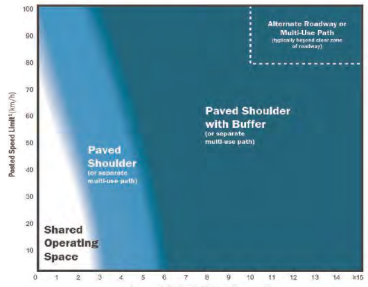
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

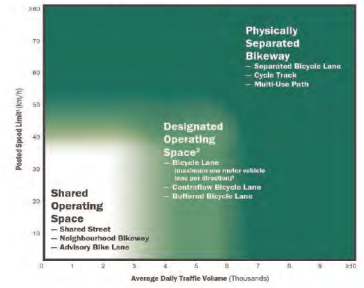
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	11 - 20
	100% of movements	0 - 15 %	D	B	
	15.0 - 17.9	15.0 - 17.9			

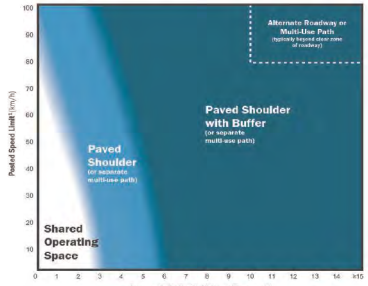
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

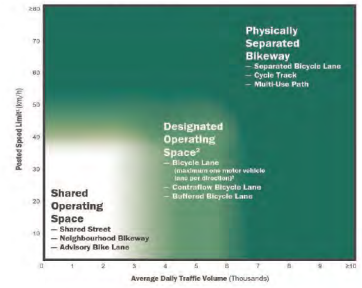
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

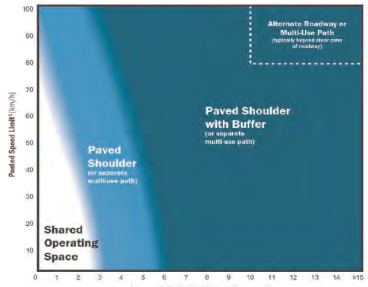
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

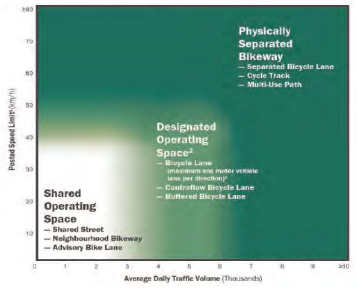
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		C		
	2.6 - 3.0				

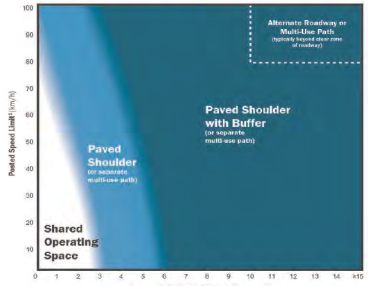
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

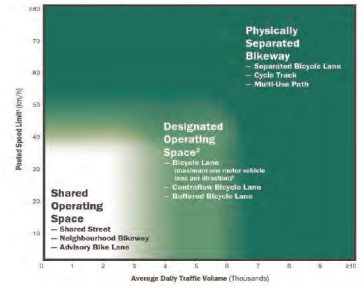
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

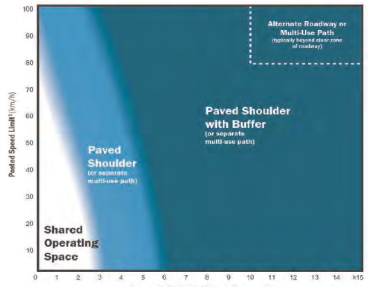
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

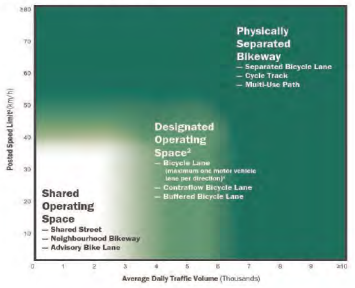
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

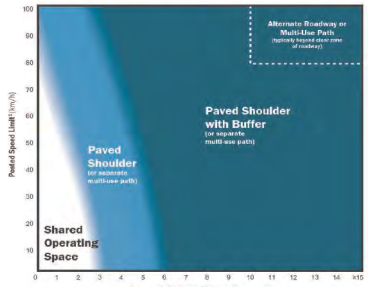
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

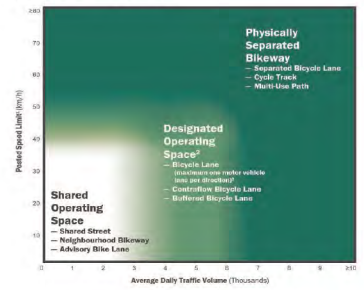
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**A**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	A	0 - 10
	61 - 75	61 - 75	C		
	2.6 - 3.0	2.6 - 3.0			

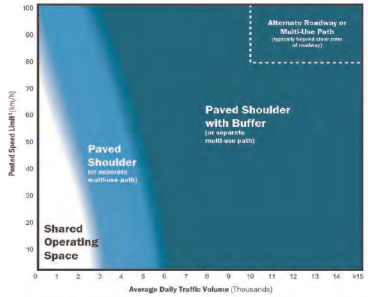
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

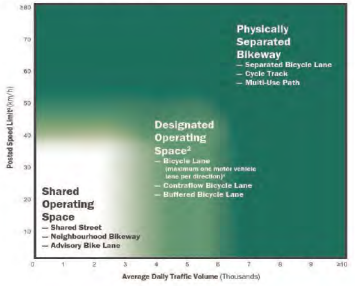
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

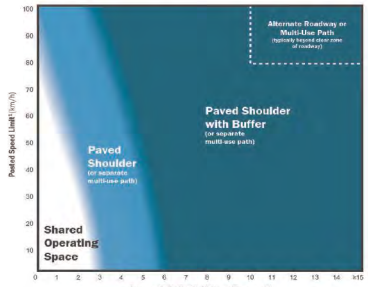
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

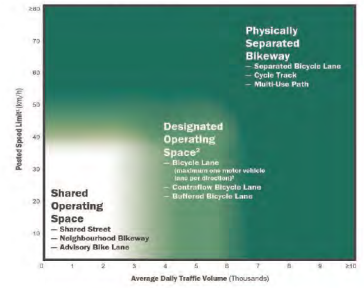
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**A**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
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Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	0 - 10	A	0 - 10
	Less than 60	Less than 60	D		
	2.6 - 3.0	2.6 - 3.0			

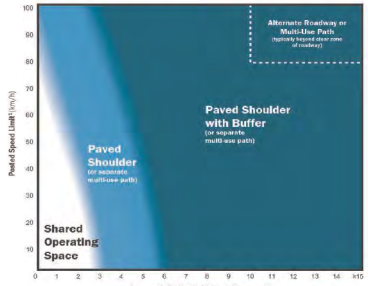
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



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2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

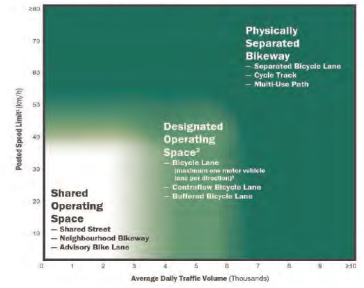
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

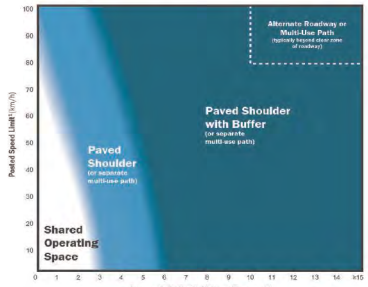
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

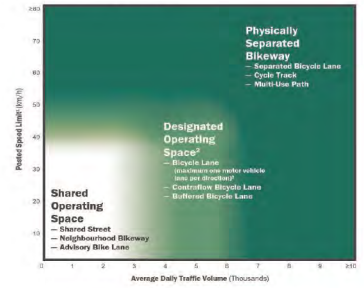
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	C	21 - 35
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

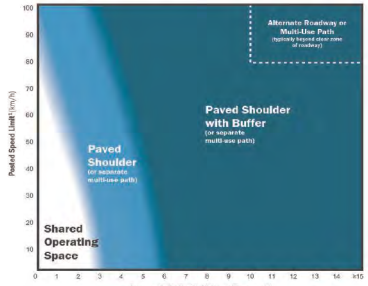
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

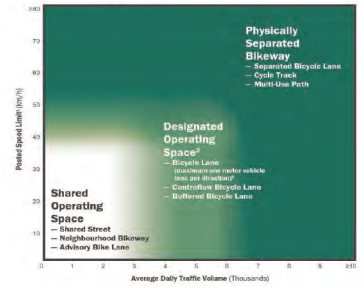
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
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Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

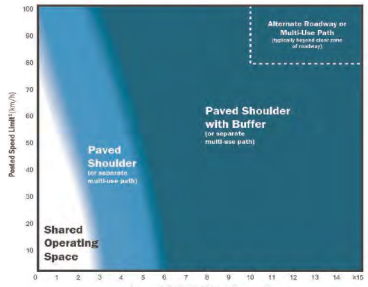
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

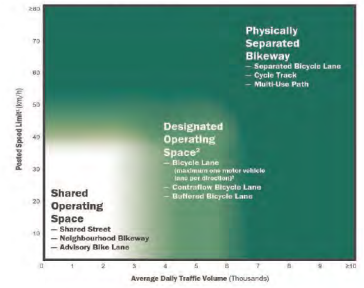
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

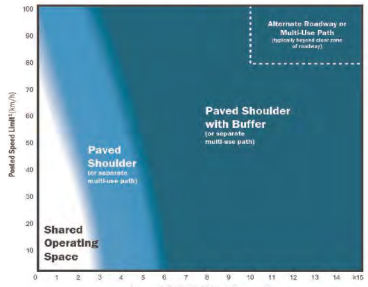
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

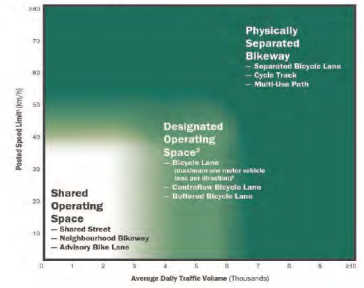
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

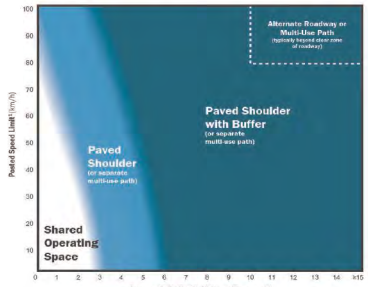
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

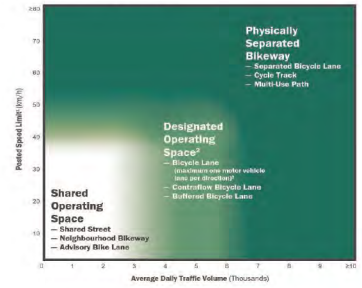
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	56 - 80
	100% of movements	0 - 15 %	D	E	
	15.0 - 17.9	15.0 - 17.9			

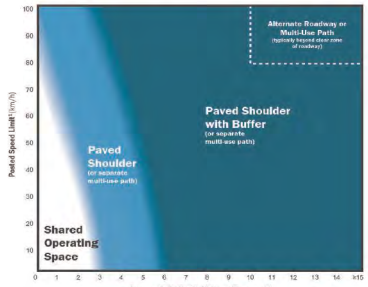
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

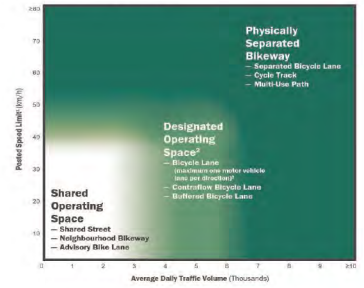
SCENARIO:	***FSD Alt 3 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

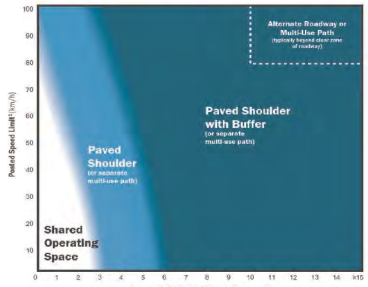
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

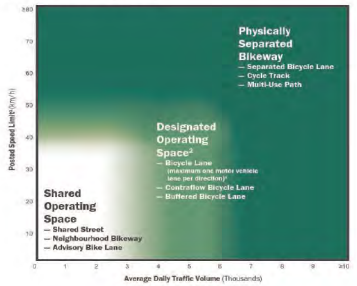
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West/ Mason Drive & Wilson Street West					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**		**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	No
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1		No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9		21 - 35	B	11 - 20
	61 - 75		C		
	2.6 - 3.0				

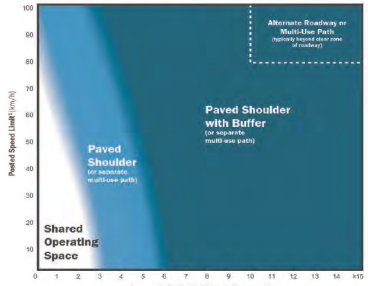
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

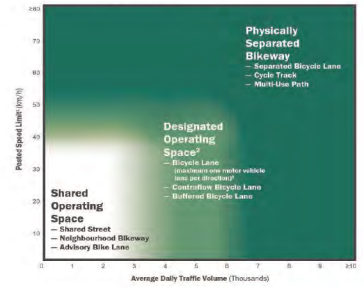
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & McClure Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

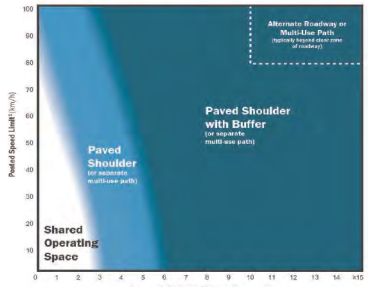
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

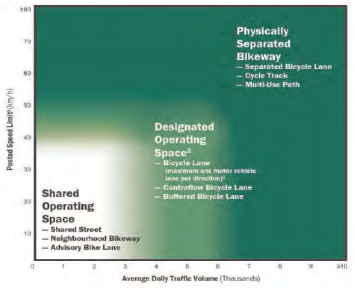
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Access Rd					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**C**	**E**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	21 - 35
	100% of movements	0 - 15 %	D	C	
	15.0 - 17.9	15.0 - 17.9			

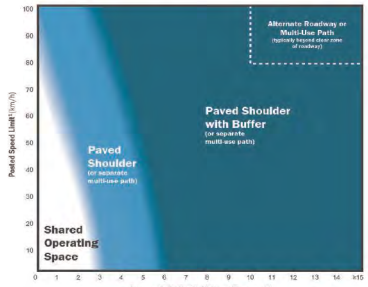
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



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Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

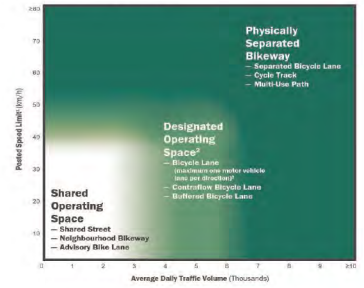
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Shaver Road					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	61 - 75	61 - 75	C		
	2.6 - 3.0	2.6 - 3.0			

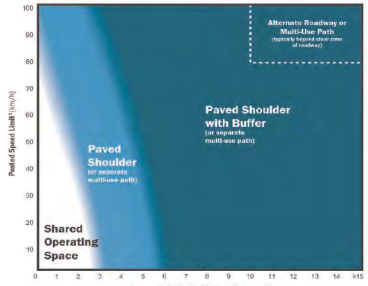
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

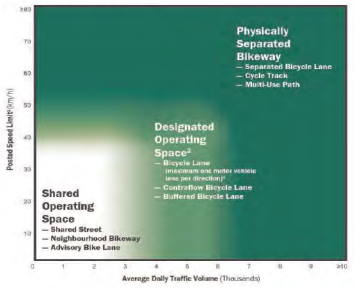
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Hamilton Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

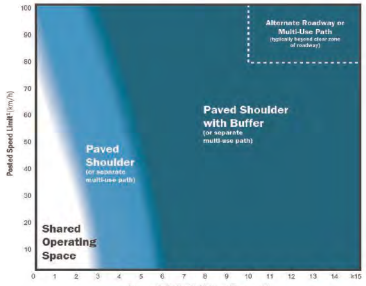
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2 Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3 On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

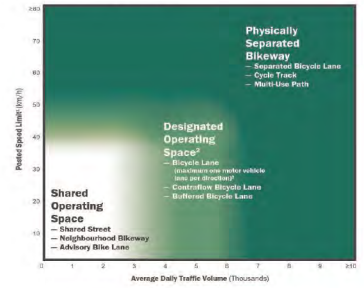
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Panabaker Dr.					
Type	**SIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**D**	**B**	**B**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	60 - 84%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	B	11 - 20
	76 - 90	76 - 90	D		
	2.6 - 3.0	2.1 - 2.5			

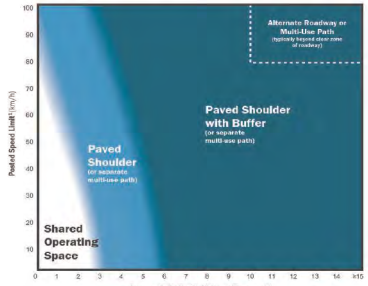
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

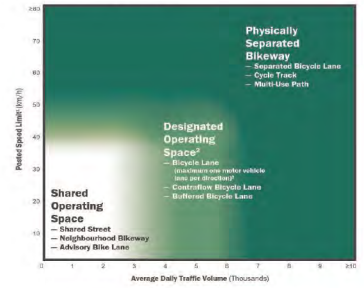
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Braithwaite Ave					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

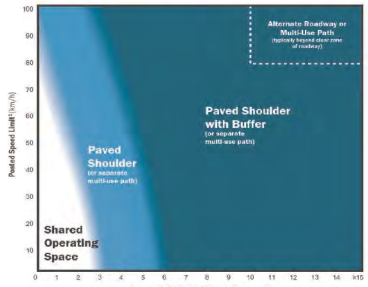
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

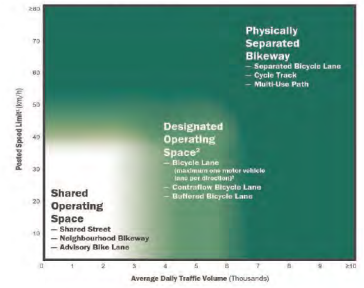
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Road West & Fiddler s Green Rd.					
Type			**SIGNALIZED INTERSECTIONS**		
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**D**	**D**	**C**	**C**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

Measure 1	Enhanced Pedestrian Measures	Enhanced Bicycle Facilities	Transit Priority Measures	Average Effective Turning Radius (m)	% of Movements with Dedicated Turn Lanes
	0.76 - 1	0.76 - 1	No transit priority measures at any approaches for transit	15 - 16	35 - 59%
	Average Effective Turning Radius (m)	Average Effective Turning Radius (m)	Transit Movement Delay (s)	Car Level of Service	Intersection Delay (s)
	15.0 - 17.9	15.0 - 17.9	11 - 20	C	21 - 35
	106 -120	106 - 120	D		
	2.6 - 3.0	2.1 - 2.5			

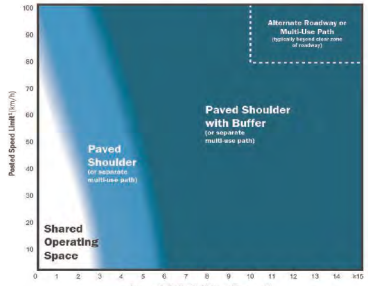
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

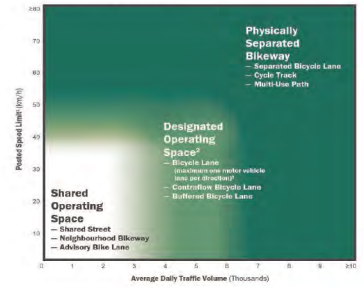
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Anson Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1					
	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

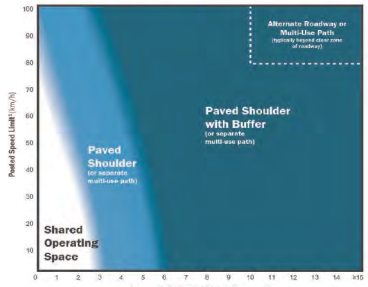
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

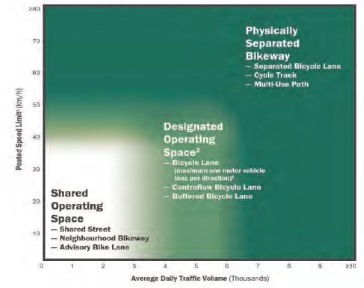
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Miller Dr.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**C**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	9.0 - 11.0	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	C	A	
	15.0 - 17.9	15.0 - 17.9			

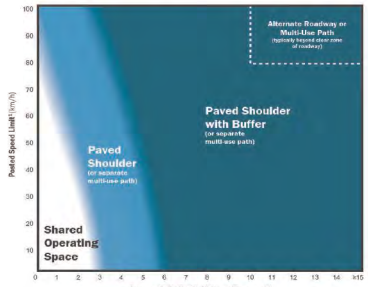
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

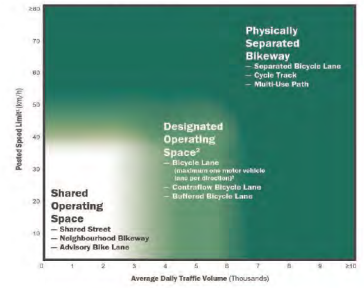
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & Woodmount Ave.					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

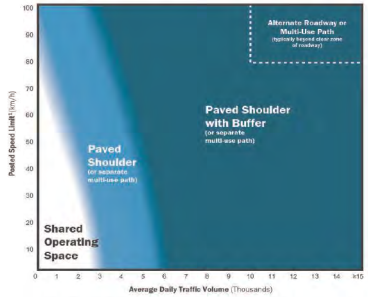
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

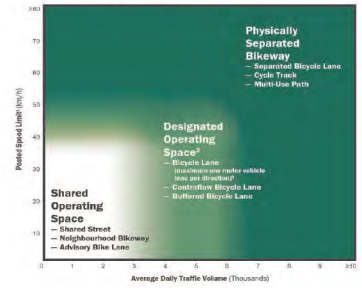
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB Exit Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**D**	**F**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	Greater than 80
	100% of movements	0 - 15 %	D	F	
	15.0 - 17.9	15.0 - 17.9			

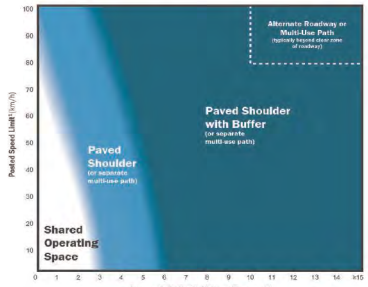
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

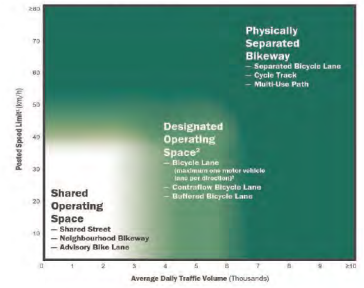
SCENARIO:	***FSD Alt 1 2031 PM***				
Area Type: Neighbourhood Connector					
MODE					
Garner Rd W & 403 EB On Ramp					
Type	**UNSIGNALIZED INTERSECTIONS**				
Target (Custom if necessary)	**E**	**D**	**B**	**D**	**D**
Adjustment for Planning Direction	**Upwards**	**Upwards**	**None**	**Upwards**	**Upwards**
Reasons for adjustment (if applicable)	ATMP	ATMP	ATMP	ATMP	ATMP
Adjustment for Strategic Policy	**None**	**None**	**None**	**None**	**None**
Reasons for adjustment (if applicable)					
Actual	**D**	**C**	**B**	**B**	**D**

Active Transportation Design Check	
Are marked pedestrian crossings provided to connect all approaching pedestrian facilities?	Yes
Does the approaching bike facility continue at a consistent width up to the edge of the intersection (crosswalk or curb edge of intersecting roadway)?	Yes
Is a continuous amount of space and accompanying pavement makings delineated for cyclists through the intersection?	Yes
Does the intersection design provide features which facilitate all the intended turn movements for cyclists (e.g. bike boxes, queuing space, protected intersection, etc)?	Yes
Have Accessibility for Ontarians with Disabilities Act (AODA) and municipal accessibility standards (if applicable) been considered?	Yes

MMLOS Evaluation

	Average Crossing Distance (m)	Presence of Bicycle Facilities	Transit Movement Delay (s)	Average Effective Turning Radius (m)	Intersection Delay (s)
Measure 1	Greater than 11	Bike facility on 3/4 or 2/3 approaches	0 - 10	15 - 16	0 - 10
	100% of movements	0 - 15 %	D	A	
	15.0 - 17.9	15.0 - 17.9			

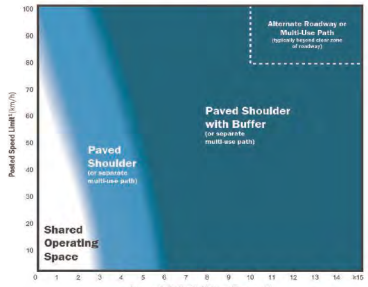
Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
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3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 5.5 – Desirable Cycling Facility Pre-selection Nomograph — Urban/Suburban Context

Desirable Cycling Facility Pre-Selection Nomograph
Rural Context[1]



1. In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.

Figure 5.6 – Desirable Cycling Facility Pre-selection Nomograph — Rural Context

APPENDIX F:
SIGNAL WARRANT ANALYSIS OUTPUTS

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Anson Drive

Count Date: 2021

Summary Results

Justification		Compliance	Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A Total Volume	95 %	☐	☑
	B Crossing Volume	6 %		
2. Delay to Cross Traffic	A Main Road	95 %	☐	☑
	B Crossing Road	8 %		
3. Combination	A Justificaton 1	6 %	☐	☑
	B Justification 2	8 %		
4. 4-Hr Volume		22 %	☐	☑
5. Collision Experience		0 %	☐	☑
6. Pedestrians	A Volume	Justification not met	☐	☑
	B Delay	Justification not met		

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Braithwaite Ave Count Date: 2021

Summary Results

Justification		Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A Total Volume	94	%	☐	☑
	B Crossing Volume	14	%		
2. Delay to Cross Traffic	A Main Road	93	%	☐	☑
	B Crossing Road	26	%		
3. Combination	A Justificaton 1	14	%	☐	☑
	B Justification 2	26	%		
4. 4-Hr Volume		52	%	☐	☑
5. Collision Experience		0	%	☐	☑
6. Pedestrians	A Volume	Justification not met		☐	☑
	B Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Highway 403 Entrance Ramp Count Date: 2021

Summary Results

Justification		Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A Total Volume	96	%	☐	☑
	B Crossing Volume	0	%		
2. Delay to Cross Traffic	A Main Road	96	%	☐	☑
	B Crossing Road	0	%		
3. Combination	A Justificaton 1	0	%	☐	☑
	B Justification 2	0	%		
4. 4-Hr Volume		1	%	☐	☑
5. Collision Experience		0	%	☐	☑
6. Pedestrians	A Volume	Justification not met		☐	☑
	B Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Highway 403 Exist Ramp Count Date: 2021

Summary Results

Justification		Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A Total Volume	96	%	☐	☑
	B Crossing Volume	50	%		
2. Delay to Cross Traffic	A Main Road	95	%	☐	☑
	B Crossing Road	84	%		
3. Combination	A Justificaton 1	50	%	☐	☑
	B Justification 2	84	%		
4. 4-Hr Volume		100	%	☑	☐
5. Collision Experience		0	%	☐	☑
6. Pedestrians	A Volume	Justification not met		☐	☑
	B Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Miller Drive

Count Date: 2021

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	95	%	☐	☑
	B	Crossing Volume	8	%		
2. Delay to Cross Traffic	A	Main Road	95	%	☐	☑
	B	Crossing Road	20	%		
3. Combination	A	Justificaton 1	8	%	☐	☑
	B	Justification 2	20	%		
4. 4-Hr Volume			27	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Anson Drive

Count Date: FB2031

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	5	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	7	%		
3. Combination	A	Justificaton 1	5	%	☐	☑
	B	Justification 2	7	%		
4. 4-Hr Volume			20	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Braithwaite Ave Count Date: FB2031

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	21	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	43	%		
3. Combination	A	Justificaton 1	21	%	☐	☑
	B	Justification 2	43	%		
4. 4-Hr Volume			64	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Highway 403 Entrance Ramp Count Date: FB2031

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	0	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	0	%		
3. Combination	A	Justificaton 1	0	%	☐	☑
	B	Justification 2	0	%		
4. 4-Hr Volume			0	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Highway 403 Exist Ramp Count Date: FB2031

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	63	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	86	%		
3. Combination	A	Justificaton 1	63	%	☐	☑
	B	Justification 2	86	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Ganer Road E & Miller Drive

Count Date: 2021

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	8	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	18	%		
3. Combination	A	Justificaton 1	8	%	☐	☑
	B	Justification 2	18	%		
4. 4-Hr Volume			27	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			