Main Street Pedestrian Crossing Review

Town of Grand Valley
5 Main Street North
Grand Valley ON L9W 5S6

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Table of Contents

Tables

Figures

Appendices

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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by the Town of Grand Valley (Town) to conduct a pedestrian crossing warrant analysis for Main Street South between Amaranth Street and Mill Street, as well as a signal warrant analysis at the intersections of Main Street/Amaranth Street and Main Street/Mill Street.

This report presents the results of the analysis for additional traffic and pedestrian control warrants, consistent with Ontario Traffic Manual (OTM) Book 12 – *Traffic Signals* and Book 15 – *Pedestrian Crossing Treatments*. This report considers various factors such as recorded traffic volumes, physical site characteristics, proximity to other traffic control devices, network connectivity and pedestrian desire lines.

2.0 Study Area

The Town of Grand Valley does not currently differentiate its roads by functional classifications; however, the Town's *2022 Road Management Plan (Burnside, July 2022)* recommends functional classifications for the purpose of road management. The functional classifications noted for the streets within the study area are based on the Road Management Plan.

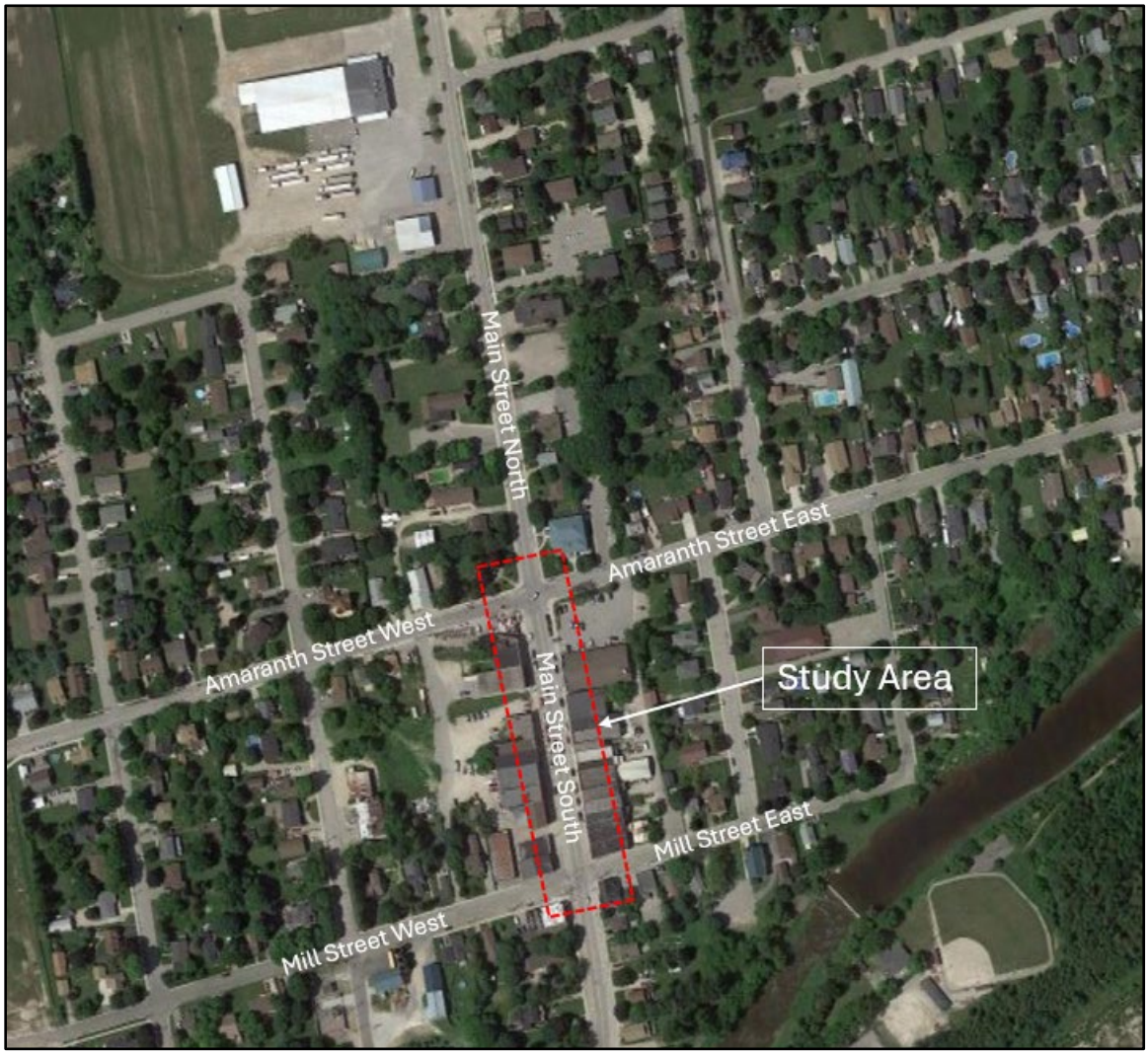
Main Street South is a main road within the Town's commercial core and is under the jurisdiction of the Town, providing a connection to County Road 25, both north and south of Town. Figure 1 below illustrates the study area including the intersection of Main Street/Amaranth Street and Main Street/Mill Street.

In the study area, Main Street is an Arterial (ART) road that runs in a north/south direction and has a posted speed limit of 40 km/h. Main Street has a typical urban cross section, with sidewalks provided on both sides of the road, on-street parking on the east side of the road north of Amaranth Street and on both sides of the road south of Amaranth Street.

Amaranth Street is an ART road that runs in an east/west direction. The road is under the jurisdiction of the Town and has a posted speed limit of 40 km/h. Amaranth Street has a typical urban cross section, with sidewalks provided on both sides of the road and on-street parking on both sides of the road.

Mill Street is a Collector Residential (CR) road that runs in an east/west direction. The road is under the jurisdiction of the Town and has an unposted (assumed) speed limit of 50 km/h. Mill Street has a typical urban cross section, with sidewalks provided on both sides of the road and on-street parking provided on both sides of the road.

Figure 1: Study Area



Aerial Source: Google Maps

All study intersections are currently stop controlled on the east-west roads, with uninterrupted flow on Main Street. Pedestrians attempting to cross Main Street must stop and wait for a safe gap in traffic, as there are currently no protected crossing locations. The adjacent land uses, fronting along Main Street, consist mainly of commercial uses, with residential properties behind the commercial spaces. The Grand Valley Public Library and Municipal office is in the northeast quadrant of the Main Street/Amaranth Street intersection. North of the study area is the Grand Valley Agricultural Society/Grand Valley Community Centre, the Grand Valley YMCA as well as Grand Valley Public School.

3.0 Warrant Process and Treatment Types

This section provides background on current pedestrian crossing treatments and the warrant process.

3.1 Traffic Signal Warrants

OTM Book 12 – Traffic Signals outlines the warrant process and requirements for Full Traffic Signals, Intersection Pedestrian Signals (IPS) and Midblock Pedestrian Signals (MPS). Various attributes are required for the analysis of signal warrants consisting of intersection configuration (number of approaches and lanes), traffic volumes, pedestrian volumes, roadway speed and area population. The signal warrant process consists of seven justifications consisting of:

- Justification 1 (Minimum Eight-Hour Vehicle Volume) – Justification 1A reflects the lowest total traffic on all approaches and Justification 1B reflects the lowest volume on the minor road for which the average delay is similar for both signalized and unsignalized conditions. Therefore, Justification 1 is intended to address minimum volume conditions for signalization to be used to minimize total average vehicle delay at the intersection. Since the study area is within a low-speed urban corridor, the Justification 1 warrant criteria threshold is based on Restricted Flow conditions.
- Justification 2 (Delay to Cross Traffic) – Justification 2 is intended for applications where the traffic volume on the main road is so heavy that traffic on the minor road suffers excessive delay or hazard in entering or crossing the main road. The Justification 2 warrant criteria threshold is based on Restricted Flow conditions.
- Justification 3 (Combination Warrant) – Signals may occasionally be justified where neither justification 1 or 2 are 100% satisfied but both justifications are at least 80% satisfied. Justification 3 should only be applied after an adequate trial of other remedial measures designed to reduce delay and inconvenience to traffic have failed to solve operational issues.
- Justification 4 (Minimum Four-Hour Vehicle Volume) – the minimum four-hour vehicle volume justification is intended for applications where the intersection experiences excessive delays for four or more peak hours of the day but does not have the prolonged demands throughout the day to meet an eight-hour warrant. The Ministry of Transportation, Ontario (MTO) does not use the four-hour justification, however some jurisdictions may consider the justification applicable for limited specific situations.
- Justification 5 (Collision Experience) – traffic signals may be considered as one means of improving intersection safety where an unsignalized intersection has an unusually high collision history. The warrant value for collision history is 15 collisions, that are susceptible to correction by a traffic signal, with the collisions considered over a period of 36 consecutive months.

- Justification 6 (Pedestrian Volume) – the minimum pedestrian volume conditions are intended for applications where the traffic volume on a main road is so heavy that pedestrians experience excessive delay or hazard in crossing the main road, or where high pedestrian crossing volumes produce the likelihood of such delays. This justification applies to an unsignalized intersection or a midblock location. The pedestrian volume justification takes into consideration the number of pedestrians with a delay of ten seconds or more, as well as the number of assisted (seniors, disabled persons and children under 12) versus unassisted pedestrians.
- Justification 7 (Projected Volumes) – In some cases, it is desired to determine the future need for traffic signals at an existing or planned intersection, triggered by traffic growth due to new development. There are two basic scenarios, the first is an existing intersection and all that is changing is the addition of developments and traffic and the second is a development which will require or be associated with the construction of one or more new legs at an existing intersection.

3.2 Intersection Analysis Methodology

Intersection operations were assessed for intersections in the study area using the software program Synchro 12, which employs methodology from the *Highway Capacity Manual* (HCM2000 and HCM2010), published by the Transportation Research Board National Research Council. Synchro 12 can analyze both signalized and unsignalized intersections in a road corridor or network taking into account the spacing, interaction, queues, and operations between intersections. The analysis in this study utilizes the HCM2000 methodology.

Stop controlled intersection analysis considers two separate measures of performance:

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

Table 1: Stop Controlled LOS and Delay

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

3.3 Pedestrian Crossing Warrants

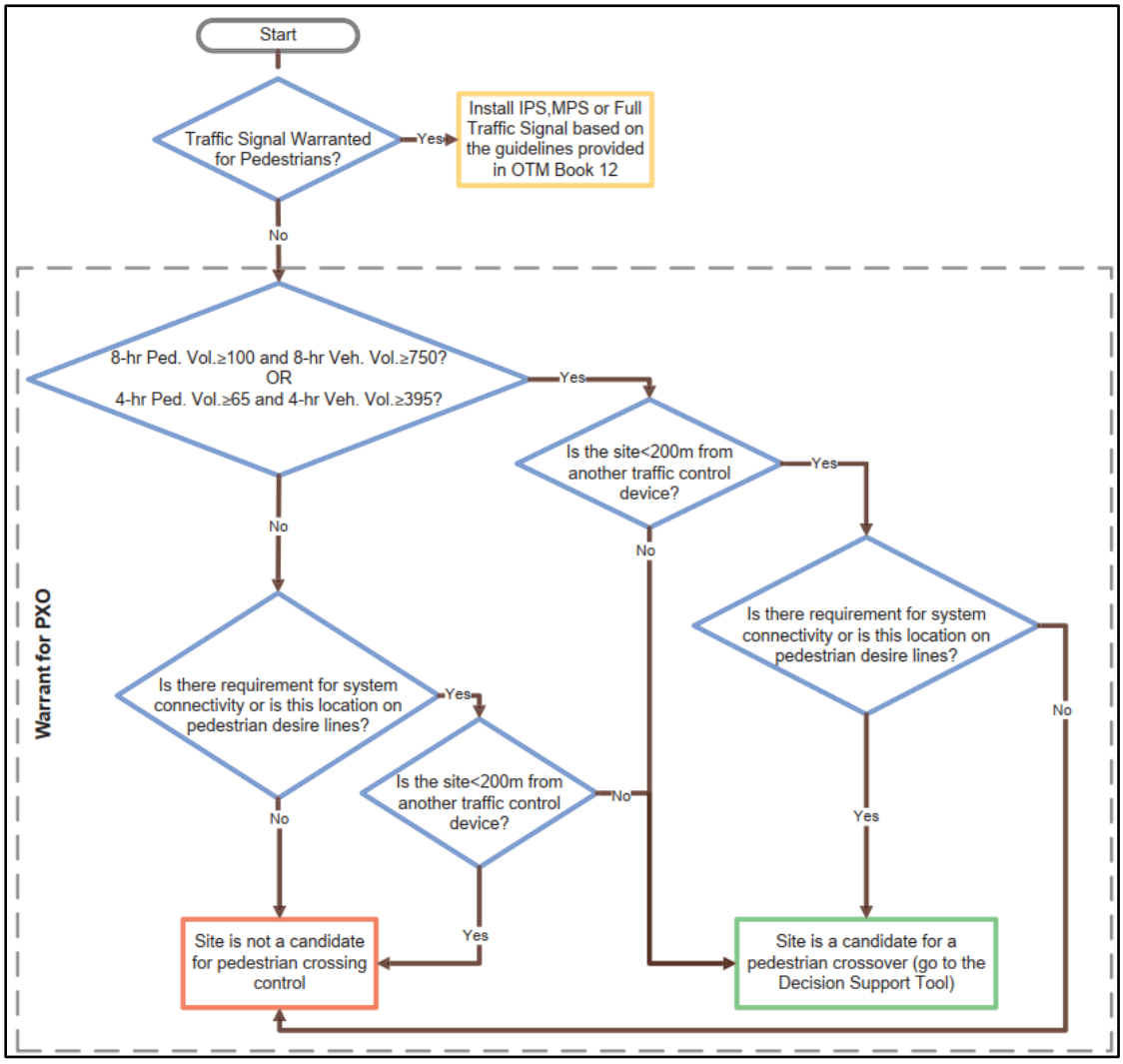
In June 2016 the updated OTM Book 15 – Pedestrian Crossing Treatments was released, which introduced some new types of pedestrian crossover (PXO) treatments. OTM Book 15 provides procedures for determining if a PXO is warranted and selecting the appropriate type of PXO depending on traffic volumes, pedestrian volumes, speed limits and lane configurations. Figure 2 is the flow chart from OTM Book 15, which outlines the PXO warrant process. As shown on the flow chart, the first step is to check whether traffic signals are warranted based on pedestrian volumes, using OTM Book 12.

If a traffic signal is not warranted, then the PXO warrant process is continued. The minimum pedestrian volume to warrant a PXO is 100 pedestrian crossings in eight-hours or 65 in four-hours, assuming the minimum vehicular volumes are also met. If the minimum volumes are not met, there is still the possibility that the

A Site could be a candidate for a PXO if there is a need for pedestrian system connectivity, or if the location is on pedestrian desire lines.

Both OTM Book 12 and Book 15 indicate that an adjusted pedestrian volume should be used to assess pedestrian signal/crossing warrants, which reflects “equivalent adults”. The adjusted pedestrian volume is based on categorizing pedestrians as “Unassisted” and “Assisted”, where “Unassisted” refers to adults and adolescents at or above the age of 12 and “Assisted” refers to children under the age of 12, senior citizens, disabled pedestrians and other pedestrians requiring special consideration or assistance. The adjusted pedestrian volume is calculated as the “Unassisted” volume plus two times the “Assisted” volume. In cases where an adult accompanies an “Assisted” pedestrian, both individuals are counted as “Assisted” pedestrians.

Figure 2: Decision Support Tool - Preliminary Assessment for PXO



Source: Ontario Traffic Manual Book 15 – Pedestrian Crossing Treatments (Figure 2)

3.4 Pedestrian Crossing Treatments

A pedestrian crossing treatment system is a combination of components which form a single strategy to facilitate the crossing of pedestrians. Components may include signs, signals, pedestrian crossovers, pavement markings, geometric features, and/or the use of school crossing guards.

According to OTM Book 15, the general hierarchy of pedestrian crossing treatment systems, in ascending order in relation to increasing complexity of the roadway environmental conditions and cost, is as follows:

- Supervised School Crossing (School Crossing Guard)
- Stop Controlled or Yield Controlled Intersections

- Pedestrian Crossovers (PXO)
  - Level 2 Type D
  - Level 2 Type C
  - Level 2 Type B
  - Level 1 Type A
- Traffic Signals
  - Mid-block Pedestrian Signals (MPS)
  - Intersection Pedestrian Signals (IPS)
  - Full Traffic Signal

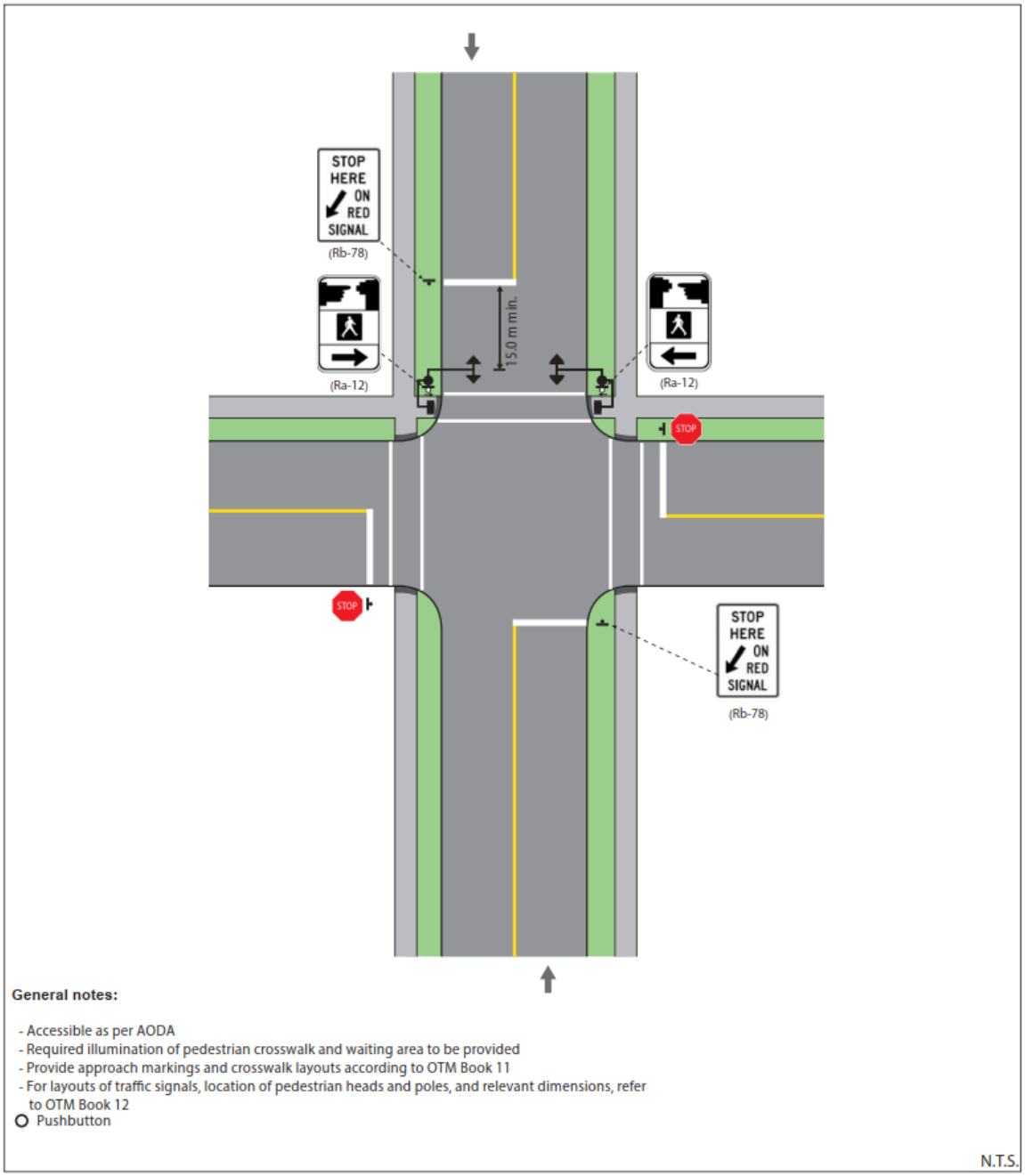
The treatment options considered in this study consist of Level 2 PXOs and Intersection Pedestrian Signals. These treatments are briefly described in the following table, and typical layouts are illustrated in Figure 3 though Figure 6.

Table 2: Pedestrian Crossing Treatment Descriptions

Crossing Treatment	Description
Intersection Pedestrian Signals (IPS)	Traffic control signal system installed on one leg of an intersection to stop main street traffic and provide gaps for pedestrian right-of-way.
Level 2 Type B PXO	A PXO defined by the use of ladder crosswalk pavement markings, pedestrian-activated rectangular rapid flashing beacons (RRFB), and both sides mounted and overhead regulatory signs (“Stop For Pedestrians”).
Level 2 Type C PXO	A PXO defined by the use of ladder crosswalk pavement markings, pedestrian-activated rectangular rapid flashing beacons (RRFB), and side mounted regulatory signs (“Stop For Pedestrians”).
Level 2 Type D PXO	A PXO defined by the use of ladder crosswalk pavement markings and side mounted regulatory signs (“Stop For Pedestrians”).

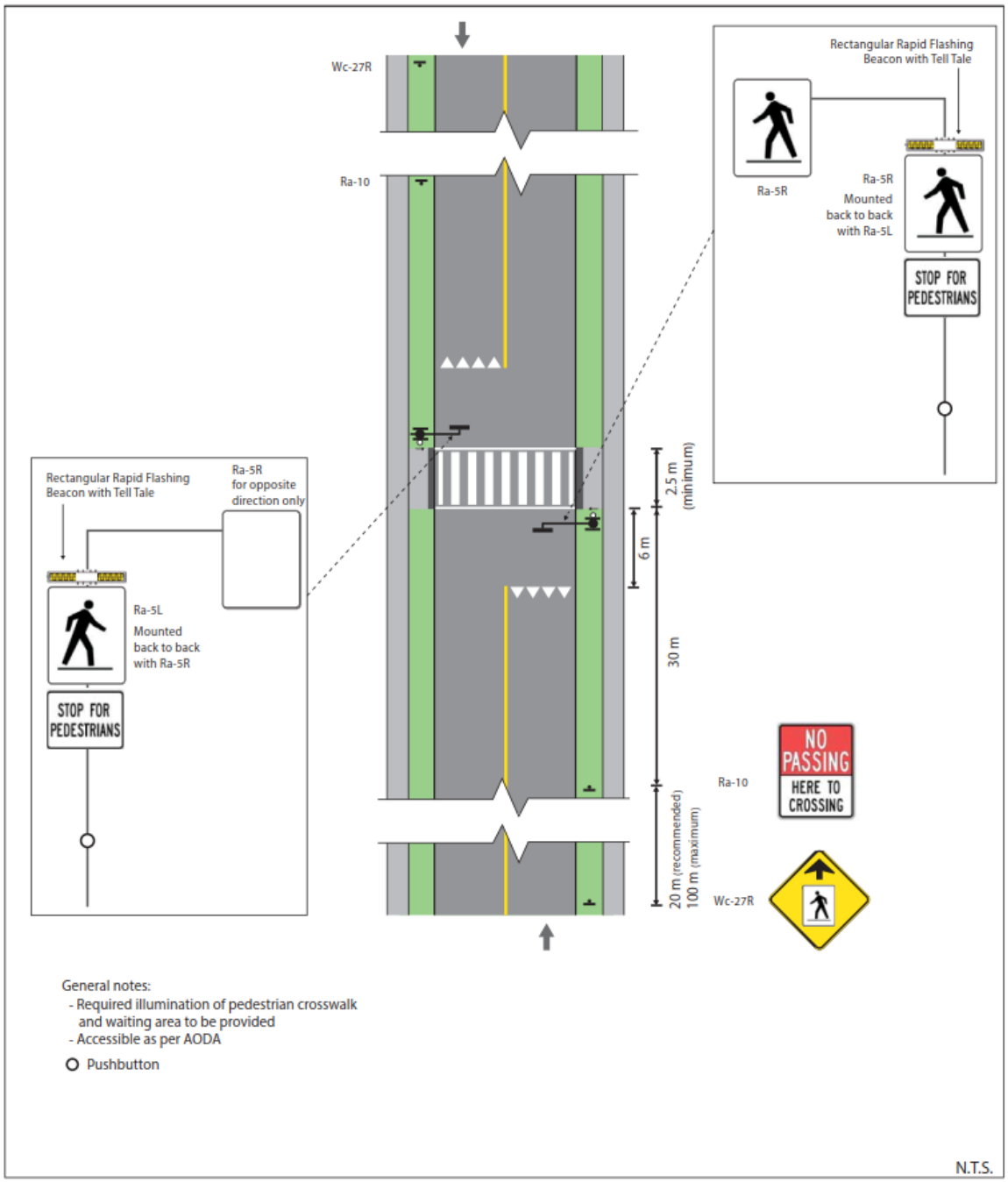
Both a PXO and IPS require motorists to stop for pedestrians, but a PXO leaves some responsibility to the pedestrian to make sure motorists stop before crossing, whereas an IPS provides visual indications (lights/symbols) to both motorists and pedestrians to control the right-of-way.

Figure 3: Intersection Pedestrian Signal Typical Layout



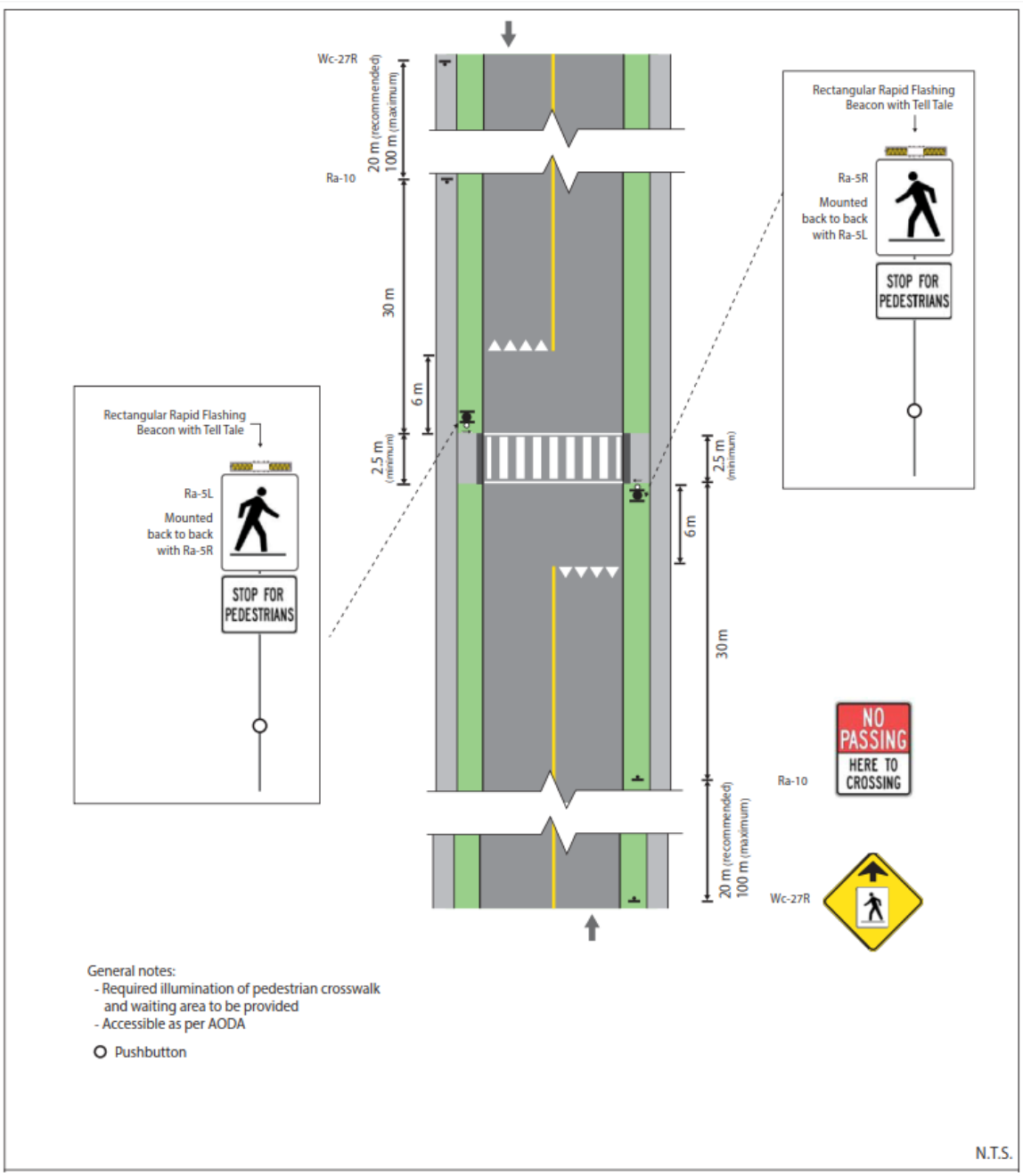
Source: OTM Book 15, Pedestrian Crossing Treatments

Figure 4: Level 2, Type B PXO – Typical Mid-block Installation Layout



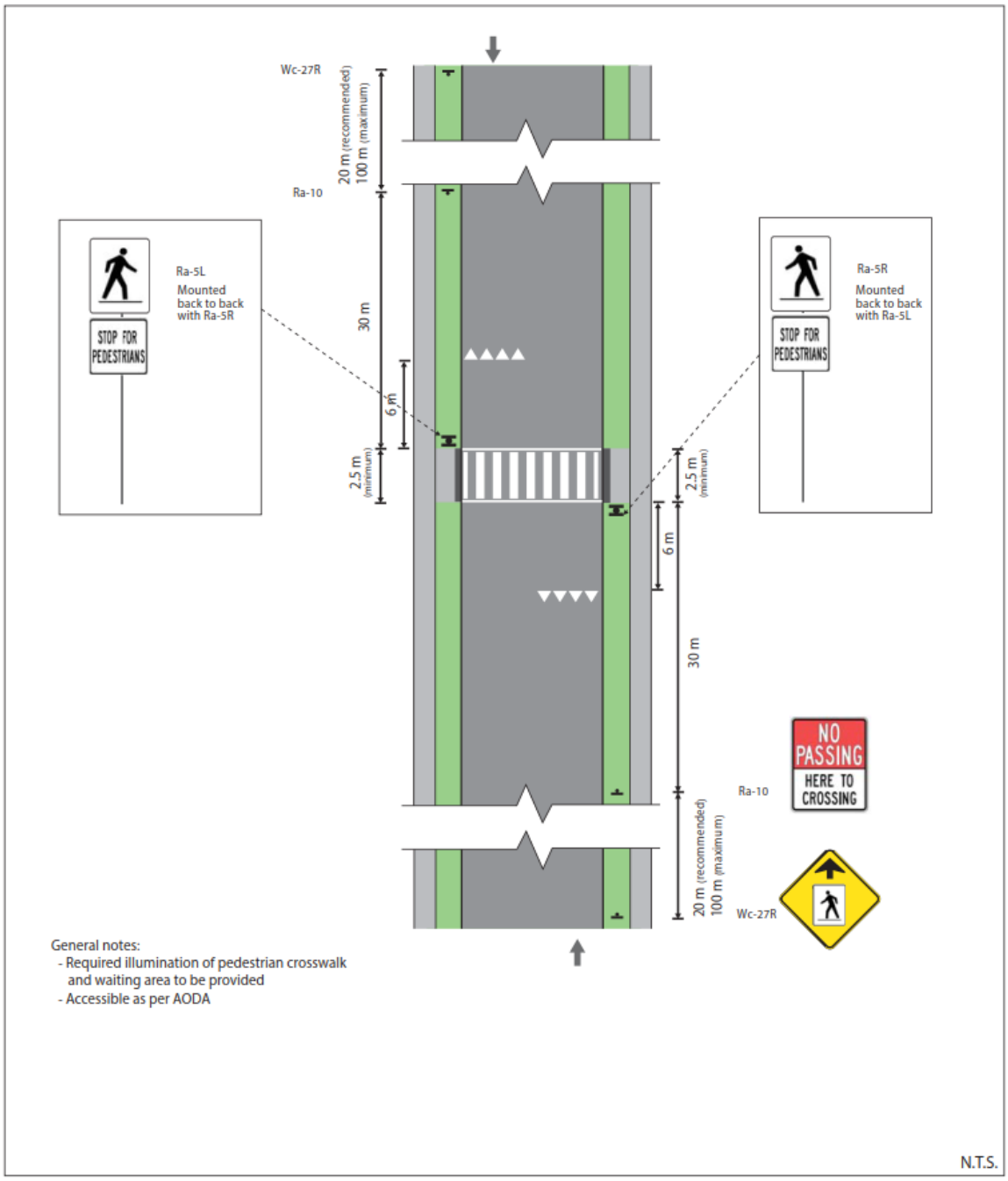
Source: OTM Book 15, Pedestrian Crossing Treatments

Figure 5: Level 2, Type C PXO – Typical Mid-block Installation Layout



Source: OTM Book 15, Pedestrian Crossing Treatments

Figure 6: Level 2, Type D PXO – Typical Mid-block Installation Layout



Source: OTM Book 15, Pedestrian Crossing Treatments

If it is determined that a PXO is warranted, OTM Book 15 provides recommended minimum treatment types based on the site characteristics (traffic volume, speed limit and width of the road) using the selection matrix shown in Figure 7.

Figure 7: Pedestrian Crossover Selection Matrix

Two-way Vehicular Volume			Posted Speed Limit (km/h	Total Number of Lanes for the Roadway Cross Section[1]			
Time Period	Lower Bound	Upper Bound		1 or 2 Lanes	3 lanes	4 lanes w/raised refuge	4 lanes w/o raised refuge
8 Hour	750	2,250	≤50	Level 2 Type D	Level 2 Type C[3]	Level 2 Type D[2]	Level 2 Type B
4 Hour	395	1,185					
8 Hour	750	2,250	60	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	395	1,185					
8 Hour	2,250	4,500	≤50	Level 2 Type D	Level 2 Type B	Level 2 Type D[2]	Level 2 Type B
4 Hour	1,185	2,370					
8 Hour	2,250	4,500	60	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	1,185	2,370					
8 Hour	4,500	6,000	≤50	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	2,370	3,155					
8 Hour	4,500	6,000	60	Level 2 Type B	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	2,370	3,155					
8 Hour	6,000	7,500	≤50	Level 2 Type B	Level 2 Type B	Level 2 Type C[2]	Level 1 Type A
4 Hour	3,155	3,950					
8 Hour	6,000	7,500	60	Level 2 Type B	Level 2 Type B		
4 Hour	3,155	3,950					
8 Hour	7,500	17,500	≤50	Level 2 Type B	Level 2 Type B		
4 Hour	3,950	9,215					
8 Hour	7,500	17,500	60	Level 2 Type B			
4 Hour	3,950	9,215					

Type A Type B Type C Type D

Approaches to roundabouts should be considered a separate roadways.

[1]The total number of lanes is representative of crossing distance. The width of these lanes is assumed to be between 3.0 m and 3.75 m according to MTO Geometric Design Standards for Ontario Highways (Chapter D.2). A cross sectional feature (e.g. bike lane or on-street parking) may extend the average crossing distance beyond this range of lane widths.

[2]Use of two sets of side mounted signs for each direction (one on the right side and one on the median)

[3] Use Level 2 Type B PXO up to 3 lanes total, cross section one-way.

The hatched cells in this table show that a PXO is not recommended for sites with these traffic and geometric conditions. Generally a traffic signal is warranted for such conditions.

Source: OTM Book 15, Pedestrian Crossing Treatments

We note that while the selection matrix was designed as a guideline for appropriate treatments for various conditions, engineering judgement should still be applied to the selection process, as there could be cases where a higher order treatment may prove more suitable.

4.0 Site Review and Analysis

4.1 Traffic and Pedestrian Counts

Turning movement and pedestrian counts were undertaken on Tuesday, June 25, 2024, by Ontario Traffic Inc. at the two study intersections. The results of the counts for the a.m. and p.m. peak hours and an eight-hour total are summarized in Figure 8 and Figure 9 for the Main Street/Amaranth Street intersection and at the Main Street/Mill Street intersection, respectively. The volumes shown in the figures are based on the raw data from the counts, with the pedestrian volumes being only pedestrians that crossed directly at the intersection, with no adjustment factors applied.

Figure 8: Main Street and Amaranth Street Traffic and Pedestrian Volumes

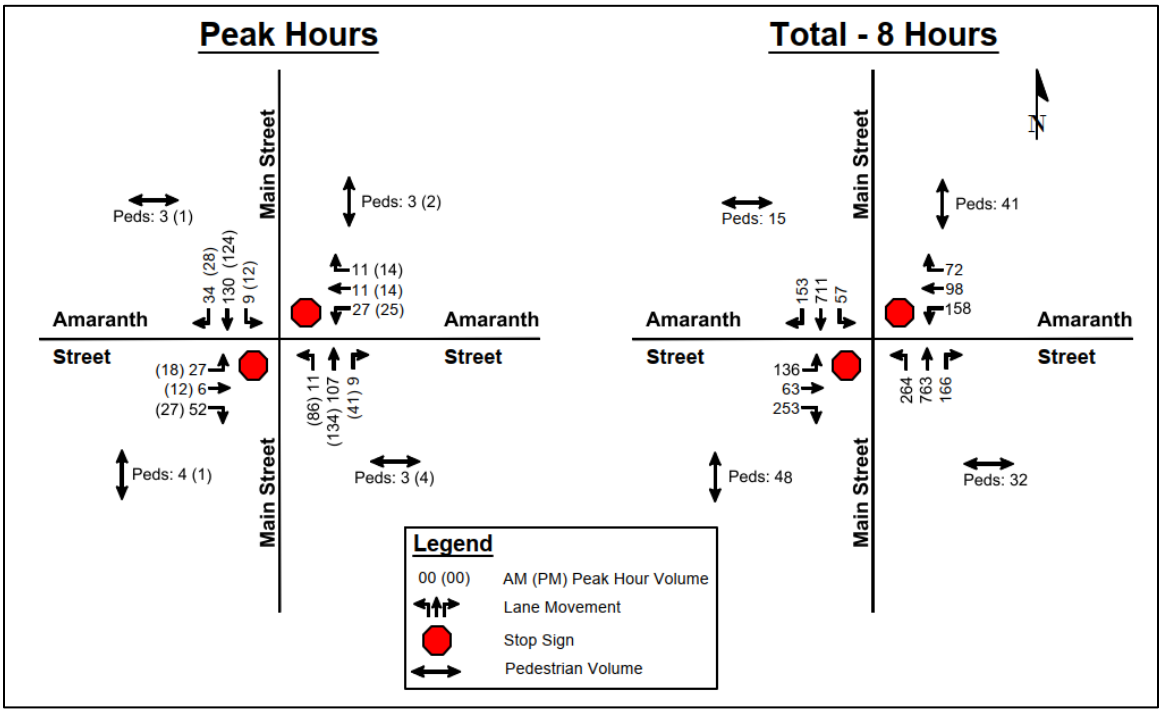
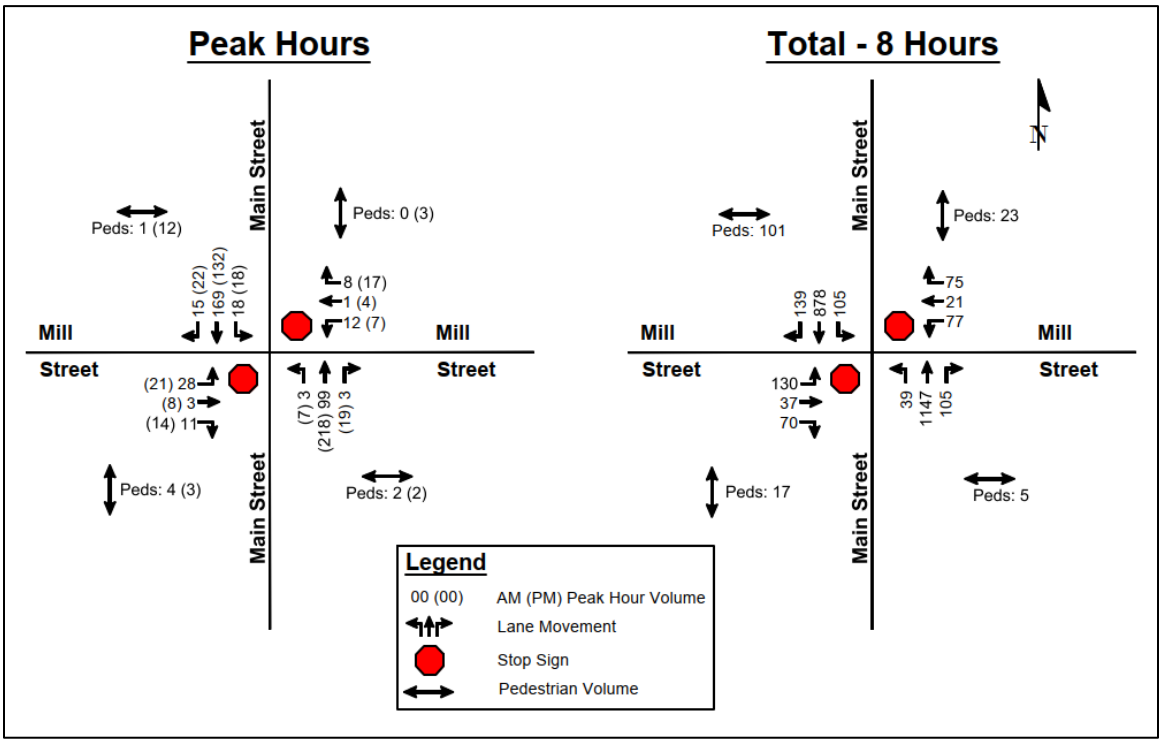


Figure 9: Main Street and Mill Street Traffic and Pedestrian Volumes



An automatic traffic recorder (ATR) count was undertaken on Tuesday June 25, 2024, by Ontario Traffic Inc. (OTI) on Main Street between Amaranth Street and Mill Street. The results of the speed data are summarized in Table 3 and the full traffic count data is provided in Appendix A.

Table 3: Main Street Speed Analysis

Speed Type	Northbound	Southbound	2-Way
Posted Speed	40 km/h	40 km/h	40 km/h
Average Speed	39 km/h	40 km/h	40 km/h
85th Percentile Speed	46 km/h	48 km/h	46 km/h

The 85th percentile speed is representative of operating conditions for design purposes. Considering the high pedestrian crossing activity in the downtown core it is desirable to have the 85th percentile speeds close to the posted speeds. The combination of the road gradients and commercial roadside environment in this area do not result in traffic calming to achieve the desirable target speed. Since this road has an arterial function, located in the downtown core, additional traffic calming measures are not considered feasible. Therefore, the implementation of controlled crossings is recommended to improve the safety for pedestrian crossing movements.

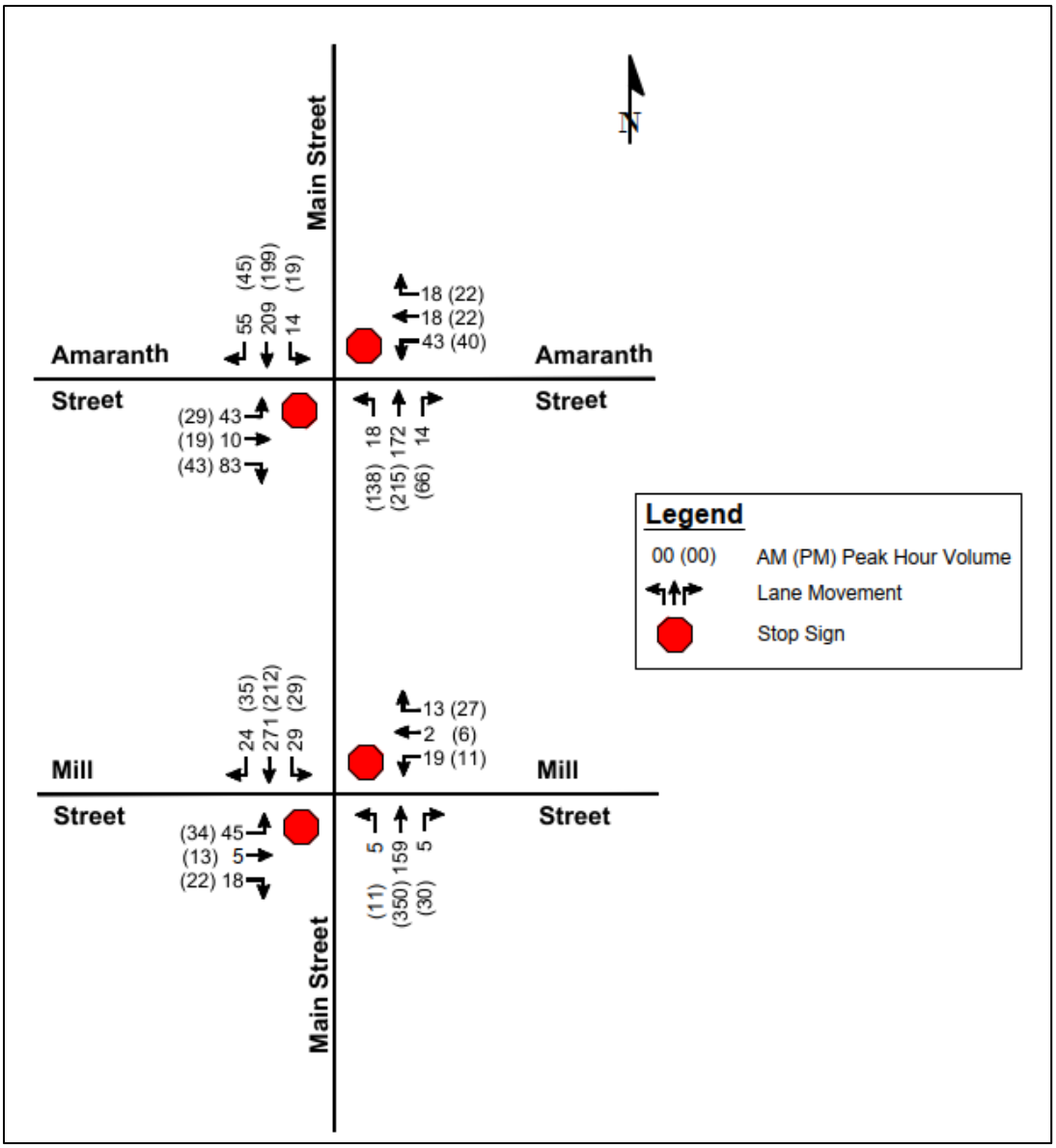
4.2 Traffic Growth

Grand Valley is expected to increase to a population of 16,500 by 2051 compared to 4,000 in 2021, resulting in a growth rate of approximately 4.84% per annum.

Population growth is not necessarily equivalent to traffic growth at a particular intersection, as traffic patterns differ based on origin-destination considerations. The development will be occurring around the existing outskirts of Town and may not contribute to an increase of traffic at the study intersections at the same rate as the population growth, as drivers may either choose to avoid the downtown area or be travelling in a different direction altogether. Hence, the application of a 4.84% per annum growth rate to existing traffic volumes is very conservative.

Where warrants are not met under existing conditions, traffic volumes were projected to a 10-year horizon (2034) with growth applied at a rate of 4.84% to determine whether they would be met in the future. The resulting future peak hour traffic volumes are illustrated in Figure 10.

Figure 10: Projected 2034 Traffic Volumes



4.3 Signal Warrants

A traffic signal warrant analysis was conducted based on the methodology contained in the *Ontario Traffic Manual Book 12*, published by MTO. The results of Justification 1 through 3 are summarized in Table 4 and details pertaining to the analysis can be found in Appendix B.

Table 4: Existing Signal Warrant Analysis[1]

Intersection	Justification	Justification 1 Minimum Vehicular Volume		Justification 2 Dealy to Cross Traffic	
		1A	1B	2A	2B
Main Street & Amaranth Street	Compliance	50%	57%	37%	98%
	Justified	No		No	
Main Street & Mill Street	Compliance	49%	30%	42%	59%
	Justified	No		No	

For each justification, the lower percentage governs the warrant. A signal can be warranted by just one of the justifications, provided that it is 100% for both categories.

Justification 3 requires both Justification 1 and 2 to be greater than 80% for the traffic signal to be warranted.

Under existing conditions, Justifications 1, 2 or 3 are not met at either of the study intersections

Justification 4 is the Minimum Four Hour Vehicle Volume justification that considers intersections that experience excessive delays for four or more peak hours but do not have prolonged demands throughout the day to meet the eight hour warrant. A review was conducted for the four highest hour traffic volumes on Main Street and the associated Amaranth Street and Mill Street volumes. Based on the Justification 4 graph (provided in Appendix B), the volumes on Amaranth Street and Mill Street were all significantly lower than the thresholds and therefore will not meet the warrant.

Justification 5 is the Collision Experience warrant as a means of improving intersection safety where an unsignalized intersection has an unusually high collision history. Collision experience is based upon the number of correctable collisions by installation of traffic signals over the past three years. The warrant requires an adequate trial by less restrictive remedies that has failed to reduce collision frequency and 15 or more collisions correctable by traffic signals over a three-year period. Correctable collisions include angle and turning movement collisions. Non-correctable collisions include rear end, sideswipe, and single motor vehicle. As there has only been a total of one collision in the last three years, considering both intersections, the warrant was not met by Justification 5.

Justification 6 is the Pedestrian Volume and Delay warrant. Pedestrian volumes and delay are the minimum pedestrian volume conditions where the traffic volume on the main road is sufficient that pedestrians experience excessive delay or hazard in crossing the main road or where high pedestrian crossing volumes produce likelihood of

[1] 1A and 2A are total intersection volumes while 1B and 2B are crossing volumes.

excessive delays. Signals are warranted by this justification if both the minimum pedestrian volume and delay criteria are met. Based on the Justification 6 graph (provided in Appendix B), the total eight-hour pedestrian volume does not meet the warrants at either intersection. Thus, the warrant was not met by Justification 6.

Justification 7 is the Projected Volumes warrant that is intended to forecast the future need for traffic signals considering anticipated growth in traffic at the intersection due to development growth from the immediate area and background growth from the broader area. The preferred approach is that eight-hour volume projections are estimated as part of the engineering study and evaluated against Justifications 1, 2 or 3. As discussed in Section 4.2, a 4.84% growth rate compounded annually was used to project the future traffic in the study area. This growth rate was applied to all traffic in the highest eight hours. The results are summarized in Table 5 and details pertaining to the analysis can be found in Appendix B.

Table 5: Future Signal Warrant Analysis (Justification 7) – Horizon Year 2034[2]

Intersection	Justification	Justification 1 Minimum Vehicular Volume[1]		Justification 2 Dealy to Cross Traffic [1]	
		1A	1B	2A	2B
Main Street & Amaranth Street	Compliance	77%	83%	58%	100%
	Justified	No		No	
Main Street & Mill Street	Compliance	74%	48%	65%	88%
	Justified	No		No	

Since eight-hour projections were used, Justification 1 or 2 need to be met to 100%, or Justification 3 (which considers Justification 1 and 2) needs to be met to 80%. All justifications are below the required threshold. Therefore, despite the aggressive and conservative growth rate that was applied, the traffic volumes do not warrant a signal at either intersection.

Based on the OTM Book 12 methodology, signals are not warranted at either intersection. It is recommended that these intersections be monitored for possible future improvements as the Town continues to grow.

4.4 Intersection Analysis

Synchro 12 was used to assess both intersections during the peak hours under existing conditions and under future projected (2034) conditions to see whether signalization may be required to maintain acceptable traffic operations. The results for the a.m. and p.m. peak hour are summarized in Table 6 and Table 7, respectively.

[2] 1A and 2A are total intersection volumes while 1B and 2B are crossing volumes.

Table 6: Intersection Traffic Operations (AM Peak)[3]

Movement	Existing Storage / Link Distance (m)	Existing 2024			Future Projected 2034		
		v/c	LOS[2]	95th Queue (m)	v/c	LOS	95th Queue (m)
Main Street / Amaranth Street							
EBLTR	50+	0.13	B	4	0.27	B	9
WBLTR	50+	0.10	B	3	0.22	C	7
NBLTR	50+	0.01	A	1	0.02	A	1
SBLTR	50+	0.01	A	1	0.01	A	1
Main Street / Mill Street							
EBLTR	50+	0.08	B	2	0.18	C	5
WBLTR	50+	0.04	B	1	0.08	B	2
NBLTR	50+	0.00	A	1	0.01	A	1
SBLTR	50+	0.01	A	1	0.02	A	1

Table 7: Intersection Operations (PM Peak)[4]

Movement	Existing Storage / Link Distance (m)	Existing 2024			Future Projected 2034		
		v/c	LOS	95th Queue (m)	v/c	LOS	95th Queue (m)
Main Street / Amaranth Street							
EBLTR	50+	0.11	B	3	0.28	C	9
WBLTR	50+	0.12	B	4	0.33	C	11
NBLTR	50+	0.06	A	2	0.11	A	3
SBLTR	50+	0.01	A	1	0.02	A	1
Main Street / Mill Street							
EBLTR	50+	0.09	B	3	0.21	C	6
WBLTR	50+	0.05	B	2	0.11	B	3
NBLTR	50+	0.01	A	1	0.01	A	1
SBLTR	50+	0.02	A	1	0.03	A	1

Under existing and future conditions during both peak hours, all study intersections and their movements are operating and will operate with excess capacity. The movements are experiencing and will experience a delay resulting is LOS C or better during the weekday a.m. and p.m. peak hours. Queues are also projected to be within the proposed storage / link distance. Therefore, signalization of either intersection is not required from an operational perspective.

[3] v/c is the volume to capacity ratio while LOS is the abbreviation for level of service.
[4] v/c is the volume to capacity ratio while LOS is the abbreviation for level of service.

4.5 Pedestrian Crossing Warrant Analysis and Recommendations

As discussed in Section 3.3, the PXO warrant is based on adjusted total equivalent pedestrian volumes, derived form the categorization of pedestrians as “Unassisted” or “Assisted”. For the calculation of adjusted pedestrian volumes, pedestrians crossing Main Street within 100 m of the intersection were also included since they could potentially be attracted to a controlled pedestrian crossing, if a PXO were implemented at the intersection in the future.

The 8-hour and 4-hour vehicular and pedestrian volumes are presented in Table 8, along with the applicable PXO warrant criteria and the determination of whether PXO warrants are met. Note that as the PXO warrant considers zones 100 m of the potential crossing, there is overlap in the pedestrian volumes considered for the intersections and the midblock location. The pedestrian volumes for the midblock consist of the zone to the south of the Main Street/Amaranth Street intersection and the zone to the north of the Main Street/Mill Street intersection. However, it is recognized that not all pedestrian crossings within 100 m of the crossing location would be attracted to the PXO.

Table 8: Main Street PXO Warrant Analysis Summary

Time Period & Location	Vehicular Volume			Pedestrian Volume					PXO Warrant Met?
	Volume	Warrant		Unassisted	Assisted	Total Equivalent	Warrant		
Main Street / Amaranth Street									
8 hours	2,894	750	✓	190	6	202	100	✓	Yes
4 hours	1,514	395	✓	90	3	96	65	✓	Yes
Main Street Midblock									
8 hours	2,635	750	✓	170	3	176	100	✓	Yes
4 hours	1,823	395	✓	107	2	111	65	✓	Yes
Main Street / Mill Street									
8 hours	2,823	750	✓	139	8	155	100	✓	Yes
4 hours	1,510	395	✓	87	5	97	65	✓	Yes

As shown in Table 8, both the traffic and pedestrian volumes exceed the warrant volumes at the two intersections and the midblock. However, the Main Street/Amaranth Street intersection is approximately 160 m from the Main Street/Mill Street intersection, with the midblock crossing between the two intersections. One of the criteria for implementing a PXO is that it is not within 200 m from another traffic control device, which may constrain implementing PXOs at multiple locations, given the available spacing.

Video footage that was collected during the traffic and pedestrian counts was reviewed. It was observed that the majority of people crossing were those who had parked on one side of the road and, needing to access establishments on the other side of the road, crossed straight across from where they parked, not traveling to either intersection to

cross. Some of the businesses that would generate midblock crossings include the following: restaurants/coffee shops, dental office, insurance brokers, convenience store, grocery store, liquor store and drug store. Furthermore, the Main Street / Amaranth Street intersection may not be a desirable location for a crossing due to the road geometry which may create issues with a PXO since cars will need to stop on the hill and may not be expecting to stop, hence increased rear-end collision potential. The midblock crossing has the greatest potential to attract crossings from both intersections and therefore serves the greatest number of pedestrians. As such, it is recommended that a PXO crossing be installed midblock to capture the most crossings.

Installation of a midblock PXO crossing will affect the existing parking spaces. Based on a review of the aerial imagery from Google, currently there are 34 marked on-street parking spaces (with an average length of 7.3 m) between Amaranth Street and Mill Street, one of which is accessible and approximately 10 m long. Review of the video footage revealed that the on-street parking is not being utilized to 100%, indicating that the removal of a few parking spaces may be possible without severely impacting the operations.

It may also be possible to mitigate the parking impact by decreasing the length of parking spaces to 6.7 m (which is standard in other municipalities for parallel parking spaces), thereby offsetting the removal of the parking spaces required to accommodate the PXO.

Applying the 8-hour vehicular volume (2,635), posted speed limit (40 km/h), and number of lanes (two) for Main Street to the OTM Book 15 PXO Selection Matrix (previously presented in Section 3.4), the recommended pedestrian crossing treatment type is a Level 2, Type D PXO. However, a Type D PXO may not provide sufficient visibility between motorists and pedestrians, considering the competing roadside environment in this area (i.e., storefront lighting and activities etc.). Therefore, it is recommended that the pedestrian crossing treatment type be upgraded to a Level 2, Type C PXO, which has the addition of the rectangular rapid flashing beacons (RRFB). To further enhance the visibility of pedestrians at this crossing it is recommended that curb extensions (i.e., bump outs) be implemented at the crossing.

5.0 Conceptual Design

A conceptual design of the PXO recommended for Main Street is provided in Appendix C. Two different options are provided: the first maintains the existing parking space lengths while the second adjusts the parking space lengths to 6.7 m, as discussed above in Section 4.5.

Both designs show a Level 2, Type C PXO midblock between Amaranth Street and Mill Street. Curb extensions (bump outs) are used to increase visibility between pedestrians and motorists at the curb line and reduce the pedestrian crossing distance.

Proper illumination is an important component of PXO design, and we recommend that luminaires be installed on the PXO poles or on an adjacent hydro pole (one luminaire per side of PXO), subject to confirmation of sufficient photometrics during detailed design.

6.0 Traffic Calming Considerations

As discussed in Section 4.1, the 85th percentile speed, which is representative of operating conditions, was found to be 46 km/h and 48 km/h in the northbound and southbound directions, respectively, on Main Street between Amaranth Street and Mill Street, whereas the posted speed limit is 40 km/h.

It is understood that the Town in looking to install Automated Speed Enforcement (ASE) in front of the school to the north of the study area in the next couple of months, which may have the added benefit of helping to slow down traffic in the downtown core. According to the *Canadian Guide to Traffic Calming,* published by the Transportation Association of Canada (TAC), dated February 2018, ASEs have the effect of reducing the average speed between 8 and 14 km/h within the enforced area, which is close to the point of installation. However, motorist may adapt by speeding up after passing cameras. The school is approximately half a kilometre from the downtown core, with an 8% downward slope for southbound traffic. This means that vehicles that slow down to travel through the school zone may speed up afterwards, still exceeding the posted speed limit by the time they get to the downtown core.

To address the stretch of road between the school zone and the Main Street / Amaranth Street intersection, the following traffic calming measures from the TAC guide may be considered: on-road ‘sign’ pavement markings, and vertical centreline treatment.

On-road ‘sign’ pavement markings provide information that would typically be shown to drivers through signage but are painted on the roadway to provide a larger image, and one that is directly in the driver’s line of sight. For example, the speed limit could be painted on the road in the same location as the speed limit signs as reinforcement. These pavement markings have been found to result in vehicle speed reduction between

6 and 14 km/h. These markings have no impact to emergency vehicles, snow plowing, street sweeping, and police enforcement, but may be less effective in winter months due to snow/ice cover. Figure 11 below illustrates an example of on road speed limit markings, with Figure 12 showing on road message markings such as “stop ahead”.

Figure 11: On Road Speed Limit Pavement Markings

Figure 12: On Road Message Pavement Markings

Vertical centreline treatment consists of the use of vertical treatments such as flexible post-mounted delineators. This could be used to give drivers a perception of lane narrowing and create a sense of constriction as well as remind motorists of the posted speed limit. These have been found to cause a reduction in 85th percentile speed up to 5 km/h. Figure 13 below illustrates an example of flexible centreline bollards.

Figure 13: Flexible Centreline Bollards

To provide real-time feedback to drivers, it is recommended that the Town implement radar speed feedback signs. Speed display signs, as shown in Figure 14, are a method of advising drivers about their speed and reminding them to slow down when driving above the speed limit. It is recommended that these speed signs be implemented around the Town's shop at 56 Main Street North near the top of the hill, north of the Main Street/Amaranth Street intersection.

Figure 14: Typical Radar Speed Feedback Sign

7.0 Conclusions and Recommendations

Based on our review of the existing vehicular and pedestrian volumes, and pedestrian signal and pedestrian crossover warrant criteria per OTM Book 12 and Book 15, pedestrian signals are not warranted, while PXO warrants are met at both the Main Street/Mill Street and Main Street/Amaranth Street intersections, as well as midblock between the intersections. Given the locational constraints it is recommended that a midblock PXO be implemented.

Based on the OTM Book 15 PXO Selection Matrix, the recommended pedestrian crossing treatment type is a Level 2, Type D PXO. However, to increase visibility and, in turn, safety, it is recommended that the pedestrian crossing treatment type be upgraded to a Level 2, Type C PXO, which has the addition of the rectangular rapid flashing beacons (RRFB). In addition, it is recommended that curb extensions (i.e., bump-outs) be implemented at the PXO crossing to further improve the visibility of pedestrians and reduce the crossing width.

The implementation of a mid-block PXO will require the removal of four parking spaces unless mitigated by adjusting the overall spacing numbers via a reduction in the spacing length of individual spaces.

It is understood that the Town may install an Automated Speed Enforcement (ASE) camera at the school located to the north of the core area. To further reinforce traffic calming between the area of ASE and the core it is recommended that the Town also consider on-road ‘sign’ pavement marking and/or vertical centreline treatments be considered.

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

Traffic Counts

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Municipality: Grand Valley
Count Date: Jun 25, 2024

North Approach - Main St S

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
08:00	1	27	3	0	31	0	1	0	0	1	0	0	0	0	0	0
08:15	1	33	9	0	43	1	5	0	0	6	0	0	0	0	0	0
08:30	3	40	13	0	56	2	0	0	0	2	0	0	0	0	0	0
08:45	1	23	9	0	33	0	1	0	0	1	0	0	0	0	0	3
09:00	0	10	3	0	13	2	1	0	0	3	0	0	0	0	0	1
09:15	3	17	3	0	23	0	2	0	0	2	0	0	0	0	0	0
09:30	1	18	1	0	20	0	1	0	0	1	0	0	0	0	0	3
09:45	1	15	5	0	21	0	4	1	0	5	0	0	0	0	0	0
10:00	1	14	2	0	17	0	0	0	0	0	0	0	0	0	0	0
10:15	0	16	3	0	19	0	0	0	0	0	0	0	0	0	0	0
10:30	2	28	2	0	32	0	4	0	0	4	0	0	0	0	0	0
10:45	3	17	0	0	20	0	1	0	0	1	0	0	0	0	0	0
11:00	0	17	7	0	24	0	0	0	0	0	0	0	0	0	0	1
11:15	2	16	0	0	18	0	2	0	0	2	0	0	0	0	0	0
11:30	0	19	6	0	25	0	1	0	0	1	0	0	0	0	0	0
11:45	1	19	8	0	28	0	2	0	0	2	0	0	0	0	0	0
12:00	2	26	3	0	31	0	0	0	0	0	0	0	0	0	0	0
12:15	1	25	8	0	34	0	0	1	0	1	0	0	0	0	0	2
12:30	2	25	2	0	29	0	1	0	0	1	0	0	0	0	0	1
12:45	2	17	2	0	21	0	0	0	0	0	0	0	0	0	0	0

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	1	15	2	0	18	0	0	0	0	0	0	0	0	0	0	0
13:15	3	13	1	0	17	0	2	0	0	2	0	0	0	0	0	0
13:30	2	14	1	0	17	0	0	0	0	0	0	0	0	0	0	0
13:45	0	15	3	0	18	0	1	0	0	1	0	0	0	0	0	0
14:00	6	18	4	0	28	0	1	0	0	1	0	0	0	0	0	0
14:15	5	16	6	0	27	0	2	1	0	3	0	0	0	0	0	1
14:30	3	17	3	0	23	0	1	0	0	1	0	0	0	0	0	0
14:45	2	24	4	0	30	1	2	0	0	3	0	0	0	0	0	1
15:00	7	31	17	0	55	0	5	1	0	6	0	0	0	0	0	0
15:15	0	32	3	0	35	0	3	2	0	5	0	0	0	0	0	0
15:30	4	25	4	0	33	0	3	0	0	3	0	0	0	0	0	0
15:45	1	18	5	0	24	0	2	0	0	2	0	0	0	0	0	0
16:00	4	29	7	0	40	1	1	1	0	3	0	0	0	0	0	0
16:15	4	38	10	0	52	0	2	0	0	2	0	0	0	0	0	0
16:30	2	25	6	0	33	0	1	0	0	1	0	0	0	0	0	1
16:45	1	25	3	0	29	0	3	1	0	4	0	0	0	0	0	0
17:00	2	20	3	0	25	0	1	0	0	1	0	0	0	0	0	2
17:15	3	13	3	0	19	0	2	0	0	2	0	0	0	0	0	0
17:30	1	19	8	0	28	0	2	0	0	2	0	0	0	0	0	0
17:45	1	26	9	0	36	0	1	0	0	1	0	0	0	0	0	2
SUBTOTAL	79	855	191	0	1125	7	61	8	0	76	0	0	0	0	0	18
GRAND TOTAL	79	855	191	0	1125	7	61	8	0	76	0	0	0	0	0	18

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Municipality: Grand Valley
Count Date: Jun 25, 2024

South Approach - Main St S

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
08:00	3	29	0	0	32	0	1	1	0	2	0	0	0	0	0	0
08:15	1	24	3	0	28	0	2	0	0	2	0	0	0	0	0	2
08:30	3	27	2	0	32	2	0	0	0	2	0	0	0	0	0	0
08:45	2	23	3	0	28	0	1	0	0	1	0	0	0	0	0	1
09:00	5	21	5	0	31	0	2	0	0	2	0	0	0	0	0	1
09:15	6	18	3	0	27	0	0	0	0	0	0	0	0	0	0	0
09:30	5	17	3	0	25	0	2	0	0	2	0	0	0	0	0	1
09:45	2	21	3	0	26	1	3	0	0	4	0	0	0	0	0	1
10:00	6	15	3	1	25	1	2	0	0	3	0	0	0	0	0	1
10:15	5	18	6	0	29	0	3	0	0	3	0	0	0	0	0	0
10:30	6	13	4	0	23	0	0	0	0	0	0	0	0	0	0	0
10:45	3	15	1	0	19	0	1	0	0	1	0	0	0	0	0	4
11:00	4	24	4	0	32	0	2	0	0	2	0	0	0	0	0	0
11:15	5	15	7	0	27	1	1	0	0	2	0	0	0	0	0	0
11:30	7	24	6	0	37	0	1	0	0	1	0	0	0	0	0	0
11:45	6	18	5	0	29	0	0	0	0	0	0	0	0	0	0	2
12:00	7	21	7	0	35	0	0	0	0	0	0	0	0	0	0	0
12:15	10	16	4	0	30	0	1	0	0	1	0	0	0	0	0	0
12:30	11	23	6	0	40	0	1	0	0	1	0	0	0	0	0	2
12:45	8	26	3	0	37	0	1	0	0	1	0	0	0	0	0	0

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	8	15	3	0	26	0	2	0	0	2	0	0	0	0	0	1
13:15	7	21	1	1	30	0	0	0	0	0	0	0	0	0	0	3
13:30	9	18	2	0	29	2	2	0	0	4	0	0	0	0	0	1
13:45	9	14	6	0	29	0	0	0	0	0	0	0	0	0	0	2
14:00	10	16	8	0	34	0	3	0	0	3	0	0	0	0	0	3
14:15	3	36	1	0	40	0	2	0	0	2	0	0	0	0	0	1
14:30	11	24	8	0	43	1	2	0	0	3	0	0	0	0	0	0
14:45	5	22	7	1	35	0	2	1	0	3	0	0	0	0	0	0
15:00	13	28	7	0	48	0	0	1	0	1	0	0	0	0	0	0
15:15	6	21	9	0	36	0	2	0	0	2	0	0	0	0	0	0
15:30	14	23	8	0	45	0	2	1	0	3	0	0	0	0	0	0
15:45	9	33	7	0	49	0	2	0	0	2	0	0	0	0	0	2
16:00	19	22	11	0	52	0	3	1	0	4	0	0	0	0	0	0
16:15	20	33	10	0	63	0	3	0	0	3	0	0	0	0	0	0
16:30	26	35	9	0	70	0	1	0	0	1	0	0	0	0	0	4
16:45	21	36	10	0	67	0	1	0	0	1	0	0	0	0	0	0
17:00	16	34	11	0	61	0	1	0	0	1	0	0	0	0	0	1
17:15	21	44	11	0	76	1	3	0	0	4	0	0	0	0	0	2
17:30	14	41	7	0	62	0	0	0	0	0	0	0	0	0	0	0
17:45	25	25	13	0	63	0	0	0	0	0	0	0	0	0	0	5
SUBTOTAL	371	949	227	3	1550	9	55	5	0	69	0	0	0	0	0	40
GRAND TOTAL	371	949	227	3	1550	9	55	5	0	69	0	0	0	0	0	40

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Municipality: Grand Valley
Count Date: Jun 25, 2024

East Approach - Amaranth St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
08:00	7	2	2	0	11	0	0	0	0	0	0	0	0	0	0	0
08:15	4	4	3	0	11	0	1	1	0	2	0	0	0	0	0	1
08:30	6	1	2	0	9	0	0	0	0	0	0	0	0	0	0	1
08:45	9	2	3	0	14	1	1	0	0	2	0	0	0	0	0	1
09:00	11	1	2	0	14	0	1	0	0	1	0	0	0	0	0	0
09:15	2	3	2	0	7	0	0	0	0	0	0	0	0	0	0	3
09:30	6	2	2	0	10	0	0	1	0	1	0	0	0	0	0	2
09:45	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	1
10:00	4	2	3	0	9	0	0	0	0	0	0	0	0	0	0	0
10:15	6	1	2	0	9	0	0	0	0	0	0	0	0	0	0	2
10:30	5	1	2	0	8	0	0	0	0	0	0	0	0	0	0	0
10:45	3	1	4	0	8	0	0	0	0	0	0	0	0	0	0	0
11:00	3	1	1	0	5	0	0	0	0	0	0	0	0	0	0	0
11:15	4	4	0	0	8	0	0	0	0	0	0	0	0	0	0	1
11:30	2	3	5	0	10	1	0	0	0	1	0	0	0	0	0	0
11:45	3	3	1	0	7	0	0	0	0	0	0	0	0	0	0	5
12:00	6	4	2	0	12	0	0	0	0	0	0	0	0	0	0	3
12:15	8	2	3	0	13	0	1	1	0	2	0	0	0	0	0	0
12:30	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	1
12:45	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	1

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	6	3	3	0	12	0	0	0	0	0	0	0	0	0	0	1
13:15	3	3	4	0	10	0	1	0	0	1	0	0	0	0	0	0
13:30	2	3	1	0	6	0	0	0	0	0	0	0	0	0	0	3
13:45	5	5	5	0	15	0	0	0	0	0	0	0	0	0	0	0
14:00	6	1	2	0	9	0	0	1	0	1	0	0	0	0	0	0
14:15	7	2	4	0	13	0	0	1	0	1	0	0	0	0	0	0
14:30	1	2	1	0	4	1	0	1	0	2	0	0	0	0	0	0
14:45	7	2	2	0	11	0	0	0	0	0	0	0	0	0	0	0
15:00	8	3	1	0	12	0	0	0	0	0	0	0	0	0	0	9
15:15	5	3	1	0	9	0	0	0	0	0	0	0	0	0	0	0
15:30	4	5	1	0	10	0	0	0	0	0	0	0	0	0	0	0
15:45	3	6	0	0	9	2	0	0	0	2	0	0	0	0	0	0
16:00	5	3	5	0	13	1	0	0	0	1	0	0	0	0	0	0
16:15	7	4	1	0	12	1	0	0	0	1	0	0	0	0	0	2
16:30	9	4	4	0	17	0	0	0	0	0	0	0	0	0	0	0
16:45	2	3	4	0	9	0	0	0	0	0	0	0	0	0	0	0
17:00	6	5	5	0	16	0	0	0	0	0	0	0	0	0	0	0
17:15	5	5	3	0	13	0	0	0	0	0	0	0	0	0	0	1
17:30	11	3	3	0	17	0	0	0	0	0	0	0	0	0	0	0
17:45	1	5	1	0	7	0	1	0	0	1	0	0	0	0	0	5
SUBTOTAL	198	112	92	0	402	7	7	6	0	20	0	0	0	0	0	43
GRAND TOTAL	198	112	92	0	402	7	7	6	0	20	0	0	0	0	0	43

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Municipality: Grand Valley
Count Date: Jun 25, 2024

West Approach - Amaranth St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
08:00	8	1	12	0	21	0	1	0	0	1	0	0	0	0	0	0
08:15	5	2	18	0	25	0	0	0	0	0	0	0	0	0	0	4
08:30	9	0	11	0	20	0	0	0	0	0	0	0	0	0	0	0
08:45	5	2	11	0	18	0	0	0	0	0	0	0	0	0	0	0
09:00	4	0	3	0	7	0	0	0	0	0	0	0	0	0	0	0
09:15	5	2	3	0	10	0	0	0	0	0	0	0	0	0	0	0
09:30	4	2	9	0	15	0	0	0	0	0	0	0	0	0	0	0
09:45	4	1	8	0	13	0	0	0	0	0	0	0	0	0	0	0
10:00	3	1	9	0	13	0	0	2	0	2	0	0	0	0	0	1
10:15	1	2	4	0	7	0	0	0	0	0	0	0	0	0	0	0
10:30	4	0	11	0	15	0	0	1	0	1	0	0	0	0	0	1
10:45	1	2	4	0	7	0	0	0	0	0	0	0	0	0	0	0
11:00	4	0	7	0	11	1	0	0	0	1	0	0	0	0	0	0
11:15	6	1	5	0	12	0	0	0	0	0	0	0	0	0	0	0
11:30	3	2	5	0	10	1	0	1	0	2	0	0	0	0	0	0
11:45	2	4	11	0	17	0	0	0	0	0	0	0	0	0	0	0
12:00	3	1	8	0	12	0	1	0	0	1	0	0	0	0	0	0
12:15	6	4	10	0	20	0	1	0	0	1	0	0	0	0	0	0
12:30	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	22
12:45	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	6	0	2	0	8	0	0	0	0	0	0	0	0	0	0	0
13:15	5	1	10	0	16	0	0	1	0	1	0	0	0	0	0	3
13:30	2	3	9	0	14	0	0	0	0	0	0	0	0	0	0	0
13:45	5	2	7	0	14	0	0	0	0	0	0	0	0	0	0	0
14:00	0	1	12	0	13	0	0	0	0	0	0	0	0	0	0	0
14:15	3	1	6	0	10	0	0	1	0	1	0	0	0	0	0	0
14:30	4	1	10	0	15	0	0	0	0	0	0	0	0	0	0	0
14:45	11	8	3	0	22	1	0	0	0	1	0	0	0	0	0	1
15:00	4	3	6	0	13	0	0	0	0	0	0	0	0	0	0	10
15:15	2	4	9	0	15	1	0	1	0	2	0	0	0	0	0	1
15:30	1	2	11	0	14	0	2	1	0	3	0	0	0	0	0	5
15:45	5	5	5	0	15	0	0	0	0	0	0	0	0	0	0	1
16:00	3	1	6	0	10	0	0	0	0	0	0	0	0	0	0	1
16:15	2	1	6	0	9	1	0	0	0	1	0	0	0	0	0	0
16:30	7	4	6	0	17	0	1	0	0	1	0	0	0	0	0	0
16:45	5	5	9	0	19	0	0	0	0	0	0	0	0	0	0	0
17:00	6	3	7	0	16	0	0	0	0	0	0	0	0	0	0	0
17:15	7	2	10	0	19	0	0	0	0	0	0	0	0	0	0	0
17:30	7	3	10	0	20	0	0	0	0	0	0	0	0	0	0	0
17:45	4	2	4	0	10	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	168	79	304	0	551	5	7	8	0	20	0	0	0	0	0	50
GRAND TOTAL	168	79	304	0	551	5	7	8	0	20	0	0	0	0	0	50

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	08:00:00	From:	08:00:00
To:	10:00:00	To:	09:00:00

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Count Date: Jun 25, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Main St S runs N/S

North Approach

	Out	In	Total
Cars	163	140	303
Trucks	10	5	15
Bicycles	0	0	0
	173	**145**	**318**

Main St S

Bicycles	0	0	0	0
Trucks	0	7	3	0
Cars	34	123	6	0
Totals	**34**	**130**	**9**	**0**

East Approach

	Out	In	Total
Cars	45	19	64
Trucks	4	5	9
Bicycles	0	0	0
	49	**24**	**73**

Amaranth St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	27	**27**	
0	1	5	**6**	
0	0	52	**52**	

Peds: 4

Peds: 3

Peds: 3

Amaranth St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	11	10	1	0
	11	9	2	0
	27	26	1	0

West Approach

	Out	In	Total
Cars	84	52	136
Trucks	1	4	5
Bicycles	0	0	0
	85	**56**	**141**

Main St S

Totals	**11**	**107**	**9**	**0**
Cars	9	103	8	0
Trucks	2	4	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	120	201	321
Trucks	7	8	15
Bicycles	0	0	0
	127	**209**	**336**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Main St S & Amaranth St
Site Code:	2429200001
Count Date:	Jun 25, 2024
Period:	08:00 - 10:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Main St S						South Approach Main St S						East Approach Amaranth St						West Approach Amaranth St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	1	28	3	0	0	32	3	30	1	0	0	34	7	2	2	0	0	11	8	2	12	0	0	22	99
08:15	2	38	9	0	0	49	1	26	3	0	2	30	4	5	4	0	1	13	5	2	18	0	4	25	117
08:30	5	40	13	0	0	58	5	27	2	0	0	34	6	1	2	0	1	9	9	0	11	0	0	20	121
08:45	1	24	9	0	3	34	2	24	3	0	1	29	10	3	3	0	1	16	5	2	11	0	0	18	97
Grand Total	**9**	**130**	**34**	**0**	**3**	**173**	**11**	**107**	**9**	**0**	**3**	**127**	**27**	**11**	**11**	**0**	**3**	**49**	**27**	**6**	**52**	**0**	**4**	**85**	**434**
Approach %	5.2	75.1	19.7	0		-	8.7	84.3	7.1	0		-	55.1	22.4	22.4	0		-	31.8	7.1	61.2	0		-	
Totals %	2.1	30	7.8	0		39.9	2.5	24.7	2.1	0		29.3	6.2	2.5	2.5	0		11.3	6.2	1.4	12	0		19.6	
PHF	**0.45**	**0.81**	**0.65**	**0**		**0.75**	**0.55**	**0.89**	**0.75**	**0**		**0.93**	**0.68**	**0.55**	**0.69**	**0**		**0.77**	**0.75**	**0.75**	**0.72**	**0**		**0.85**	**0.9**
Cars	6	123	34	0		163	9	103	8	0		120	26	9	10	0		45	27	5	52	0		84	412
% Cars	66.7	94.6	100	0		94.2	81.8	96.3	88.9	0		94.5	96.3	81.8	90.9	0		91.8	100	83.3	100	0		98.8	94.9
Trucks	3	7	0	0		10	2	4	1	0		7	1	2	1	0		4	0	1	0	0		1	22
% Trucks	33.3	5.4	0	0		5.8	18.2	3.7	11.1	0		5.5	3.7	18.2	9.1	0		8.2	0	16.7	0	0		1.2	5.1
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					3	-					3	-					3	-					4	-	13
% Peds					23.1	-					23.1	-					23.1	-					30.8	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	10:00:00	From:	11:30:00
To:	14:00:00	To:	12:30:00

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Count Date: Jun 25, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Main St S runs N/S

North Approach

	Out	In	Total
Cars	118	104	222
Trucks	4	4	8
Bicycles	0	0	0
	122	**108**	**230**

Main St S

Bicycles	0	0	0	0
Trucks	1	3	0	0
Cars	25	89	4	0
Totals	**26**	**92**	**4**	**0**

East Approach

	Out	In	Total
Cars	42	37	79
Trucks	3	2	5
Bicycles	0	0	0
	45	**39**	**84**

Amaranth St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	14	**15**	
0	2	11	**13**	
0	1	34	**35**	

Peds: 2

Peds: 0

Peds: 8

Peds: 2

Amaranth St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	12	11	1	0
	13	12	1	0
	20	19	1	0

West Approach

	Out	In	Total
Cars	59	67	126
Trucks	4	2	6
Bicycles	0	0	0
	63	**69**	**132**

Totals	**30**	**81**	**22**	**0**
Cars	30	79	22	0
Trucks	0	2	0	0
Bicycles	0	0	0	0

Main St S

South Approach

	Out	In	Total
Cars	131	142	273
Trucks	2	5	7
Bicycles	0	0	0
	133	**147**	**280**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Count Date: Jun 25, 2024
Period: 10:00 - 14:00

Peak Hour Data (11:30 - 12:30)

Start Time	North Approach Main St S						South Approach Main St S						East Approach Amaranth St						West Approach Amaranth St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:30	0	20	6	0	0	26	7	25	6	0	0	38	3	3	5	0	0	11	4	2	6	0	0	12	87
11:45	1	21	8	0	0	30	6	18	5	0	2	29	3	3	1	0	5	7	2	4	11	0	0	17	83
12:00	2	26	3	0	0	31	7	21	7	0	0	35	6	4	2	0	3	12	3	2	8	0	0	13	91
12:15	1	25	9	0	2	35	10	17	4	0	0	31	8	3	4	0	0	15	6	5	10	0	0	21	102
Grand Total	**4**	**92**	**26**	**0**	**2**	**122**	**30**	**81**	**22**	**0**	**2**	**133**	**20**	**13**	**12**	**0**	**8**	**45**	**15**	**13**	**35**	**0**	**0**	**63**	**363**
Approach %	3.3	75.4	21.3	0		-	22.6	60.9	16.5	0		-	44.4	28.9	26.7	0		-	23.8	20.6	55.6	0		-	
Totals %	1.1	25.3	7.2	0		33.6	8.3	22.3	6.1	0		36.6	5.5	3.6	3.3	0		12.4	4.1	3.6	9.6	0		17.4	
PHF	**0.5**	**0.88**	**0.72**	**0**		**0.87**	**0.75**	**0.81**	**0.79**	**0**		**0.88**	**0.63**	**0.81**	**0.6**	**0**		**0.75**	**0.63**	**0.65**	**0.8**	**0**		**0.75**	**0.89**
Cars	4	89	25	0		118	30	79	22	0		131	19	12	11	0		42	14	11	34	0		59	350
% Cars	100	96.7	96.2	0		96.7	100	97.5	100	0		98.5	95	92.3	91.7	0		93.3	93.3	84.6	97.1	0		93.7	96.4
Trucks	0	3	1	0		4	0	2	0	0		2	1	1	1	0		3	1	2	1	0		4	13
% Trucks	0	3.3	3.8	0		3.3	0	2.5	0	0		1.5	5	7.7	8.3	0		6.7	6.7	15.4	2.9	0		6.3	3.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					2	-					2	-					8	-					0	-	12
% Peds					16.7	-					16.7	-					66.7	-					0	-	

Peak Hour Diagram

Specified Period
From: 14:00:00
To: 18:00:00

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

Intersection: Main St S & Amaranth St
Site Code: 2429200001
Count Date: Jun 25, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Main St S runs N/S

North Approach

	Out	In	Total
Cars	154	157	311
Trucks	10	9	19
Bicycles	0	0	0
	164	**166**	**330**

Main St S

Bicycles	0	0	0	0
Trucks	2	7	1	0
Cars	26	117	11	0
Totals	**28**	**124**	**12**	**0**

East Approach

	Out	In	Total
Cars	51	62	113
Trucks	2	3	5
Bicycles	0	0	0
	53	**65**	**118**

Amaranth St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	17	**18**	
0	1	11	**12**	
0	0	27	**27**	

Peds: 1

Peds: 2

Amaranth St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	14	14	0	0
	14	14	0	0
	25	23	2	0

Peds: 4

West Approach

	Out	In	Total
Cars	55	126	181
Trucks	2	2	4
Bicycles	0	0	0
	57	**128**	**185**

Totals	**86**	**134**	**41**	**0**
Cars	86	126	40	0
Trucks	0	8	1	0
Bicycles	0	0	0	0

Main St S

South Approach

	Out	In	Total
Cars	252	167	419
Trucks	9	9	18
Bicycles	0	0	0
	261	**176**	**437**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Main St S & Amaranth St
Site Code:	2429200001
Count Date:	Jun 25, 2024
Period:	14:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Main St S						South Approach Main St S						East Approach Amaranth St						West Approach Amaranth St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00	5	30	8	0	0	43	19	25	12	0	0	56	6	3	5	0	0	14	3	1	6	0	1	10	123
16:15	4	40	10	0	0	54	20	36	10	0	0	66	8	4	1	0	2	13	3	1	6	0	0	10	143
16:30	2	26	6	0	1	34	26	36	9	0	4	71	9	4	4	0	0	17	7	5	6	0	0	18	140
16:45	1	28	4	0	0	33	21	37	10	0	0	68	2	3	4	0	0	9	5	5	9	0	0	19	129
Grand Total	**12**	**124**	**28**	**0**	**1**	**164**	**86**	**134**	**41**	**0**	**4**	**261**	**25**	**14**	**14**	**0**	**2**	**53**	**18**	**12**	**27**	**0**	**1**	**57**	**535**
Approach %	7.3	75.6	17.1	0		-	33	51.3	15.7	0		-	47.2	26.4	26.4	0		-	31.6	21.1	47.4	0		-	
Totals %	2.2	23.2	5.2	0		30.7	16.1	25	7.7	0		48.8	4.7	2.6	2.6	0		9.9	3.4	2.2	5	0		10.7	
PHF	**0.6**	**0.78**	**0.7**	**0**		**0.76**	**0.83**	**0.91**	**0.85**	**0**		**0.92**	**0.69**	**0.88**	**0.7**	**0**		**0.78**	**0.64**	**0.6**	**0.75**	**0**		**0.75**	**0.94**
Cars	11	117	26	0		154	86	126	40	0		252	23	14	14	0		51	17	11	27	0		55	512
% Cars	91.7	94.4	92.9	0		93.9	100	94	97.6	0		96.6	92	100	100	0		96.2	94.4	91.7	100	0		96.5	95.7
Trucks	1	7	2	0		10	0	8	1	0		9	2	0	0	0		2	1	1	0	0		2	23
% Trucks	8.3	5.6	7.1	0		6.1	0	6	2.4	0		3.4	8	0	0	0		3.8	5.6	8.3	0	0		3.5	4.3
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					1	-					4	-					2	-					1	-	8
% Peds					12.5	-					50	-					25	-					12.5	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Mill St
Site Code: 2429200002
Municipality: Grand Valley
Count Date: Jun 25, 2024

North Approach - Main St S

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
08:00	2	37	3	0	42	0	2	0	0	2	0	0	0	0	0	0
08:15	5	49	3	0	57	0	4	0	0	4	0	0	0	0	0	1
08:30	6	45	4	0	55	0	1	0	0	1	0	0	0	0	0	0
08:45	5	29	5	0	39	0	2	0	0	2	0	0	0	0	0	0
09:00	4	18	0	0	22	0	1	0	0	1	0	0	0	0	0	2
09:15	2	20	3	0	25	0	2	1	0	3	0	0	0	0	0	1
09:30	1	26	3	0	30	0	0	0	0	0	0	0	0	0	0	0
09:45	2	20	3	0	25	0	3	0	0	3	0	0	0	0	0	3
10:00	4	19	3	0	26	0	1	1	0	2	0	0	0	0	0	5
10:15	1	26	0	0	27	0	0	0	0	0	0	0	0	0	0	6
10:30	4	30	7	1	42	0	4	1	0	5	0	1	0	0	1	2
10:45	5	22	2	0	29	0	1	0	0	1	0	0	0	0	0	7
11:00	3	19	5	0	27	0	0	0	0	0	0	0	0	0	0	3
11:15	3	22	3	0	28	0	1	1	0	2	0	0	0	0	0	2
11:30	1	21	2	0	24	0	3	0	0	3	0	0	0	0	0	1
11:45	1	29	7	0	37	0	2	0	0	2	0	0	0	0	0	4
12:00	6	28	4	1	39	0	0	0	0	0	0	0	0	0	0	8
12:15	4	35	2	1	42	0	0	0	0	0	0	0	0	0	0	4
12:30	3	21	8	0	32	0	1	0	0	1	0	0	0	0	0	7
12:45	3	24	0	0	27	0	0	0	0	0	0	0	0	0	0	4

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	4	16	3	0	23	0	0	0	0	0	0	0	0	0	0	0
13:15	3	23	4	0	30	0	2	1	0	3	0	0	0	0	0	4
13:30	0	19	1	0	20	0	0	0	0	0	0	0	0	0	0	0
13:45	3	18	4	0	25	0	1	0	0	1	0	0	0	0	0	0
14:00	5	30	5	0	40	0	2	0	0	2	0	0	0	0	0	0
14:15	5	20	4	0	29	0	2	0	0	2	0	0	0	0	0	3
14:30	5	25	2	0	32	0	3	0	0	3	0	0	0	0	0	0
14:45	3	27	6	1	37	0	1	0	0	1	0	0	0	0	0	4
15:00	3	35	8	1	47	0	4	1	0	5	0	0	0	0	0	3
15:15	1	35	7	0	43	0	3	0	0	3	0	0	0	0	0	1
15:30	3	37	4	0	44	1	2	1	0	4	0	0	0	0	0	0
15:45	4	14	3	0	21	0	4	0	0	4	0	0	0	0	0	0
16:00	3	28	6	1	38	0	3	0	0	3	0	0	0	0	0	3
16:15	3	37	7	0	47	0	1	1	0	2	0	0	0	0	0	4
16:30	8	28	4	0	40	0	2	0	0	2	0	0	0	0	0	3
16:45	4	31	4	0	39	0	2	0	0	2	0	0	0	0	0	2
17:00	3	26	1	0	30	0	1	0	0	1	0	0	0	0	0	6
17:15	2	23	5	0	30	0	2	0	0	2	0	0	0	0	0	6
17:30	3	25	7	1	36	0	2	1	0	3	0	0	0	0	0	1
17:45	2	23	6	0	31	0	1	0	0	1	0	0	0	0	0	6
SUBTOTAL	132	1060	158	7	1357	1	66	9	0	76	0	1	0	0	1	106
GRAND TOTAL	132	1060	158	7	1357	1	66	9	0	76	0	1	0	0	1	106

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Mill St
Site Code: 2429200002
Municipality: Grand Valley
Count Date: Jun 25, 2024

South Approach - Main St S

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
08:00	0	25	1	0	26	1	1	0	0	2	0	0	0	0	0	0
08:15	1	25	2	0	28	0	2	0	0	2	0	0	0	0	0	0
08:30	0	22	0	0	22	0	1	0	0	1	0	0	0	0	0	2
08:45	0	22	0	0	22	1	1	0	0	2	0	0	0	0	0	0
09:00	2	21	1	0	24	0	0	0	0	0	0	0	0	0	0	1
09:15	1	27	2	0	30	1	0	1	0	2	0	0	0	0	0	0
09:30	0	20	2	0	22	0	2	0	0	2	0	0	0	0	0	0
09:45	0	17	4	0	21	0	3	0	0	3	0	0	0	0	0	0
10:00	1	21	3	0	25	0	3	0	0	3	0	1	0	0	1	0
10:15	1	22	3	0	26	1	2	0	0	3	0	0	0	0	0	0
10:30	0	18	3	0	21	0	1	0	0	1	0	0	0	0	0	0
10:45	0	16	2	0	18	0	0	0	0	0	0	0	0	0	0	0
11:00	0	32	2	0	34	1	2	0	0	3	0	0	0	0	0	0
11:15	1	22	4	0	27	1	4	0	0	5	0	0	0	0	0	0
11:30	0	29	2	0	31	1	0	0	0	1	0	0	0	0	0	0
11:45	3	25	3	1	32	0	0	0	0	0	0	0	0	0	0	0
12:00	1	28	2	0	31	0	0	0	0	0	0	0	0	0	0	0
12:15	0	24	2	0	26	0	1	0	0	1	0	0	0	0	0	0
12:30	1	36	5	0	42	0	2	0	0	2	0	0	0	0	0	0
12:45	0	28	3	0	31	1	1	0	0	2	0	0	0	0	0	1

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	1	25	1	0	27	1	1	0	0	2	0	0	0	0	0	1
13:15	0	22	2	0	24	0	1	0	0	1	0	0	0	0	0	0
13:30	1	25	5	0	31	0	1	0	0	1	0	0	0	0	0	0
13:45	0	27	3	0	30	0	1	0	0	1	0	0	0	0	0	0
14:00	0	25	3	0	28	0	2	0	0	2	0	0	0	0	0	0
14:15	2	35	2	0	39	0	3	1	0	4	0	0	0	0	0	0
14:30	1	36	4	0	41	0	3	0	0	3	0	0	0	0	0	0
14:45	0	22	3	0	25	0	2	0	0	2	0	0	0	0	0	0
15:00	1	42	3	0	46	1	0	0	0	1	0	0	0	0	0	1
15:15	1	37	4	0	42	0	1	0	0	1	0	0	0	0	0	0
15:30	1	33	7	0	41	0	3	0	0	3	0	0	0	0	0	0
15:45	1	47	4	0	52	0	3	0	0	3	0	0	0	0	0	0
16:00	0	37	3	0	40	0	3	0	0	3	0	0	0	0	0	1
16:15	1	56	4	0	61	2	3	0	0	5	0	0	0	0	0	1
16:30	3	57	5	0	65	0	1	0	0	1	0	0	0	0	0	0
16:45	1	61	7	0	69	0	0	0	0	0	0	0	0	0	0	0
17:00	0	50	1	0	51	0	1	0	0	1	0	0	0	0	0	0
17:15	2	65	6	0	73	0	4	0	0	4	0	0	0	0	0	0
17:30	4	55	3	0	62	0	0	0	0	0	0	0	0	0	0	0
17:45	1	53	1	0	55	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	33	1290	117	1	1441	12	59	2	0	73	0	1	0	0	1	8
GRAND TOTAL	**33**	**1290**	**117**	**1**	**1441**	**12**	**59**	**2**	**0**	**73**	**0**	**1**	**0**	**0**	**1**	**8**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Mill St
Site Code: 2429200002
Municipality: Grand Valley
Count Date: Jun 25, 2024

East Approach - Mill St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
08:00	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
08:30	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0
08:45	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0
09:00	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
09:15	5	1	2	0	8	0	0	1	0	1	0	0	0	0	0	1
09:30	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	1
09:45	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	2
10:00	4	1	4	0	9	0	0	0	0	0	0	0	0	0	0	0
10:15	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0
10:30	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0
10:45	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
11:00	6	1	1	0	8	0	0	0	0	0	0	0	0	0	0	0
11:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
11:30	3	2	1	0	6	0	0	0	0	0	0	0	0	0	0	0
11:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
12:15	5	0	3	0	8	0	0	0	0	0	0	0	0	0	0	2
12:30	1	2	3	0	6	0	0	0	0	0	0	0	0	0	0	1
12:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
13:00	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	1
13:15	2	2	5	0	9	0	0	1	0	1	0	0	0	0	0	1
13:30	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
13:45	4	0	3	0	7	0	0	0	0	0	0	0	0	0	0	0
14:00	6	1	1	0	8	0	0	0	0	0	0	0	0	0	0	2
14:15	2	1	4	0	7	0	0	0	0	0	0	0	0	0	0	2
14:30	4	2	6	0	12	0	0	0	0	0	0	0	0	0	0	0
14:45	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
15:00	1	1	6	0	8	0	0	0	0	0	0	0	0	0	0	3
15:15	6	1	1	0	8	0	0	1	0	1	0	0	0	0	0	0
15:30	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	2
15:45	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	2
16:00	1	1	5	0	7	0	0	0	0	0	0	0	0	0	0	0
16:15	1	1	3	0	5	0	0	0	0	0	0	0	0	0	0	1
16:30	4	1	4	0	9	0	0	0	0	0	0	0	0	0	0	1
16:45	1	1	5	0	7	0	0	0	0	0	0	0	0	0	0	1
17:00	1	1	3	0	5	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
17:45	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	98	24	92	0	214	0	0	3	0	3	0	0	0	0	0	25
GRAND TOTAL	98	24	92	0	214	0	0	3	0	3	0	0	0	0	0	25

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Main St S & Mill St
Site Code: 2429200002
Municipality: Grand Valley
Count Date: Jun 25, 2024

West Approach - Mill St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
08:00	8	1	2	0	11	0	0	0	0	0	0	0	0	0	0	1
08:15	5	0	4	0	9	2	0	1	0	3	0	0	0	0	0	0
08:30	7	1	3	0	11	0	0	0	0	0	0	0	0	0	0	2
08:45	6	1	0	0	7	0	0	1	0	1	0	0	0	0	0	1
09:00	1	0	2	0	3	2	0	0	0	2	0	0	0	0	0	0
09:15	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0
09:30	3	1	1	0	5	0	0	0	0	0	0	0	0	0	0	1
09:45	4	0	1	0	5	0	0	1	0	1	0	0	0	0	0	0
10:00	4	1	3	0	8	0	0	2	0	2	0	0	0	0	0	0
10:15	5	1	1	0	7	0	0	0	0	0	0	0	0	0	0	0
10:30	2	1	3	0	6	0	0	0	0	0	0	0	0	0	0	0
10:45	6	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0
11:00	3	0	1	0	4	0	0	1	0	1	0	0	0	0	0	1
11:15	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	1
11:30	4	3	0	0	7	0	0	0	0	0	0	0	0	0	0	0
11:45	6	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0
12:00	3	2	1	0	6	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
12:30	4	1	5	0	10	0	0	1	0	1	0	0	0	0	0	4
12:45	5	1	1	0	7	0	0	1	0	1	0	0	0	0	0	0

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
13:00	4	1	0	0	5	0	0	1	0	1	0	0	0	0	0	1
13:15	3	1	2	0	6	0	0	1	0	1	0	0	0	0	0	0
13:30	2	0	2	0	4	1	0	0	0	1	0	0	0	0	0	0
13:45	3	0	2	0	5	0	0	1	0	1	0	0	0	0	0	0
14:00	3	1	2	0	6	0	0	0	0	0	0	0	0	0	0	1
14:15	4	2	1	0	7	0	0	0	0	0	0	0	0	0	0	1
14:30	1	1	2	0	4	0	0	1	0	1	0	0	0	0	0	0
14:45	4	2	3	0	9	0	0	0	0	0	0	0	0	0	0	0
15:00	2	0	1	0	3	1	1	0	0	2	0	0	0	0	0	2
15:15	5	3	0	0	8	0	0	1	0	1	0	0	0	0	0	0
15:30	5	2	2	0	9	0	0	0	0	0	0	0	0	0	0	2
15:45	5	2	1	0	8	0	0	0	0	0	0	0	0	0	0	0
16:00	7	0	3	0	10	0	0	0	0	0	0	0	0	0	0	0
16:15	4	1	3	0	8	0	0	0	0	0	0	0	0	0	0	3
16:30	7	4	4	0	15	0	0	1	0	1	0	0	0	0	0	0
16:45	3	3	3	0	9	0	0	0	0	0	0	0	0	0	0	0
17:00	5	0	2	0	7	0	0	0	0	0	0	0	0	0	0	1
17:15	9	1	2	0	12	0	0	0	0	0	0	0	0	0	0	0
17:30	5	1	4	0	10	0	0	0	0	0	0	0	0	0	0	0
17:45	4	1	1	0	6	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	165	41	76	0	282	6	1	14	0	21	0	0	0	0	0	22
GRAND TOTAL	**165**	**41**	**76**	**0**	**282**	**6**	**1**	**14**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**22**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	08:00:00	From:	08:00:00
To:	10:00:00	To:	09:00:00

Intersection: Main St S & Mill St
Site Code: 2429200002
Count Date: Jun 25, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Main St S runs N/S

North Approach

	Out	In	Total
Cars	193	128	321
Trucks	9	7	16
Bicycles	0	0	0
	202	**135**	**337**

Main St S

Bicycles	0	0	0	0
Trucks	0	9	0	0
Cars	15	160	18	0
Totals	**15**	**169**	**18**	**0**

East Approach

	Out	In	Total
Cars	21	24	45
Trucks	0	0	0
Bicycles	0	0	0
	21	**24**	**45**

Mill St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	2	26	**28**	
0	0	3	**3**	
0	2	9	**11**	

Peds: 4

N
W E
S

Peds: 1

Peds: 0

Peds: 2

Mill St

Totals	Cars	Trucks	Bicycles
0	0	0	0
8	8	0	0
1	1	0	0
12	12	0	0

West Approach

	Out	In	Total
Cars	38	17	55
Trucks	4	2	6
Bicycles	0	0	0
	42	**19**	**61**

Main St S

Totals	**3**	**99**	**3**	**0**
Cars	1	94	3	0
Trucks	2	5	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	98	181	279
Trucks	7	11	18
Bicycles	0	0	0
	105	**192**	**297**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Main St S & Mill St
Site Code:	2429200002
Count Date:	Jun 25, 2024
Period:	08:00 - 10:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Main St S						South Approach Main St S						East Approach Mill St						West Approach Mill St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	2	39	3	0	0	44	1	26	1	0	0	28	5	1	0	0	0	6	8	1	2	0	1	11	89
08:15	5	53	3	0	1	61	1	27	2	0	0	30	0	0	3	0	0	3	7	0	5	0	0	12	106
08:30	6	46	4	0	0	56	0	23	0	0	2	23	4	0	2	0	0	6	7	1	3	0	2	11	96
08:45	5	31	5	0	0	41	1	23	0	0	0	24	3	0	3	0	0	6	6	1	1	0	1	8	79
Grand Total	**18**	**169**	**15**	**0**	**1**	**202**	**3**	**99**	**3**	**0**	**2**	**105**	**12**	**1**	**8**	**0**	**0**	**21**	**28**	**3**	**11**	**0**	**4**	**42**	**370**
Approach %	8.9	83.7	7.4	0		-	2.9	94.3	2.9	0		-	57.1	4.8	38.1	0		-	66.7	7.1	26.2	0		-	
Totals %	4.9	45.7	4.1	0		54.6	0.8	26.8	0.8	0		28.4	3.2	0.3	2.2	0		5.7	7.6	0.8	3	0		11.4	
PHF	**0.75**	**0.8**	**0.75**	**0**		**0.83**	**0.75**	**0.92**	**0.38**	**0**		**0.88**	**0.6**	**0.25**	**0.67**	**0**		**0.88**	**0.88**	**0.75**	**0.55**	**0**		**0.88**	**0.87**
Cars	18	160	15	0		193	1	94	3	0		98	12	1	8	0		21	26	3	9	0		38	350
% Cars	100	94.7	100	0		95.5	33.3	94.9	100	0		93.3	100	100	100	0		100	92.9	100	81.8	0		90.5	94.6
Trucks	0	9	0	0		9	2	5	0	0		7	0	0	0	0		0	2	0	2	0		4	20
% Trucks	0	5.3	0	0		4.5	66.7	5.1	0	0		6.7	0	0	0	0		0	7.1	0	18.2	0		9.5	5.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					1	-					2	-					0	-					4	-	7
% Peds					14.3	-					28.6	-					0	-					57.1	-	

Peak Hour Diagram

Specified Period
From: 10:00:00
To: 14:00:00

One Hour Peak
From: 11:45:00
To: 12:45:00

Intersection: Main St S & Mill St
Site Code: 2429200002
Count Date: Jun 25, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Main St S runs N/S

North Approach

	Out	In	Total
Cars	150	137	287
Trucks	3	3	6
Bicycles	0	0	0
	153	**140**	**293**

Main St S

Bicycles	0	0	0	0
Trucks	0	3	0	0
Cars	21	113	14	2
Totals	**21**	**116**	**14**	**2**

East Approach

	Out	In	Total
Cars	18	29	47
Trucks	0	0	0
Bicycles	0	0	0
	18	**29**	**47**

Mill St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	13	**13**	
0	0	3	**3**	
0	1	8	**9**	

Peds: 4

Peds: 23

Peds: 3

Peds: 0

Mill St

Totals	Cars	Trucks	Bicycles
0	0	0	0
9	9	0	0
2	2	0	0
7	7	0	0

West Approach

	Out	In	Total
Cars	24	28	52
Trucks	1	0	1
Bicycles	0	0	0
	25	**28**	**53**

Main St S

Totals	**5**	**116**	**12**	**1**
Cars	5	113	12	1
Trucks	0	3	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	131	129	260
Trucks	3	4	7
Bicycles	0	0	0
	134	**133**	**267**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Main St S & Mill St
Site Code:	2429200002
Count Date:	Jun 25, 2024
Period:	10:00 - 14:00

Peak Hour Data (11:45 - 12:45)

Start Time	North Approach Main St S						South Approach Main St S						East Approach Mill St						West Approach Mill St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:45	1	31	7	0	4	39	3	25	3	1	0	32	1	0	1	0	0	2	6	0	1	0	0	7	80
12:00	6	28	4	1	8	39	1	28	2	0	0	31	0	0	2	0	0	2	3	2	1	0	0	6	78
12:15	4	35	2	1	4	42	0	25	2	0	0	27	5	0	3	0	2	8	0	0	1	0	0	1	78
12:30	3	22	8	0	7	33	1	38	5	0	0	44	1	2	3	0	1	6	4	1	6	0	4	11	94
Grand Total	**14**	**116**	**21**	**2**	**23**	**153**	**5**	**116**	**12**	**1**	**0**	**134**	**7**	**2**	**9**	**0**	**3**	**18**	**13**	**3**	**9**	**0**	**4**	**25**	**330**
Approach %	9.2	75.8	13.7	1.3		-	3.7	86.6	9	0.7		-	38.9	11.1	50	0		-	52	12	36	0		-	
Totals %	4.2	35.2	6.4	0.6		46.4	1.5	35.2	3.6	0.3		40.6	2.1	0.6	2.7	0		5.5	3.9	0.9	2.7	0		7.6	
PHF	**0.58**	**0.83**	**0.66**	**0.5**		**0.91**	**0.42**	**0.76**	**0.6**	**0.25**		**0.76**	**0.35**	**0.25**	**0.75**	**0**		**0.56**	**0.54**	**0.38**	**0.38**	**0**		**0.57**	**0.88**
Cars	14	113	21	2		150	5	113	12	1		131	7	2	9	0		18	13	3	8	0		24	323
% Cars	100	97.4	100	100		98	100	97.4	100	100		97.8	100	100	100	0		100	100	100	88.9	0		96	97.9
Trucks	0	3	0	0		3	0	3	0	0		3	0	0	0	0		0	0	0	1	0		1	7
% Trucks	0	2.6	0	0		2	0	2.6	0	0		2.2	0	0	0	0		0	0	0	11.1	0		4	2.1
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					23	-					0	-					3	-					4	-	30
% Peds					76.7	-					0	-					10	-					13.3	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	14:00:00	From:	16:00:00
To:	18:00:00	To:	17:00:00

Intersection: Main St S & Mill St
Site Code: 2429200002
Count Date: Jun 25, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Main St S runs N/S

North Approach

	Out	In	Total
Cars	164	250	414
Trucks	9	7	16
Bicycles	0	0	0
	173	**257**	**430**

Main St S

Bicycles	0	0	0	0
Trucks	1	8	0	0
Cars	21	124	18	1
Totals	**22**	**132**	**18**	**1**

East Approach

	Out	In	Total
Cars	28	45	73
Trucks	0	0	0
Bicycles	0	0	0
	28	**45**	**73**

Mill St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	21	**21**	
0	0	8	**8**	
0	1	13	**14**	

Peds: 12

Peds: 3

N
W
E
S

Peds: 3

Peds: 2

Mill St

Totals	Cars	Trucks	Bicycles
0	0	0	0
17	17	0	0
4	4	0	0
7	7	0	0

West Approach

	Out	In	Total
Cars	42	30	72
Trucks	1	3	4
Bicycles	0	0	0
	43	**33**	**76**

Totals	**7**	**218**	**19**	**0**
Cars	5	211	19	0
Trucks	2	7	0	0
Bicycles	0	0	0	0

Main St S

South Approach

	Out	In	Total
Cars	235	144	379
Trucks	9	9	18
Bicycles	0	0	0
	244	**153**	**397**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Main St S & Mill St
Site Code:	2429200002
Count Date:	Jun 25, 2024
Period:	14:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Main St S						South Approach Main St S						East Approach Mill St						West Approach Mill St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00	3	31	6	1	3	41	0	40	3	0	1	43	1	1	5	0	0	7	7	0	3	0	0	10	101
16:15	3	38	8	0	4	49	3	59	4	0	1	66	1	1	3	0	1	5	4	1	3	0	3	8	128
16:30	8	30	4	0	3	42	3	58	5	0	0	66	4	1	4	0	1	9	7	4	5	0	0	16	133
16:45	4	33	4	0	2	41	1	61	7	0	0	69	1	1	5	0	1	7	3	3	3	0	0	9	126
Grand Total	**18**	**132**	**22**	**1**	**12**	**173**	**7**	**218**	**19**	**0**	**2**	**244**	**7**	**4**	**17**	**0**	**3**	**28**	**21**	**8**	**14**	**0**	**3**	**43**	**488**
Approach %	10.4	76.3	12.7	0.6		-	2.9	89.3	7.8	0		-	25	14.3	60.7	0		-	48.8	18.6	32.6	0		-	
Totals %	3.7	27	4.5	0.2		35.5	1.4	44.7	3.9	0		50	1.4	0.8	3.5	0		5.7	4.3	1.6	2.9	0		8.8	
PHF	**0.56**	**0.87**	**0.69**	**0.25**		**0.88**	**0.58**	**0.89**	**0.68**	**0**		**0.88**	**0.44**	**1**	**0.85**	**0**		**0.78**	**0.75**	**0.5**	**0.7**	**0**		**0.67**	**0.92**
Cars	18	124	21	1		164	5	211	19	0		235	7	4	17	0		28	21	8	13	0		42	469
% Cars	100	93.9	95.5	100		94.8	71.4	96.8	100	0		96.3	100	100	100	0		100	100	100	92.9	0		97.7	96.1
Trucks	0	8	1	0		9	2	7	0	0		9	0	0	0	0		0	0	0	1	0		1	19
% Trucks	0	6.1	4.5	0		5.2	28.6	3.2	0	0		3.7	0	0	0	0		0	0	0	7.1	0		2.3	3.9
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					12	-					2	-					3	-					3	-	20
% Peds					60	-					10	-					15	-					15	-	

Ontario Traffic, Inc.
17705 Leslie St., Unit 6
Newmarket, Ontario L3Y 3E3
Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
Station ID: U206
Main St S between Amaranth St & Mill St

Date Start: 25-Jun-24
Date End: 25-Jun-24

NB

Start	1	16	24	32	40	48	56	64	72	80	89	97	105	113	121		Average	85th
Time	15	23	31	39	47	55	63	71	79	88	96	104	112	120	9999	Total	(Mean)	Percent
06/25/2 4	0	0	2	1	11	8	0	0	0	0	0	0	0	0	0	22	45	51
01:00	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	4	44	52
02:00	0	0	0	1	2	2	0	0	0	**1**	0	0	0	0	0	6	52	79
03:00	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	4	34	42
04:00	0	0	0	2	1	1	2	0	0	0	0	0	0	0	0	6	48	59
05:00	0	0	0	2	7	4	1	0	0	0	0	0	0	0	0	14	46	52
06:00	0	1	2	5	11	5	0	0	0	0	0	0	0	0	0	24	41	49
07:00	0	1	5	16	35	6	1	1	0	0	0	0	0	0	0	65	41	46
08:00	**1**	2	11	**46**	**57**	12	**4**	1	**1**	0	0	0	0	0	0	135	40	46
09:00	0	2	8	35	48	10	2	1	1	0	0	0	0	0	0	107	41	46
10:00	0	**8**	18	32	37	8	3	**2**	1	0	0	0	0	0	0	109	39	46
11:00	1	7	**22**	46	42	**13**	2	0	0	0	0	0	0	0	0	133	38	46
12 PM	**2**	5	27	66	36	3	3	1	0	0	0	0	0	0	0	143	36	43
13:00	1	6	15	46	45	8	2	1	**1**	0	0	0	0	0	0	125	38	45
14:00	1	4	29	73	39	8	2	0	0	0	0	0	0	0	0	156	37	44
15:00	2	**12**	**45**	71	53	8	1	0	0	0	0	0	0	0	0	192	35	44
16:00	2	4	36	**104**	96	16	2	**2**	0	0	0	0	0	0	0	262	38	45
17:00	0	3	21	83	**121**	**20**	**5**	1	1	**1**	0	0	0	0	0	256	41	46
18:00	0	0	14	37	78	15	3	1	0	0	0	0	0	0	0	148	41	46
19:00	0	5	4	36	35	15	1	2	0	0	0	0	0	0	0	98	41	48
20:00	1	2	3	17	48	17	1	0	0	0	0	0	0	0	0	89	42	49
21:00	0	2	3	15	34	7	0	0	0	0	0	0	0	0	0	61	41	46
22:00	0	0	3	11	24	6	2	0	0	0	0	0	0	0	0	46	42	48
23:00	0	4	2	10	10	4	0	0	1	0	0	0	0	0	0	31	39	47
Total	11	68	273	756	872	198	37	13	6	2	0	0	0	0	0	2236		
Percent	0.5%	3.0%	12.2%	33.8%	39.0%	8.9%	1.7%	0.6%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	11:00	08:00	08:00	11:00	08:00	10:00	08:00	02:00								
Vol.	1	8	22	46	57	13	4	2	1	1								
PM Peak	12:00	15:00	15:00	16:00	17:00	17:00	17:00	16:00	13:00	17:00								
Vol.	2	12	45	104	121	20	5	2	1	1								
Total	11	68	273	756	872	198	37	13	6	2	0	0	0	0	0	2236		

15th Percentile :	30 KPH	
50th Percentile :	39 KPH	
85th Percentile :	46 KPH	
95th Percentile :	52 KPH	

Stats		
15 KPH Pace Speed :	33-47 KPH	
Number in Pace :	1534	
Percent in Pace :	68.6%	
Number of Vehicles > 40 KPH :	1019	
Percent of Vehicles > 40 KPH :	45.6%	
Mean Speed(Average) :	39 KPH	

Ontario Traffic, Inc.
17705 Leslie St., Unit 6
Newmarket, Ontario L3Y 3E3
Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
Station ID: U206
Main St S between Amaranth St & Mill St

Date Start: 25-Jun-24
Date End: 25-Jun-24

SB

Start Time	1 15	16 23	24 31	32 39	40 47	48 55	56 63	64 71	72 79	80 88	89 96	97 104	105 112	113 120	121 9999	Total	Average (Mean)	85th Percent
06/25/24																		
01:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	44	52
02:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	40	52
03:00	0	0	0	0	3	1	0	1	0	0	0	0	0	0	0	5	50	65
04:00	0	1	2	5	15	9	6	1	0	0	0	0	0	0	0	39	46	56
05:00	0	4	3	9	35	37	**8**	2	**1**	0	0	0	0	0	0	99	46	54
06:00	0	2	5	16	58	**46**	7	**3**	0	0	0	0	0	0	0	137	46	53
07:00	2	**12**	12	46	**102**	32	4	0	1	0	0	0	0	0	0	211	41	48
08:00	**3**	6	13	**55**	92	33	1	0	0	0	0	0	0	0	0	203	40	47
09:00	3	3	12	34	39	10	2	0	0	0	0	0	0	0	0	103	38	46
10:00	0	10	**23**	50	38	12	0	1	0	0	0	0	0	0	0	134	37	45
11:00	2	4	17	44	46	8	0	0	0	0	0	0	0	0	0	121	37	45
12 PM	**2**	2	15	46	58	15	1	0	0	0	0	0	0	0	0	139	39	46
13:00	0	**13**	11	27	41	7	0	0	0	0	0	0	0	0	0	99	37	45
14:00	0	6	**31**	41	54	11	0	0	0	0	0	0	0	0	0	143	37	45
15:00	2	4	19	**55**	65	22	1	0	0	0	0	0	0	0	0	168	39	46
16:00	0	10	13	45	**75**	**27**	2	0	**1**	0	0	0	0	0	0	173	40	48
17:00	0	5	7	31	70	18	2	**2**	0	0	0	0	0	0	0	135	42	47
18:00	1	3	8	18	42	15	**4**	0	0	0	0	0	0	0	0	91	41	49
19:00	0	2	5	17	24	6	1	0	0	0	0	0	0	0	0	55	40	46
20:00	1	2	4	13	27	13	2	0	0	0	0	0	0	0	0	62	42	50
21:00	0	1	1	3	17	9	0	0	0	0	0	0	0	0	0	31	44	50
22:00	0	1	0	4	6	3	1	0	1	0	0	0	0	0	0	16	44	53
23:00	0	0	1	1	3	5	0	0	0	0	0	0	0	0	0	10	45	52
Total	16	92	203	561	912	342	43	10	4	0	0	0	0	0	0	2183		
Percent	0.7%	4.2%	9.3%	25.7%	41.8%	15.7%	2.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	10:00	08:00	07:00	06:00	05:00	06:00	05:00									
Vol.	3	12	23	55	102	46	8	3	1									
PM Peak	12:00	13:00	14:00	15:00	16:00	16:00	18:00	17:00	16:00									
Vol.	2	13	31	55	75	27	4	2	1									
Total	16	92	203	561	912	342	43	10	4	0	0	0	0	0	0	2183		

	15th Percentile :	31 KPH
	50th Percentile :	40 KPH
	85th Percentile :	48 KPH
	95th Percentile :	53 KPH
Stats	15 KPH Pace Speed :	33-47 KPH
	Number in Pace :	1403
	Percent in Pace :	64.3%
	Number of Vehicles > 40 KPH :	1197
	Percent of Vehicles > 40 KPH :	54.8%
	Mean Speed(Average) :	40 KPH

Ontario Traffic, Inc.
17705 Leslie St., Unit 6
Newmarket, Ontario L3Y 3E3
Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
Station ID: U206
Main St S between Amaranth St & Mill St

Date Start: 25-Jun-24
Date End: 25-Jun-24

NB, SB

Start	1	16	24	32	40	48	56	64	72	80	89	97	105	113	121		Average	85th
Time	15	23	31	39	47	55	63	71	79	88	96	104	112	120	9999	Total	(Mean)	Percent
06/25/2																		
4	0	1	2	1	13	9	1	0	0	0	0	0	0	0	0	27	44	52
01:00	0	0	1	1	1	3	0	0	0	0	0	0	0	0	0	6	44	52
02:00	0	0	1	1	2	3	0	0	0	**1**	0	0	0	0	0	8	49	54
03:00	0	0	2	1	4	1	0	1	0	0	0	0	0	0	0	9	43	52
04:00	0	1	2	7	16	10	8	1	0	0	0	0	0	0	0	45	46	57
05:00	0	4	3	11	42	41	**9**	2	**1**	0	0	0	0	0	0	113	46	54
06:00	0	3	7	21	69	**51**	7	**3**	0	0	0	0	0	0	0	161	45	52
07:00	2	13	17	62	137	38	5	1	1	0	0	0	0	0	0	276	41	47
08:00	**4**	8	24	**101**	**149**	45	5	1	1	0	0	0	0	0	0	338	40	47
09:00	3	5	20	69	87	20	4	1	1	0	0	0	0	0	0	210	40	46
10:00	0	**18**	**41**	82	75	20	3	3	1	0	0	0	0	0	0	243	38	45
11:00	3	11	39	90	88	21	2	0	0	0	0	0	0	0	0	254	38	45
12 PM	**4**	7	42	112	94	18	4	1	0	0	0	0	0	0	0	282	38	45
13:00	1	**19**	26	73	86	15	2	1	**1**	0	0	0	0	0	0	224	38	45
14:00	1	10	60	114	93	19	2	0	0	0	0	0	0	0	0	299	37	44
15:00	4	16	**64**	126	118	30	2	0	0	0	0	0	0	0	0	360	37	45
16:00	2	14	49	**149**	171	**43**	4	2	1	0	0	0	0	0	0	435	39	46
17:00	0	8	28	114	**191**	38	**7**	**3**	1	**1**	0	0	0	0	0	391	41	46
18:00	1	3	22	55	120	30	7	1	0	0	0	0	0	0	0	239	41	47
19:00	0	7	9	53	59	21	2	2	0	0	0	0	0	0	0	153	40	47
20:00	2	4	7	30	75	30	3	0	0	0	0	0	0	0	0	151	42	49
21:00	0	3	4	18	51	16	0	0	0	0	0	0	0	0	0	92	42	48
22:00	0	1	3	15	30	9	3	0	1	0	0	0	0	0	0	62	43	50
23:00	0	4	3	11	13	9	0	0	1	0	0	0	0	0	0	41	40	50
Total	27	160	476	1317	1784	540	80	23	10	2	0	0	0	0	0	4419		
Percent	0.6%	3.6%	10.8%	29.8%	40.4%	12.2%	1.8%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	10:00	08:00	08:00	06:00	05:00	06:00	05:00	02:00								
Vol.	4	18	41	101	149	51	9	3	1	1								
PM Peak	12:00	13:00	15:00	16:00	17:00	16:00	17:00	17:00	13:00	17:00								
Vol.	4	19	64	149	191	43	7	3	1	1								
Total	27	160	476	1317	1784	540	80	23	10	2	0	0	0	0	0	4419		

	15th Percentile :	30 KPH
	50th Percentile :	40 KPH
	85th Percentile :	46 KPH
	95th Percentile :	53 KPH
Stats	15 KPH Pace Speed :	33-47 KPH
	Number in Pace :	2936
	Percent in Pace :	66.4%
	Number of Vehicles > 40 KPH :	2216
	Percent of Vehicles > 40 KPH :	50.1%
	Mean Speed(Average) :	40 KPH

ONTARIO TRAFFIC INC - TURNING MOVEMENT COUNT SURVEY

Location: Main St S & Amaranth St
Date: Tuesday, June 25, 2024
Site Code: 2429200001

TIME	NORTH APPROACH (SOUTHBOUND)		EAST APPROACH (WESTBOUND)		SOUTH APPROACH (NORTHBOUND)		WEST APPROACH (EASTBOUND)	
	Peds		Peds		Peds		Peds	
	Asssted or Accompanied	Unassisted or Unaccompanied	Asssted or Accompanied	Unassisted or Unaccompanied	Asssted or Accompanied	Unassisted or Unaccompanied	Asssted or Accompanied	Unassisted or Unaccompanied
8:00 to 8:15	0	0	0	0	0	0	0	0
8:15 to 8:30	0	0	0	1	2	0	2	2
8:30 to 8:45	0	0	0	1	0	0	0	0
8:45 to 9:00	0	3	0	1	0	1	0	0
9:00 to 9:15	0	1	0	0	0	1	0	0
9:15 to 9:30	0	0	0	3	0	0	0	0
9:30 to 9:45	0	3	0	2	0	1	0	0
9:45 to 10:00	0	0	0	1	0	1	0	0
10:00 to 10:15	0	0	0	0	0	1	0	1
10:15 to 10:30	0	0	2	0	0	0	0	0
10:30 to 10:45	0	0	0	0	0	0	0	1
10:45 to 11:00	0	0	0	0	2	2	0	0
11:00 to 11:15	0	1	0	0	0	0	0	0
11:15 to 11:30	0	0	0	1	0	0	0	0
11:30 to 11:45	0	0	0	0	0	0	0	0
11:45 to 12:00	0	0	0	5	0	2	0	0
12:00 to 12:15	0	0	0	3	0	0	0	0
12:15 to 12:30	0	2	0	0	0	0	0	0
12:30 to 12:45	0	1	0	1	0	2	0	22
12:45 to 13:00	0	0	0	1	0	0	0	0
13:00 to 13:15	0	0	0	1	0	1	0	0
13:15 to 13:30	0	0	0	0	0	3	0	3
13:30 to 13:45	0	0	0	3	0	1	0	0
13:45 to 14:00	0	0	0	0	0	2	0	0
14:00 to 14:15	0	0	0	0	0	3	0	0
14:15 to 14:30	0	1	0	0	0	1	0	0
14:30 to 14:45	0	0	0	0	0	0	0	0
14:45 to 15:00	0	1	0	0	0	0	0	1
15:00 to 15:15	0	0	0	9	0	0	0	10
15:15 to 15:30	0	0	0	0	0	0	0	1
15:30 to 15:45	0	0	0	0	0	0	0	5
15:45 to 16:00	0	0	0	0	0	2	0	1
16:00 to 16:15	0	0	0	0	0	0	0	1
16:15 to 16:30	0	0	0	2	0	0	0	0
16:30 to 16:45	0	1	0	0	0	4	0	0
16:45 to 17:00	0	0	0	0	0	0	0	0
17:00 to 17:15	2	0	0	0	0	1	0	0
17:15 to 17:30	0	0	0	1	0	2	0	0
17:30 to 17:45	0	0	0	0	0	0	0	0
17:45 to 18:00	0	2	0	5	0	5	0	0
TOTAL =	**2**	**16**	**2**	**41**	**4**	**36**	**2**	**48**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Amaranth St				**ZONE:**	A
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	08:00-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Eastbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30							
8:30-8:45							
8:45-9:00	3				3		
9:00-9:15	1				1		
9:15-9:30							
9:30-9:45	2	1			1		2
9:45-10:00							
10:00-10:15							
10:15-10:30							
10:30-10:45							
10:45-11:00							
11:00-11:15							
11:15-11:30							
11:30-11:45							
11:45-12:00							
12:00-12:15	1				1		
12:15-12:30		1			1		
12:30-12:45							
12:45-13:00							
13:00-13:15							
13:15-13:30							
13:30-13:45							
13:45-14:00							
14:00-14:15							
14:15-14:30							
14:30-14:45							
14:45-15:00							
15:00-15:15							
15:15-15:30							
15:30-15:45							
15:45-16:00							
16:00-16:15							
16:15-16:30							
16:30-16:45							
16:45-17:00							
17:00-17:15		1	1				
17:15-17:30							
17:30-17:45							
17:45-18:00							
Total	**7**	**3**	**1**	**0**	**7**	**0**	**2**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Amaranth St				**ZONE:**	B
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	07:30-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Eastbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30							
8:30-8:45	1	1			2		
8:45-9:00	3				3		
9:00-9:15	1	1			2		
9:15-9:30							
9:30-9:45	2	1			3		
9:45-10:00	2				2		
10:00-10:15	3				3		
10:15-10:30	2	2			4		
10:30-10:45	2				2		
10:45-11:00	4	1	1		4		
11:00-11:15	4				4		
11:15-11:30	1				1		
11:30-11:45	2	2			4		
11:45-12:00	3	1			4		
12:00-12:15	1	2			3		
12:15-12:30	4				4		
12:30-12:45	1	1			2		
12:45-13:00	2				2		
13:00-13:15	2	2			4		
13:15-13:30							
13:30-13:45	5				5		
13:45-14:00	4	1			5		
14:00-14:15	1	2			3		
14:15-14:30	3	1			4		
14:30-14:45							
14:45-15:00							
15:00-15:15	1	1			2		
15:15-15:30							
15:30-15:45	2	1			3		
15:45-16:00	1	2			3		
16:00-16:15	0	2			2		
16:15-16:30	3	1			4		
16:30-16:45	1	1			2		
16:45-17:00	2				2		
17:00-17:15	2	2			4		
17:15-17:30	3	3			6		
17:30-17:45		2			2		
17:45-18:00	5	3			8		
Total	**73**	**36**	**1**	**0**	**108**	**0**	**0**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Amaranth St				**ZONE:**	A
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	08:00-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Westbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30							
8:30-8:45							
8:45-9:00							
9:00-9:15							
9:15-9:30							
9:30-9:45							
9:45-10:00							
10:00-10:15							
10:15-10:30							
10:30-10:45							
10:45-11:00							
11:00-11:15	1				1		
11:15-11:30							
11:30-11:45							
11:45-12:00							
12:00-12:15							
12:15-12:30							
12:30-12:45		1					1
12:45-13:00							
13:00-13:15							
13:15-13:30							
13:30-13:45							
13:45-14:00							
14:00-14:15							
14:15-14:30	1				1		
14:30-14:45							
14:45-15:00	1				1		
15:00-15:15							
15:15-15:30							
15:30-15:45							
15:45-16:00							
16:00-16:15							
16:15-16:30							
16:30-16:45							
16:45-17:00		1			1		
17:00-17:15							
17:15-17:30							
17:30-17:45							
17:45-18:00	2				1	1	
Total	**5**	**2**	**0**	**0**	**5**	**1**	**1**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Amaranth St				**ZONE:**	B
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	07:30-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Westbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15	1				1		
8:15-8:30	1				1		
8:30-8:45		1			1		
8:45-9:00	2	1			3		
9:00-9:15	2				2		
9:15-9:30							
9:30-9:45							
9:45-10:00	2				2		
10:00-10:15	2	1			3		
10:15-10:30	1	2			3		
10:30-10:45	2				2		
10:45-11:00	3	1			4		
11:00-11:15	2	1			3		
11:15-11:30	1				1		
11:30-11:45	6	3			9		
11:45-12:00	2	2			4		
12:00-12:15	3	2			5		
12:15-12:30	3	1			4		
12:30-12:45	1	2			3		
12:45-13:00	3				3		
13:00-13:15	2	2			4		
13:15-13:30	3				3		
13:30-13:45	1	1			2		
13:45-14:00	1	1			2		
14:00-14:15	2	1			3		
14:15-14:30	2				2		
14:30-14:45	2				2		
14:45-15:00							
15:00-15:15	2				2		
15:15-15:30	1				1		
15:30-15:45		1			1		
15:45-16:00	1	3			4		
16:00-16:15	2				2		
16:15-16:30	3	1			4		
16:30-16:45	2	2			4		
16:45-17:00		1			1		
17:00-17:15	2	2			4		
17:15-17:30	3	3			6		
17:30-17:45		2			2		
17:45-18:00	4	1			5		
Total	**70**	**38**	**0**	**0**	**108**	**0**	**0**

ONTARIO TRAFFIC INC - TURNING MOVEMENT COUNT SURVEY

Location: Main St S & Mill St
Date: Tuesday, June 25, 2024
Site Code: 2429200002

TIME	NORTH APPROACH (SOUTHBOUND)		EAST APPROACH (WESTBOUND)		SOUTH APPROACH (NORTHBOUND)		WEST APPROACH (EASTBOUND)	
	Peds		Peds		Peds		Peds	
	Asssted or Accompanied	Unassisted or Unaccompanied	Asssted or Accompanied	Unassisted or Unaccompanied	Asssted or Accompanied	Unassisted or Unaccompanied	Asssted or Accompanied	Unassisted or Unaccompanied
8:00 to 8:15	0	0	0	0	0	0	0	1
8:15 to 8:30	0	1	0	0	0	0	0	0
8:30 to 8:45	0	0	0	0	0	2	0	2
8:45 to 9:00	0	0	0	0	0	0	0	1
9:00 to 9:15	0	2	0	0	0	1	0	0
9:15 to 9:30	0	1	0	1	0	0	0	0
9:30 to 9:45	0	0	0	1	0	0	0	1
9:45 to 10:00	0	3	0	2	0	0	0	0
10:00 to 10:15	0	5	0	0	0	0	0	0
10:15 to 10:30	0	6	0	0	0	0	0	0
10:30 to 10:45	0	2	0	0	0	0	0	0
10:45 to 11:00	0	7	0	0	0	0	0	0
11:00 to 11:15	0	3	0	0	0	0	0	1
11:15 to 11:30	0	2	0	0	0	0	0	1
11:30 to 11:45	0	1	0	0	0	0	0	0
11:45 to 12:00	0	4	0	0	0	0	0	0
12:00 to 12:15	0	8	0	0	0	0	0	0
12:15 to 12:30	0	4	0	2	0	0	0	0
12:30 to 12:45	0	7	0	1	0	0	0	4
12:45 to 13:00	0	4	0	0	0	1	0	0
13:00 to 13:15	0	0	0	1	0	1	0	1
13:15 to 13:30	0	4	0	1	0	0	0	0
13:30 to 13:45	0	0	0	0	0	0	0	0
13:45 to 14:00	0	0	0	0	0	0	0	0
14:00 to 14:15	0	0	0	2	0	0	0	1
14:15 to 14:30	0	3	0	2	0	0	0	1
14:30 to 14:45	0	0	0	0	0	0	0	0
14:45 to 15:00	0	4	0	0	0	0	0	0
15:00 to 15:15	0	3	0	3	0	1	0	2
15:15 to 15:30	0	1	0	0	0	0	0	0
15:30 to 15:45	0	0	0	2	0	0	0	2
15:45 to 16:00	0	0	0	2	0	0	0	0
16:00 to 16:15	0	3	0	0	0	1	0	0
16:15 to 16:30	0	4	0	1	0	1	0	3
16:30 to 16:45	0	3	0	1	0	0	0	0
16:45 to 17:00	0	2	0	1	0	0	0	0
17:00 to 17:15	0	6	0	0	0	0	0	1
17:15 to 17:30	0	6	0	0	0	0	0	0
17:30 to 17:45	0	1	0	2	0	0	0	0
17:45 to 18:00	0	6	0	0	0	0	0	0
TOTAL =	**0**	**106**	**0**	**25**	**0**	**8**	**0**	**22**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Mill St				**ZONE:**	A
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	08:00-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Eastbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30							
8:30-8:45	1				1		
8:45-9:00							
9:00-9:15							
9:15-9:30							
9:30-9:45		1			1		
9:45-10:00							
10:00-10:15							
10:15-10:30							
10:30-10:45							
10:45-11:00							
11:00-11:15							
11:15-11:30							
11:30-11:45							
11:45-12:00							
12:00-12:15							
12:15-12:30							
12:30-12:45							
12:45-13:00							
13:00-13:15	1				1		
13:15-13:30							
13:30-13:45							
13:45-14:00							
14:00-14:15		1			1		
14:15-14:30	1				1		
14:30-14:45							
14:45-15:00							
15:00-15:15							
15:15-15:30							
15:30-15:45							
15:45-16:00							
16:00-16:15	1				1		
16:15-16:30	1			1			
16:30-16:45							
16:45-17:00							
17:00-17:15							
17:15-17:30							
17:30-17:45							
17:45-18:00							
Total	**5**	**2**	**0**	**1**	**6**	**0**	**0**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Mill St				**ZONE:**	B
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	07:30-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Eastbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30	1				1		
8:30-8:45		1			1		
8:45-9:00	2	1			3		
9:00-9:15	2				2		
9:15-9:30		1			1		
9:30-9:45							
9:45-10:00	2				2		
10:00-10:15							
10:15-10:30		1			1		
10:30-10:45							
10:45-11:00		1			1		
11:00-11:15							
11:15-11:30							
11:30-11:45							
11:45-12:00	1				1		
12:00-12:15	3	1			4		
12:15-12:30	1			1			
12:30-12:45	4	1			5		
12:45-13:00	3				3		
13:00-13:15							
13:15-13:30							
13:30-13:45	2	1			3		
13:45-14:00							
14:00-14:15		1			1		
14:15-14:30	1	2			3		
14:30-14:45	2				2		
14:45-15:00	3				3		
15:00-15:15	2	1			3		
15:15-15:30		1			1		
15:30-15:45	1				1		
15:45-16:00	2				2		
16:00-16:15		1			1		
16:15-16:30	2	1			3		
16:30-16:45	3	1		1	3		
16:45-17:00	3				3		
17:00-17:15	1	2			3		
17:15-17:30		1			1		
17:30-17:45	2	1			3		
17:45-18:00	1	2			3		
Total	**44**	**22**	**0**	**2**	**64**	**0**	**0**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Mill St				**ZONE:**	A
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	08:00-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Westbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30							
8:30-8:45	1				1		
8:45-9:00							
9:00-9:15		1			1		
9:15-9:30							
9:30-9:45							
9:45-10:00							
10:00-10:15							
10:15-10:30							
10:30-10:45							
10:45-11:00							
11:00-11:15							
11:15-11:30							
11:30-11:45							
11:45-12:00							
12:00-12:15							
12:15-12:30							
12:30-12:45	1				1		
12:45-13:00	1					1	
13:00-13:15							
13:15-13:30							
13:30-13:45							
13:45-14:00							
14:00-14:15							
14:15-14:30							
14:30-14:45							
14:45-15:00							
15:00-15:15		1		1			
15:15-15:30							
15:30-15:45							
15:45-16:00							
16:00-16:15							
16:15-16:30	1	1			2		
16:30-16:45	1				1		
16:45-17:00							
17:00-17:15							
17:15-17:30							
17:30-17:45		1			1		
17:45-18:00							
Total	**5**	**4**	**0**	**1**	**7**	**1**	**0**

PEDESTRIAN CROSSOVER SURVEY

LOCATION	Main St S & Mill St				**ZONE:**	B
Date	Tuesday, 25 June 2024		**CITY**	Grand Valley		
SURVEY HOURS	07:30-18:00		**OBSERVER**			
WEATHER	Clear					
COMMENTS	Westbound					

TIME	**PEDESTRIAN DELAYS**		**PEDESTRIAN - TYPES**				
(ENTER BEGINNING TIME EVERY 15 MINS.)	**ENTER NO. OF PEDS. DELAYED FOR FOLLOWING PERIODS**		**ASSISTED CHILDREN**	**UNASSISTED CHILDREN**	**YOUTHS & ADULTS**	**SENIOR CITIZENS**	**HANDI-CAPPED PEDESTRIAN**
	0 - 10 SEC.	**OVER 10 SEC.**					
8:00-8:15							
8:15-8:30							
8:30-8:45							
8:45-9:00	1				1		
9:00-9:15							
9:15-9:30	2	1			3		
9:30-9:45							
9:45-10:00	2	2			4		
10:00-10:15							
10:15-10:30		1			1		
10:30-10:45							
10:45-11:00	2				2		
11:00-11:15							
11:15-11:30							
11:30-11:45	1				1		
11:45-12:00	1				1		
12:00-12:15	5	2		1	6		
12:15-12:30	3	1			4		
12:30-12:45	4	3			7		
12:45-13:00	3	2			5		
13:00-13:15							
13:15-13:30	1				1		
13:30-13:45	1	2			3		
13:45-14:00		2			2		
14:00-14:15							
14:15-14:30	4	1			5		
14:30-14:45	1	2			3		
14:45-15:00	3				3		
15:00-15:15	1	4		1	4		
15:15-15:30	2				2		
15:30-15:45							
15:45-16:00							
16:00-16:15	1				1		
16:15-16:30	1	2			3		
16:30-16:45	1				1		
16:45-17:00		1			1		
17:00-17:15	2	3			5		
17:15-17:30	4	2		1	5		
17:30-17:45		2			2		
17:45-18:00	3	1			4		
Total	**49**	**34**	**0**	**3**	**80**	**0**	**0**

BURNSIDE

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Appendix B

Signal Warrants

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision | GO TO Justification:

What are the intersecting roadways? Main Street/Amaranth Street

What is the direction of the Main Road street? North-South

When was the data collect 2024

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban

Intersection Type (Major x Minor)
1 x 1

Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
9:00	11	107	9	27	6	52	9	130	34	27	11	11	68
10:00	19	84	14	17	5	23	7	68	13	22	9	9	38
11:00	21	67	14	9	5	31	6	80	7	18	5	11	44
12:00	23	85	22	17	7	29	3	76	21	13	11	7	38
13:00	36	89	20	11	7	25	7	94	16	17	11	6	35
14:00	35	72	12	18	6	29	6	60	7	16	15	13	48
16:00	42	111	33	13	16	33	12	119	32	22	17	3	36
18:00	77	148	42	24	11	31	7	84	23	23	19	12	55
Total	**264**	**763**	**166**	**136**	**63**	**253**	**57**	**711**	**153**	**158**	**98**	**72**	**362**

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision | GO TO Justification:

Intersection: Main Street/Amaranth Street Count Date: 2024

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	9:00	10:00	11:00	12:00	13:00	14:00	16:00	18:00		
1A	480	720	600	900	434	290	274	314	339	289	453	501		
	COMPLIANCE FULFILLED %				60	40	38	44	47	40	63	70	402	50
1B	120	170	120	170	134	85	79	84	77	97	104	120		
	COMPLIANCE FULFILLED %				79	50	46	49	45	57	61	71	459	57

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	9:00	10:00	11:00	12:00	13:00	14:00	16:00	18:00		
2A	480	720	600	900	300	205	195	230	262	192	349	381		
	COMPLIANCE FULFILLED %				42	28	27	32	36	27	48	53	294	37
2B	50	75	50	75	133	86	76	79	74	97	88	121		
	COMPLIANCE FULFILLED %				100	100	100	100	80	100	100	100	780	98

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	☐	☑		NOT JUSTIFIED

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Main Street/Amaranth Street Count Date: 2024

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	50	%	☐	☑
	B	Crossing Volume	57	%		
2. Delay to Cross Traffic	A	Main Road	37	%	☐	☑
	B	Crossing Road	98	%		
3. Combination	A	Justificaton 1	50	%	☐	☑
	B	Justification 2	37	%		

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision | GO TO Justification:

What are the intersecting roadways? Main Street/Mill Street

What is the direction of the Main Road street? North-South

When was the data collecte 2024

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban

Intersection Type (Major x Minor)
1 x 1

Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
10:00	4	90	10	10	1	9	9	90	10	11	1	7	7
11:00	3	83	11	17	4	9	14	103	14	12	1	9	20
12:00	7	114	11	17	3	5	8	97	18	11	4	3	10
13:00	3	120	12	12	4	10	16	109	14	7	2	9	24
15:00	3	128	13	12	6	9	18	110	17	14	4	14	7
16:00	5	166	18	18	8	5	12	134	24	11	3	11	5
17:00	7	218	19	21	8	14	18	132	22	7	4	17	14
18:00	7	228	11	23	3	9	10	103	20	4	2	5	19
Total	**39**	**1,147**	**105**	**130**	**37**	**70**	**105**	**878**	**139**	**77**	**21**	**75**	**106**

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision | GO TO Justification:

Intersection: Main Street/Mill Street Count Date: 2024

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	10:00	11:00	12:00	13:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	252	280	298	318	348	415	487	425		
	COMPLIANCE FULFILLED %				35	39	41	44	48	58	68	59	392	49
1B	120	170	120	170	39	52	43	44	59	56	71	46		
	COMPLIANCE FULFILLED %				23	31	25	26	35	33	42	27	241	30

Restricted Flow Signal Justification 1:	**Both 1A and 1B 100% Fullfilled each of 8 hours**	**Yes** ☐	**No** ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	**Yes** ☐	**No** ☑

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. ☑ W	FREE FLOW ☐	RESTR. ☐ W	10:00	11:00	12:00	13:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	213	228	255	274	289	359	416	379		
	COMPLIANCE FULFILLED %				30	32	35	38	40	50	58	53	335	42
2B	50	75	50	75	29	53	42	47	39	42	50	49		
	COMPLIANCE FULFILLED %				39	71	56	63	52	56	67	65	468	59

Restricted Flow Signal Justification 2:	**Both 2A and 2B 100% Fullfilled each of 8 hours**	**Yes** ☐	**No** ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	**Yes** ☐	**No** ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	☐	☑		NOT JUSTIFIED

Results Sheet

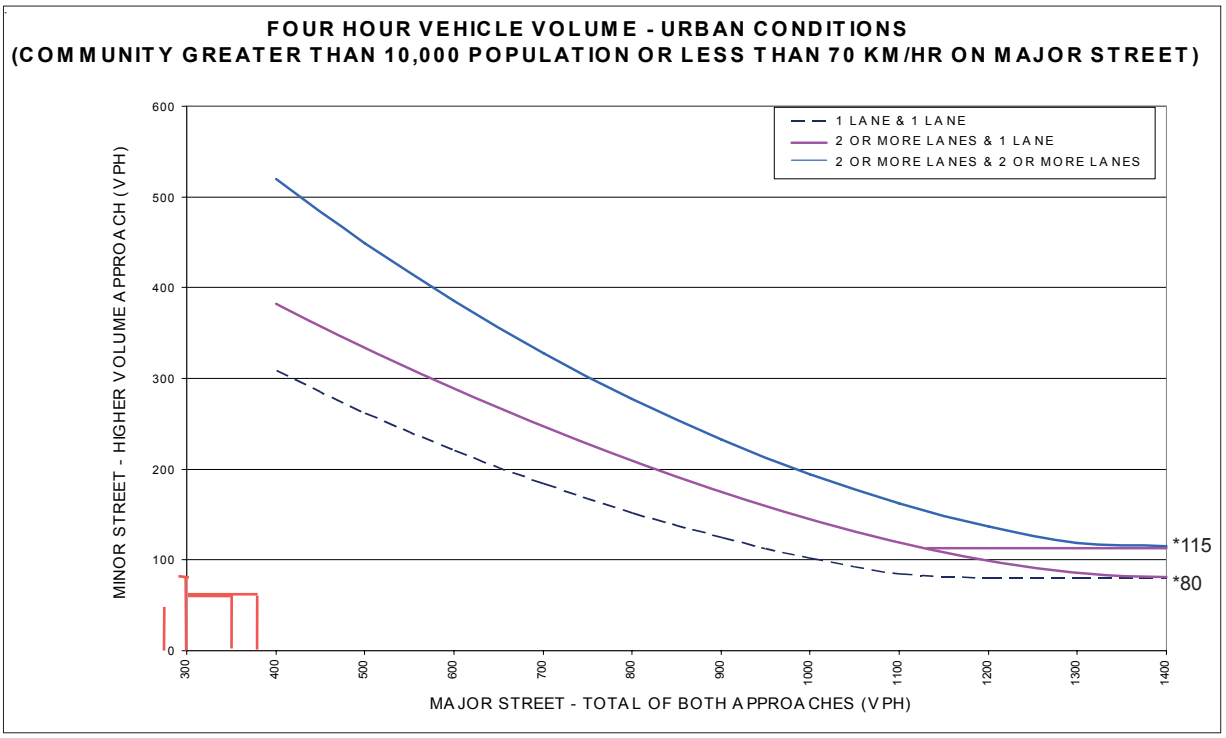
Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Main Street/Mill Street Count Date: 2024

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	49	%	☐	☑
	B	Crossing Volume	30	%		
2. Delay to Cross Traffic	A	Main Road	42	%	☐	☑
	B	Crossing Road	59	%		
3. Combination	A	Justificaton 1	30	%	☐	☑
	B	Justification 2	42	%		

Main Street & Amaranth Street



9:00 Major-300
Minor-85

13:00 Major-262
Minor-43

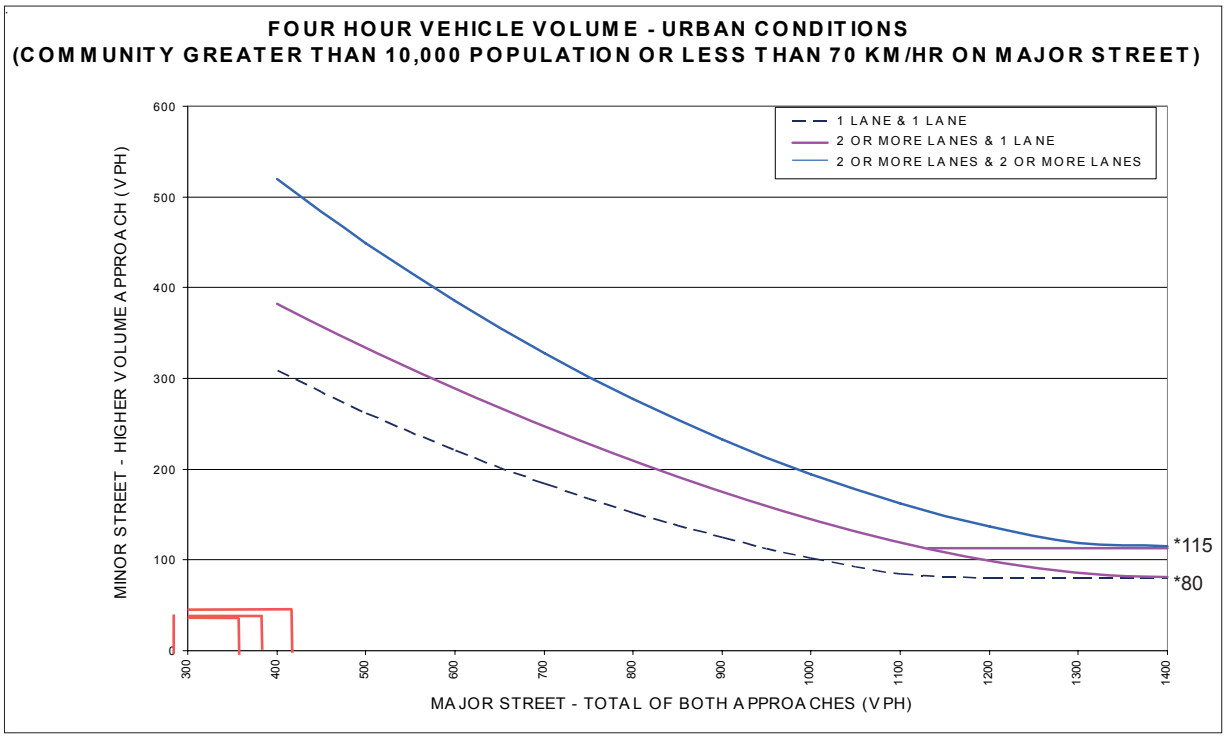
16:00 Major-349
Minor-62

18:00 Major-381
Minor-66

Figure 21 – Justification 4 – Minimum Four Hour Justification, Restricted Flow

*Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes, and 80 vph applies as the lower threshold volume for a minor street approach with one lane.

Main Street & Mill Street



15:00 Major-289
Minor-32

16:00 Major-359
Minor-31

17:00 Major-416
Minor-43

18:00 Major-379
Minor-35

Figure 21 – Justification 4 – Minimum Four Hour Justification, Restricted Flow

*Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes, and 80 vph applies as the lower threshold volume for a minor street approach with one lane.

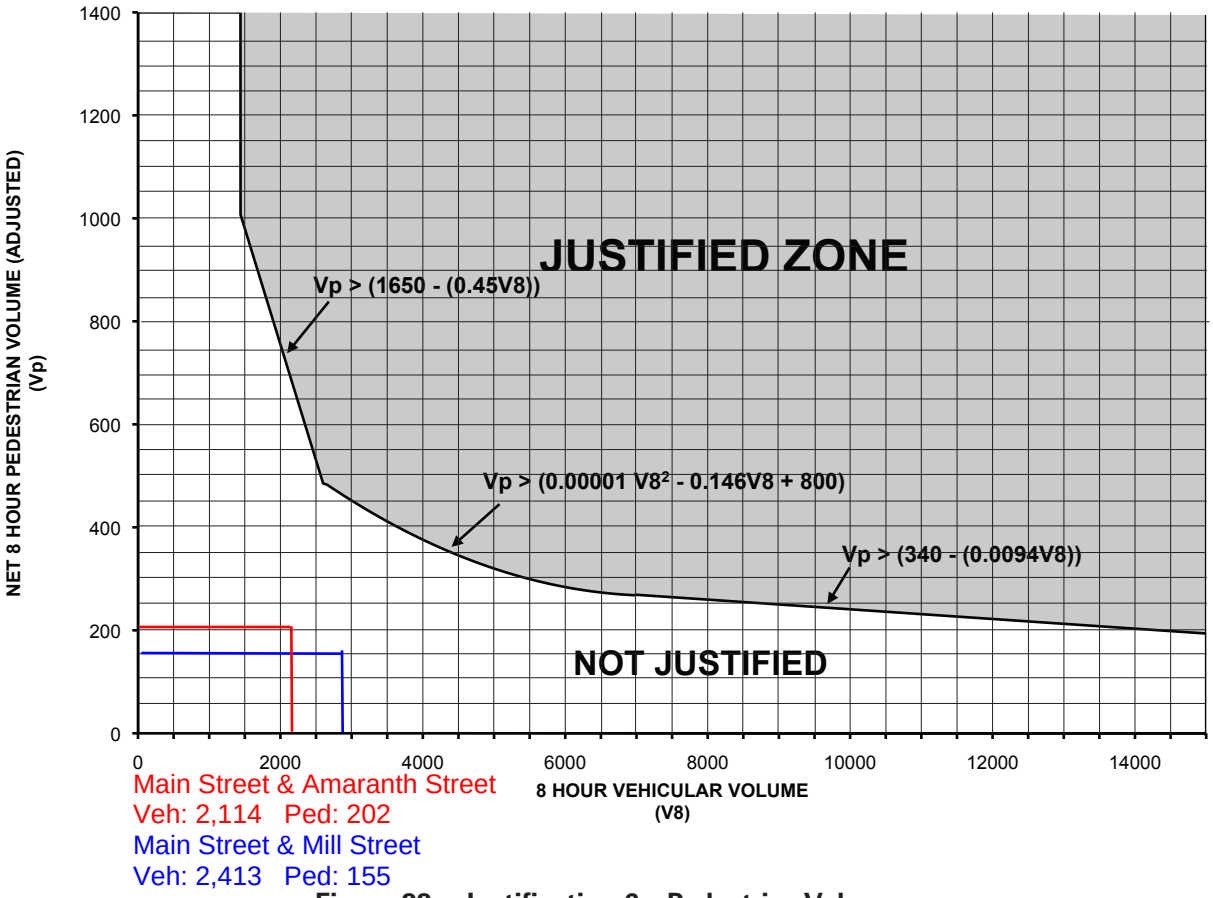


Figure 22 – Justification 6 – Pedestrian Volume

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision | GO TO Justification:

What are the intersecting roadways? Main Street/Amaranth Street

What is the direction of the Main Road street? North-South

When was the data collect 2034

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban

Intersection Type (Major x Minor)
1 x 1

Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
9:00	18	172	14	43	10	83	14	209	55	43	18	18	109
10:00	30	135	22	27	8	37	11	109	21	35	14	14	61
11:00	34	107	22	14	8	50	10	128	11	29	8	18	71
12:00	37	136	35	27	11	47	5	122	34	21	18	11	61
13:00	58	143	32	18	11	40	11	151	26	27	18	10	56
14:00	56	116	19	29	10	47	10	96	11	26	24	21	77
16:00	67	178	53	21	26	53	19	191	51	35	27	5	58
18:00	124	237	67	39	18	50	11	135	37	37	30	19	88
Total	**424**	**1,224**	**264**	**218**	**102**	**407**	**91**	**1,141**	**246**	**253**	**157**	**116**	**581**

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision | GO TO Justification:

Intersection: Main Street/Amaranth Street Count Date: 2034

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	9:00	10:00	11:00	12:00	13:00	14:00	16:00	18:00		
1A	480	720	600	900	697	463	439	504	545	465	726	804		
	COMPLIANCE FULFILLED %				80	64	61	70	76	65	100	100	616	77
1B	120	170	120	170	215	135	127	135	124	157	167	193		
	COMPLIANCE FULFILLED %				100	79	75	79	73	80	80	100	666	83

Restricted Flow Signal Justification 1:	Both 1A and 1B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	9:00	10:00	11:00	12:00	13:00	14:00	16:00	18:00		
2A	480	720	600	900	482	328	312	369	421	308	559	611		
	COMPLIANCE FULFILLED %				67	46	43	51	58	43	78	80	466	58
2B	50	75	50	75	213	137	122	127	119	156	141	194		
	COMPLIANCE FULFILLED %				100	100	100	100	100	100	100	100	800	100

Restricted Flow Signal Justification 2:	Both 2A and 2B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	☐	☑		NOT JUSTIFIED

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Main Street/Amaranth Street Count Date: 2034

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	77	%	☐	☑
	B	Crossing Volume	83	%		
2. Delay to Cross Traffic	A	Main Road	58	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	77	%	☐	☑
	B	Justification 2	58	%		

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision | GO TO Justification:

What are the intersecting roadways? Main Street/Mill Street

What is the direction of the Main Road street? North-South

When was the data collect 2034

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban

Intersection Type (Major x Minor)
1 x 1

Population >= 10,000 AND Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
10:00	6	144	16	16	2	14	14	144	16	18	2	11	11
11:00	5	133	18	27	6	14	22	165	22	19	2	14	32
12:00	11	183	18	27	5	8	13	156	29	18	6	5	16
13:00	5	193	19	19	6	16	26	175	22	11	3	14	39
15:00	5	205	21	19	10	14	29	176	27	22	6	22	11
16:00	8	266	29	29	13	8	19	215	39	18	5	18	8
17:00	11	350	30	34	13	22	29	212	35	11	6	27	22
18:00	11	366	18	37	5	14	16	165	32	6	3	8	30
Total	**62**	**1,840**	**169**	**208**	**60**	**110**	**168**	**1,408**	**222**	**123**	**33**	**119**	**169**

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision | GO TO Justification:

Intersection: Main Street/Mill Street Count Date: 2034

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	10:00	11:00	12:00	13:00	15:00	16:00	17:00	18:00		
1A	480	720	600	900	403	447	479	509	556	667	780	681		
	COMPLIANCE FULFILLED %				56	62	67	71	77	80	100	80	593	74
1B	120	170	120	170	63	82	69	69	93	91	113	73		
	COMPLIANCE FULFILLED %				37	48	41	41	55	54	66	43	384	48
Restricted Flow Signal Justification 1:					Both 1A and 1B 100% Fullfilled each of 8 hours ☐ Yes ☑ No Lesser of 1A or 1B at least 80% fulfilled each of 8 hours ☐ Yes ☑ No									

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	10:00	11:00	12:00	13:00	15:00	16:00	17:00	18:00		
2A	480	720	600	900	340	365	410	440	463	576	667	608		
	COMPLIANCE FULFILLED %				47	51	57	61	64	80	80	80	520	65
2B	50	75	50	75	47	84	67	75	62	68	80	78		
	COMPLIANCE FULFILLED %				63	100	80	100	80	80	100	100	703	88
Restricted Flow Signal Justification 2:					Both 2A and 2B 100% Fullfilled each of 8 hours ☐ Yes ☑ No Lesser of 2A or 2B at least 80% fulfilled each of 8 hours ☐ Yes ☑ No									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	☐	☑		NOT JUSTIFIED

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Main Street/Mill Street Count Date: 2034

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	74	%	☐	☑
	B	Crossing Volume	48	%		
2. Delay to Cross Traffic	A	Main Road	65	%	☐	☑
	B	Crossing Road	88	%		
3. Combination	A	Justificaton 1	48	%	☐	☑
	B	Justification 2	65	%		

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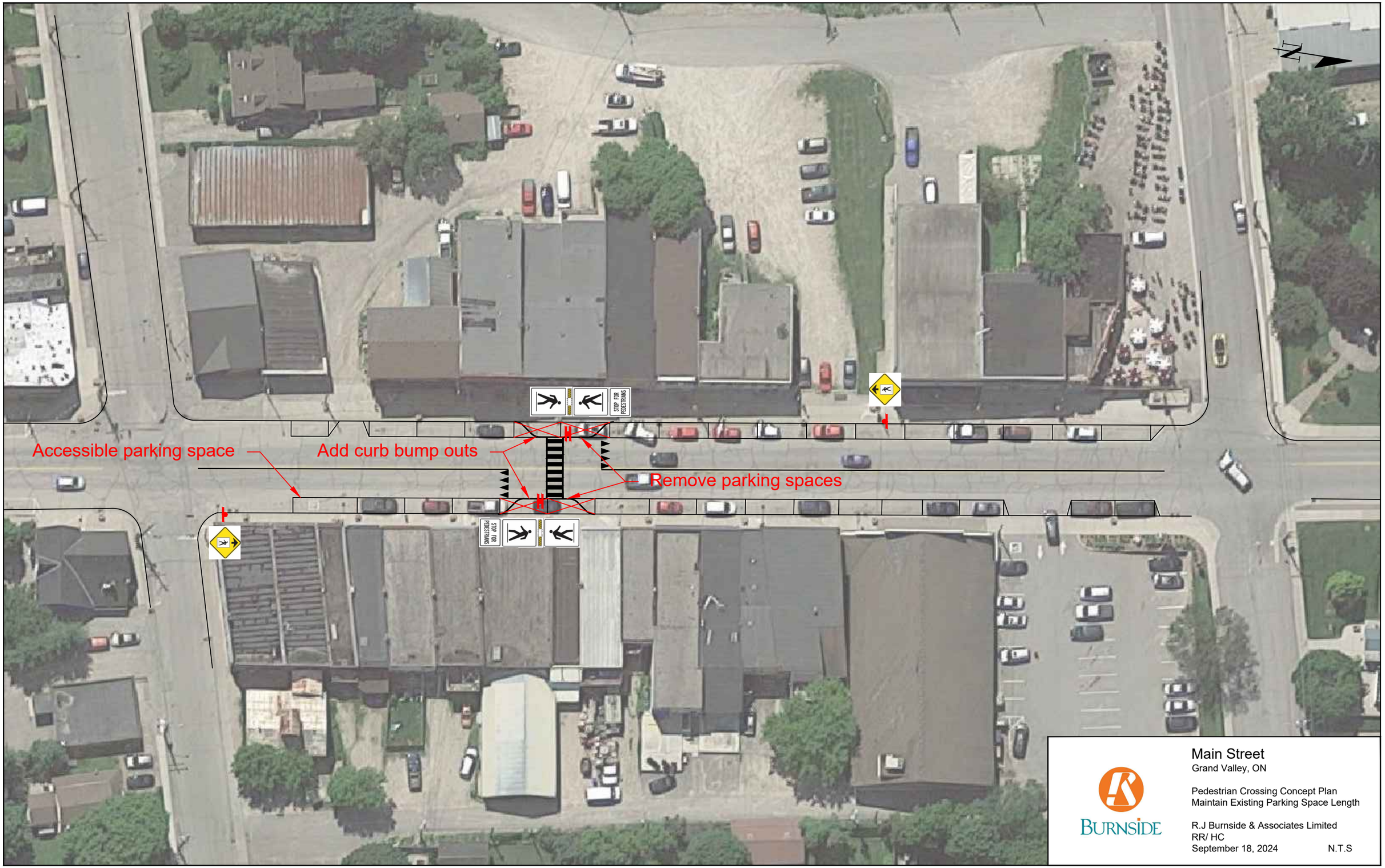
Appendix C

Conceptual Design

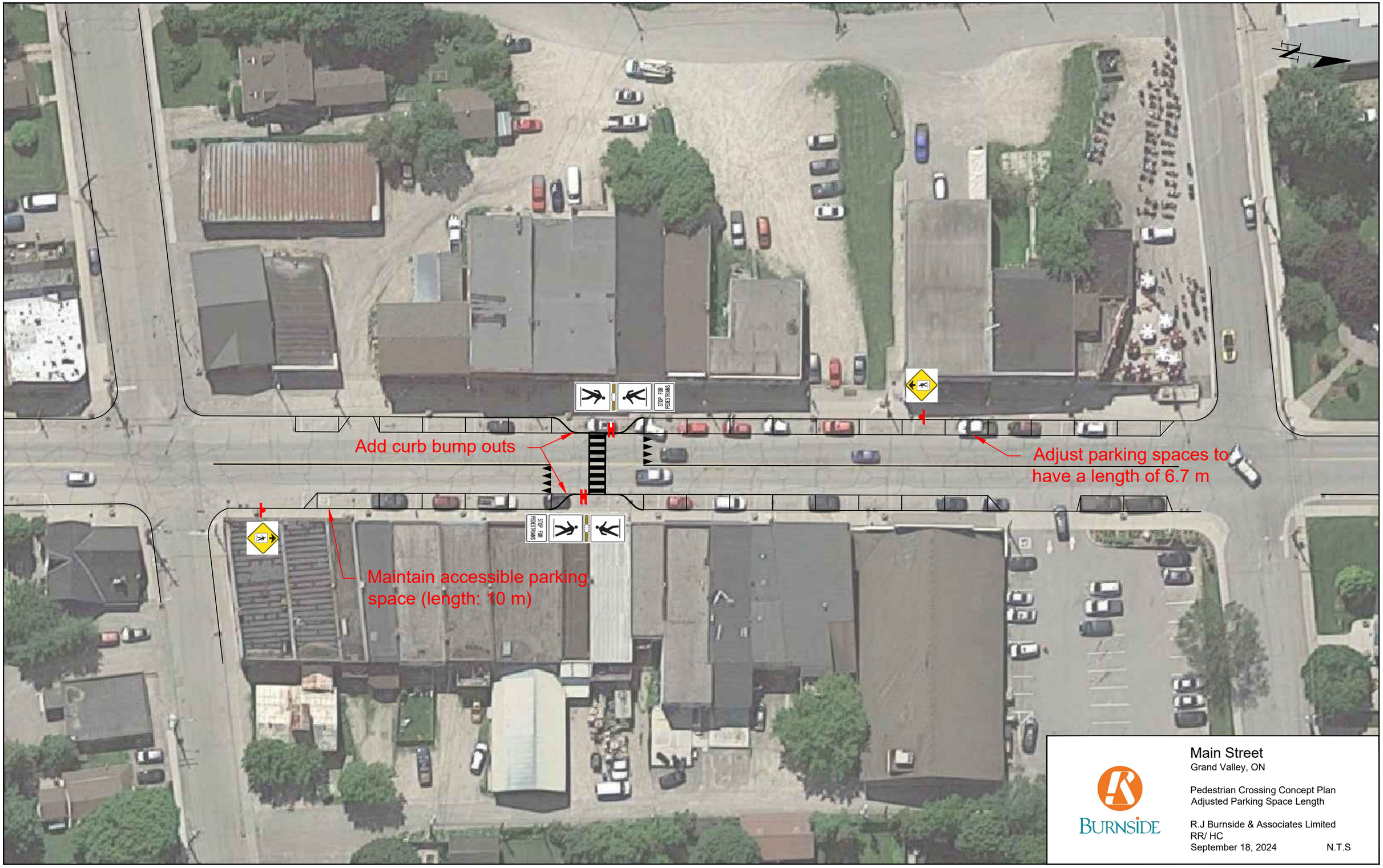


BURNSIDE

Main Street
Grand Valley, ON

Pedestrian Crossing Concept Plan
Maintain Existing Parking Space Length

R.J Burnside & Associates Limited
RR/ HC
September 18, 2024 N.T.S



Main Street
Grand Valley, ON

Pedestrian Crossing Concept Plan
Adjusted Parking Space Length

R.J Burnside & Associates Limited
RR/ HC
September 18, 2024 N.T.S

R.J. Burnside & Associates Limited