359 Kent Street

TIA Strategy Report

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Strategy Report

Parsons has been retained by 359 Kent Street Ltd. (c/o Taggart Realty Management) to prepare a Transportation Impact Assessment (TIA) in support of an Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBLA) applications for a residential development located at 359 Kent Street. This document follows the TIA process, as outlined in the City Transportation Impact Assessment (TIA) Guidelines (2017). The following report represents Step 4 – Strategy Report.

1. Screening Form

The screening form confirmed the need for a TIA Report based on the site meeting the trip generation, location and safety triggers. The trip generation trigger is met due to the number of person trips anticipated to be generated by the development exceeding 60 person trips per hour. The location trigger is met due to the development being located within a Design Priority Area (DPA). The safety trigger is met due to the proximity of the proposed site driveway within 150m of a signalized intersection. The Screening Form has been provided in Appendix A.

2. Scoping Report

2.1. Existing and Planned Conditions

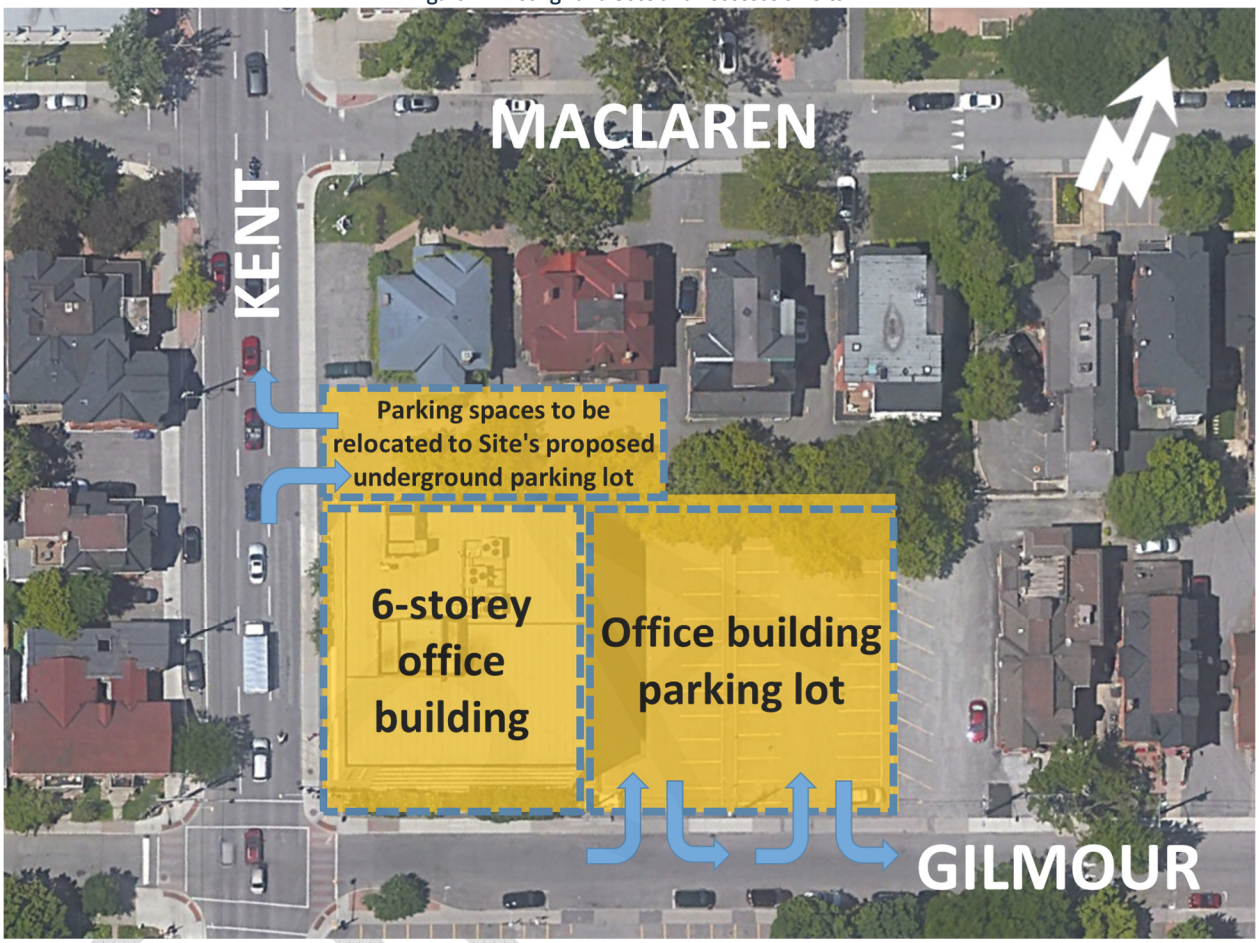
2.1.1. Proposed Development

The proposed development borders both Kent St and Gilmour St, at the municipal address of 359 Kent St. The development is anticipated to consist of a 35-storey residential tower, housing 405 apartment units, 21,388 ft^2 office space and 7,833 ft^2 commercial space. A five-level underground parking lot is anticipated to be provided for vehicle and bicycle parking spaces, with an access provided along Gilmour St near the east end of the development site. The development may be constructed by 2031, however, for purposes of this report it is assumed that the site is constructed in a single phase by 2024. The site is currently zoned as R4UD[479]. Figure 1 illustrates the local site context and the direction of travel for one-way streets in the study area.

Figure 1: Local Context

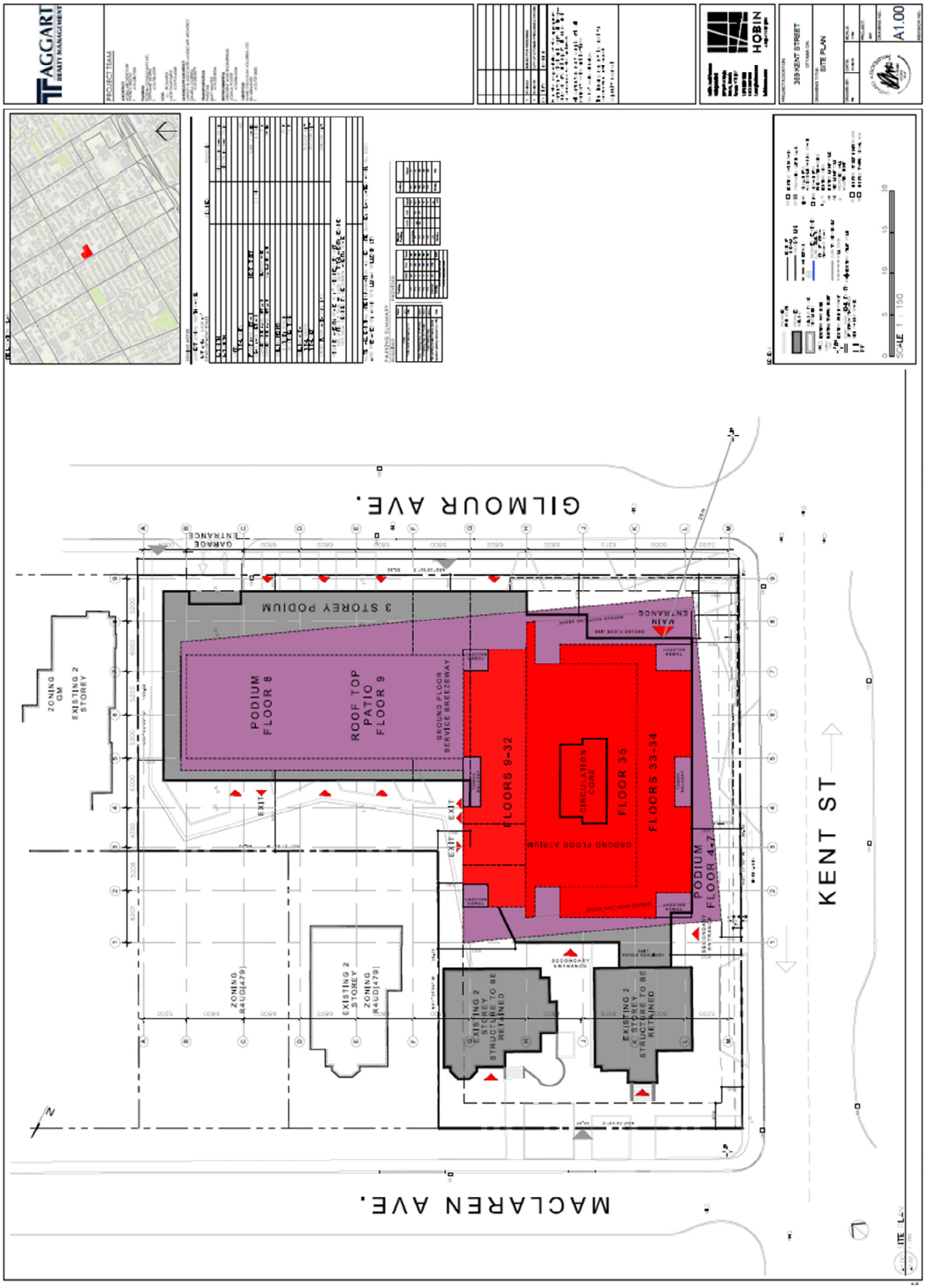
Figure 2 illustrates the existing land uses and accesses of the site. The site is currently occupied mainly by a 6-storey office building and a surface parking lot. A section at the north end of the building is currently used as a parking and storage area by the two existing 2-storey buildings located north of the site. These parking spaces will be relocated to the underground parking lot of the proposed future development. Note that there are currently two left-in/left-out accesses into the existing parking lot, however, the future development will have a single left-in/left-out access to the underground parking lot near the east end of the site.

Figure 2: Existing Land Uses and Accesses on Site



The Site Concept of the proposed development is illustrated in Figure 3 below.

Figure 3: Proposed Site Concept



2.1.2. Existing Conditions

Area Road Network

Kent Street is a north-south municipal arterial road that extends from Chamberlain Ave in the south to Wellington St in the north. The roadway operates as a one-way northbound road with a three-lane cross-section and on-street parking. The posted speed limit is 50km/h.

Bank St is a north-south municipal arterial road that extends from Wellington St in the north to past the City of Ottawa's limits in the south. Within the study area, the roadway consists of a two-way two-lane cross-section with a posted speed limit of 50km/h.

Gladstone Ave is an east-west municipal major collector road that extends from Parkdale Ave in the west to Cartier St in the east. Within the study area, the road consists of a two-way two-lane cross-section with on-street parking and a speed limit of 50km/h.

Somerset St W is an east-west municipal arterial road that extends from Queen Elizabeth Dr in the east to Garland St in the west, where it continues as Wellington St W. Within the study area, the roadway consists of a two-way two-lane cross-section, with on-street parking and an assumed speed limit of 50km/h.

Gilmour St is an east-west municipal local road that extends from Bronson Ave in the west to The Driveway in the east. The roadway operates as a one-way eastbound road between Bronson Ave and Elgin St. Within the study area, Gilmour St consists of one travel lane with on-street parking and an assumed speed limit of 50km/h.

MacLaren St is an east-west municipal local road that extends from The Driveway in the east to Bronson Ave in the west. The roadway operates as a one-way westbound road between Elgin St and Bronson Ave. Within the study area, MacLaren St consists of one travel lane with on-street parking and an assumed speed limit of 50km/h.

O'Connor Street is a north-south municipal road that extends from Wellington St in the north to Holmwood Ave in the south. Within the study area, O'Connor St is classified as an arterial road, which operates as a southbound only roadway with two-lane cross-section, on-street parking lane and a bi-directional cycle track on the east side. The speed limit is assumed to be 50km/h.

Existing Study Area Intersections

The following describes the existing physical geometry of the study area intersections.

Somerset/Kent

The Somerset/Kent intersection is a signalized four-legged intersection. Kent St operates as a one-way northbound road, with two through lanes, one shared through/right-turn lane and a left-turn lane on the south side and three receiving lanes on the north side. Somerset St provides one shared movement lane and one receiving lane on both sides, with an auxiliary left-turn lane. Westbound right-turn on red is prohibited. Painted crosswalks have been provided on all legs of this intersection. Cyclists operate in mixed traffic conditions.

MacLaren/Kent

The MacLaren/Kent intersection is an unsignalized four-legged intersection between two one-way streets, where Kent St operates northbound only and Maclaren St as westbound only. The northbound approach is uncontrolled, provides two through travel lanes and a shared through/left-turn lane. Westbound approach is composed of a single shared through/right-turn lane. Painted crosswalks have been provided crossing MacLaren St. Cyclists operate in mixed traffic conditions.

Gilmour/Kent

The Gilmour/Kent intersection is a signalized four-legged intersection connecting two one-way streets, where Kent St operates northbound only and Gilmour St as eastbound only. The northbound approach has two through lanes and a shared through/left-turn lane. The eastbound approach consists of a single shared through/right-turn lane. Painted crosswalks have been provided on all legs of this intersection. Cyclists operate in mixed traffic conditions.

Gladstone/Kent

The Gladstone/Kent intersection is a signalized four-legged intersection. Kent St operates in the northbound direction only. At the northbound approach, the roadway consists of two through lanes, one shared through/right-turn lane and a left-turn lane. The eastbound approach is composed of a through lane and an auxiliary left-turn lane. The westbound approach is comprised of a single shared through/right-turn lane. Painted crosswalks have been provided on all legs of this intersection. Cyclists operate in mixed traffic conditions.

MacLaren/Bank

The MacLaren/Bank intersection is a signalized four-legged intersection. MacLaren St is a one-way road operating westbound only. The northbound approach consists of a single shared through/left-turn lane. The Southbound approach is composed of a shared through/right-turn lane and the westbound approach is comprised of a single shared through/right-turn/left-turn lane. Painted crosswalks have been provided on all legs of this intersection. Cyclists operate in mixed traffic conditions

Gilmour/Bank

The Gilmour/Bank intersection is a signalized four-legged intersection. Gilmour St is an eastbound only. The northbound approach consists of a single shared through/left-turn lane. The southbound approach is comprised of a single shared through/right-turn lane. The eastbound approach consists of a single shared through/right-turn/left-turn lane. Painted crosswalks have been provided on all legs of this intersection. Cyclists operate in mixed traffic conditions.

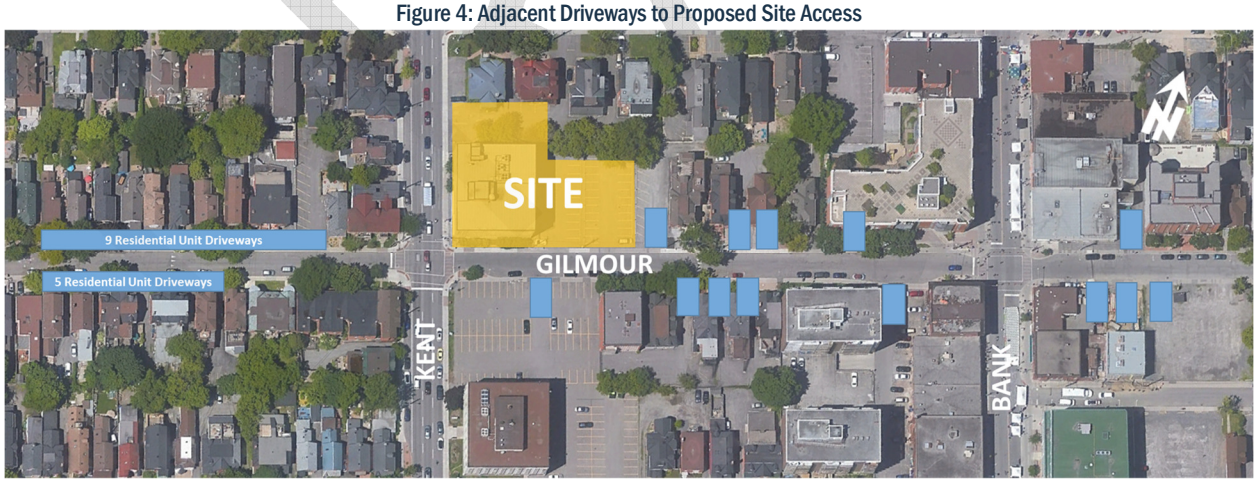
Gilmour/O'Connor

The Gilmour/O'Connor intersection is a signalized four-legged intersection. O'Connor St is a southbound only road and Gilmour St is an eastbound only road. The southbound approach consists of a shared through/left-turn lane and a through lane. The eastbound approach consists of a single shared through/right-turn lane. Painted crosswalks have been provided on all legs of this intersection. A cycle track is provided on the east side of O'Connor St, with bike signals and crossing on the east leg of the intersection.

Existing Driveways to Adjacent Developments

As mentioned previously, the proposed site access is located along Gilmour St, near the east end of the site. Figure 4 illustrates the location of adjacent driveways along Gilmour St, within 200 m of the proposed site access.

Figure 4: Adjacent Driveways to Proposed Site Access



West of Kent St:

- On the north side, there are nine driveway accesses to residential units.
- On the south side, there are five driveway accesses to residential units.

Between Kent St and Bank St:

- On the north side, there are a total of four driveways which provide access to small businesses, residential units and to an underground parking lot.

- On the south side, there are a total of five driveways which provide access to office/commercial parking, small businesses, residential units and a driveway connection between Gilmour St and James St where surface parking spaces and underground parking is provided for residential buildings.

East of Bank St:

- On the north side, there is one access for employee parking spaces at a commercial building.
- On the south side, there are three driveways providing access to commercial and office parking spaces and an access to a surface parking lot.

Existing Area Traffic Management Measures

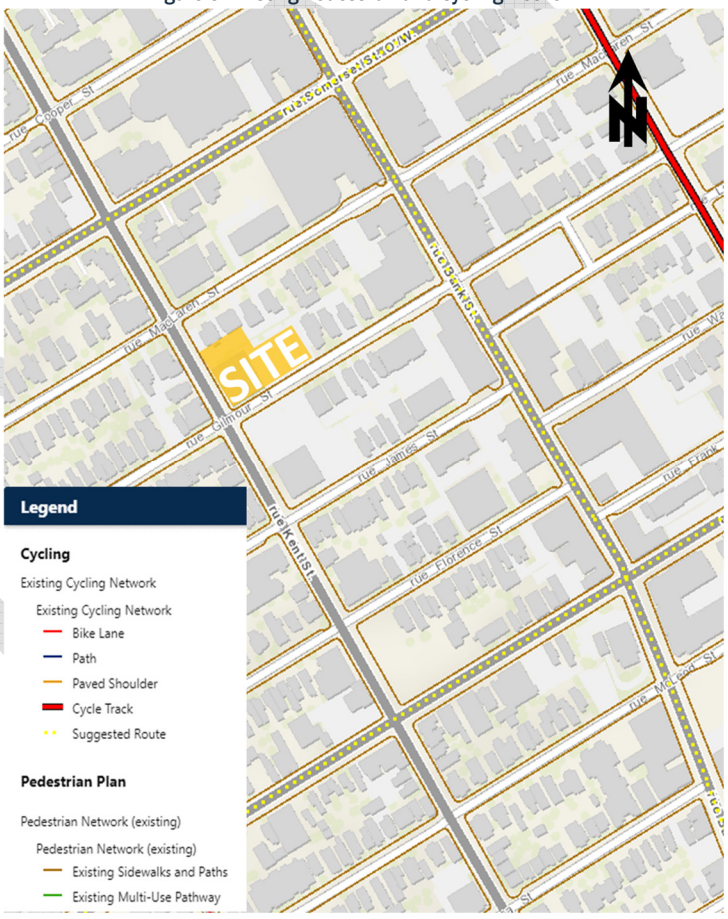
Existing area traffic management measures within the study area include:

- Speed humps;
- On-street parking;
- Textured crosswalks at study area intersections;
- Curb extensions at some locations; and,
- One-way traffic operations along study area roadways.

Pedestrian/Cycling Network

Figure 5 illustrates active transportation facilities within the study area. Sidewalks are provided on both sides of roadways throughout the study area. A cycle track is provided along O'Connor St, while Somerset St W, Bank St and Gladstone Ave are all suggested cycling routes. Gladstone Ave, O'Connor St and Somerset St W are classified as Spine Routes in the City of Ottawa Transportation Master Plan (TMP).

Figure 5: Existing Pedestrian and Cycling Network



Transit Network

The existing transit network surrounding the proposed development site is illustrated in Figure 6. It is noted that no bus routes currently operate within the study area, along Kent St, MacLaren St, O'Connor St and Gilmour St.

Transit stop locations are shown highlighted blue in Figure 7. Brief descriptions of the nearby transit routes are provided below:

- O-Train Confederation Line: an east-west Light-Rail Transit (LRT) that runs from Blair Station in the east to Tunney's Pasture in the west, providing service to 13 stations. During peak hours, service is provided every 5 minutes or less and every 15 minutes or less at all other times. The O-Train can be accessed approximately 1.0 km north of the proposed development at Lyon Station.
- Bus route #6 (Greenboro <-> Rockcliffe): designated as a "frequent route" and operates 7 days a week, providing service every 15 minutes or less. The nearest bus stop to the site is along Kent St south of Gilmour St.
- Bus route #7 (Carleton <-> St. Laurent): designated as a "frequent route" and operates 7 days a week, providing service every 15 minutes or less. The nearest bus stop to the site is along Kent St south of Gilmour St.
- Bus route #11 (Bayshore <-> Parliament): designated as a "frequent route" and operates 7 days a week, providing service every 15 minutes or less. The nearest bus stop to the site is along Somerset St W at the Kent St intersection.
- Bus route #14 (Tunney's Pasture <-> St. Laurent): designated as a "frequent route" and operates 7 days a week, providing service every 15 minutes or less. The nearest bus stop to the site is along Gladstone Ave at the Kent St intersection.
- Bus route #114 (Carlington <-> Rideau): designated as a "local route" and operate Monday to Friday on a custom schedule. The nearest bus stop to the site is along Gladstone Ave at the Kent St intersection.

Figure 6: Area Transit Network

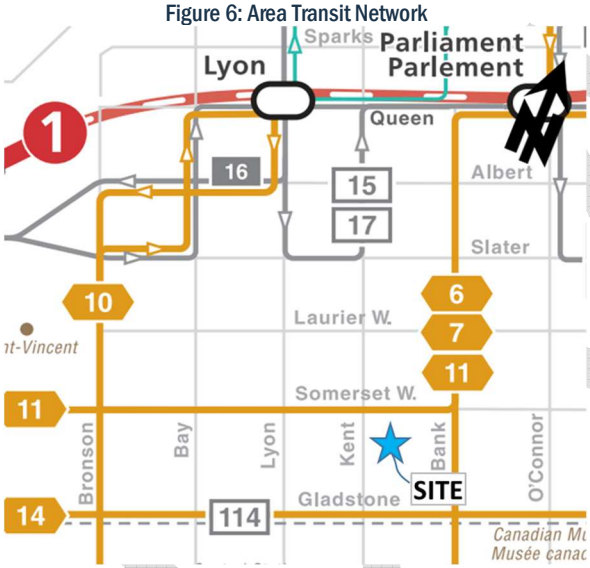
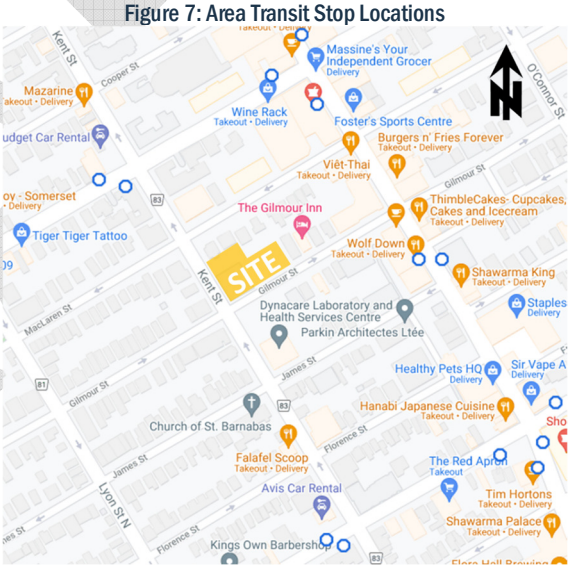


Figure 7: Area Transit Stop Locations



Peak Hour Travel Demands

The existing peak hour traffic volumes within the study area were obtained from the City of Ottawa for the following intersections:

- Somerset/Kent – conducted Wednesday, April 05, 2017.
- MacLaren/Kent – conducted Tuesday, March 05, 2019.
- Gilmour/Kent – conducted Wednesday, April 05, 2017.
- Gladstone/Kent – conducted Tuesday, April 25, 2017.
- MacLaren/Bank – conducted Tuesday, April 16, 2019.
- Gilmour/Bank – conducted Tuesday, August 25, 2015
- Gilmour/O'Connor – conducted Tuesday, March 21, 2017.

Figure 8 displays the existing vehicle traffic volumes while Figure 9 shows the existing pedestrian and cyclist volumes. Peak hour count data is provided in Appendix B.

Figure 8: Existing Peak Hour Vehicle Traffic Volumes

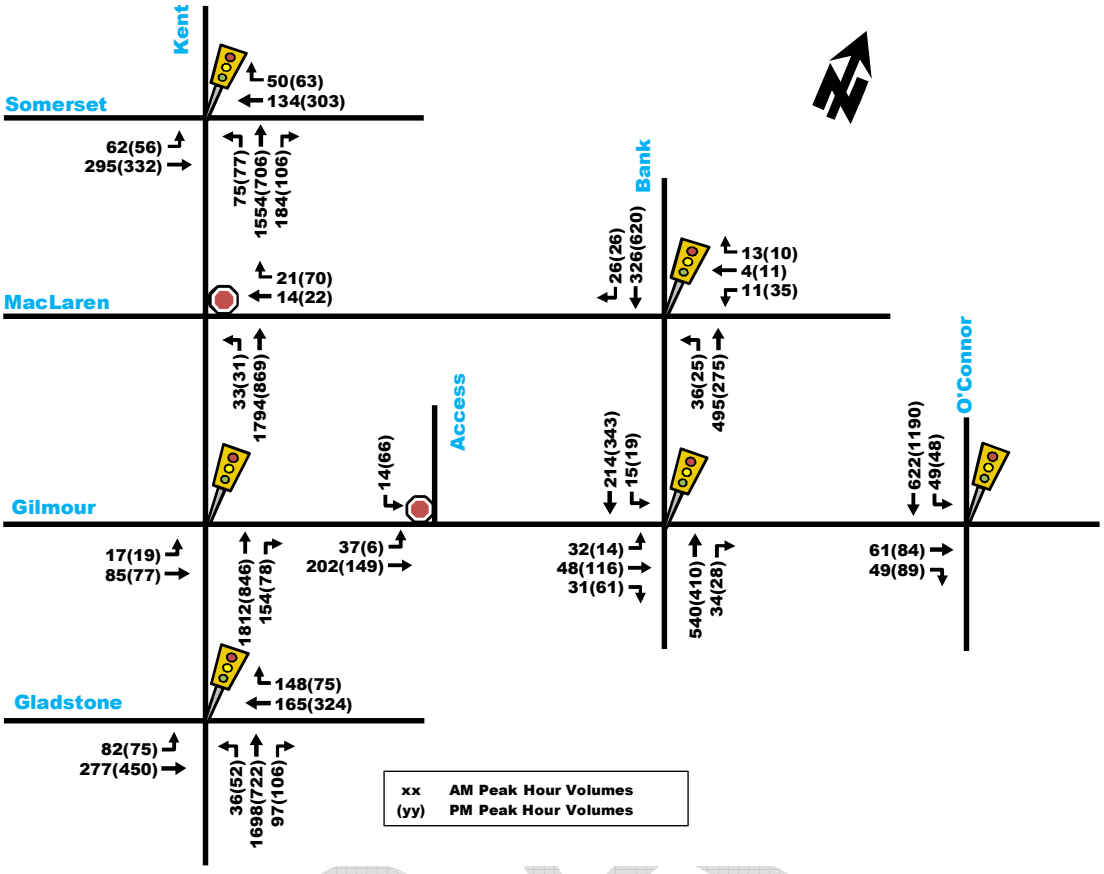
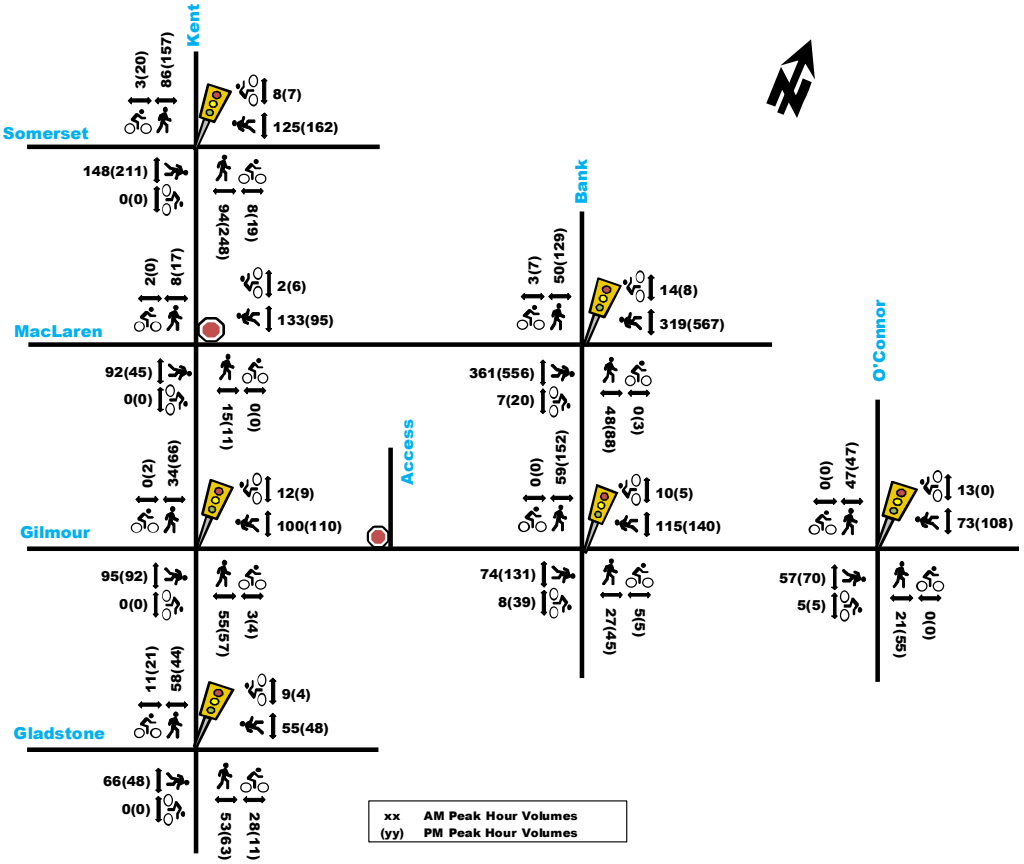


Figure 9: Existing Peak Hour Pedestrian and Cyclist Volumes



Existing Road Safety Conditions

A five-year collision history data (2015-2019, inclusive) was requested and obtained from the City of Ottawa for all intersections and road segments within the study area. Upon analyzing the collision data, the total number of collisions occurring between two or more vehicles within the study area was determined to be 112 collisions within the past five-years. Of the reported collisions, 90 (80%) resulted in property damage only, 21 (19%) resulted in non-fatal injury and 1 (1%) was classified as "non-reportable". The types of impact were broken down into the following: 24 (21%) sideswipe, 20 (18%) angled, 19 (17%) rear end, 19 (17%) Single Unattended Vehicle, 17 (15%) turning movement, 9 (8%) Single Vehicle, 3 (3%) "other" and 1 (1%) approaching.

To help quantify the relative safety risk at intersections within the study area, an industry standard unit of measure for assessing collisions at an intersection was used based on the number of collisions per million entering vehicles (MEV). An MEV value greater than 1.00 indicates a relatively high frequency of collisions. Furthermore, the City of Ottawa TIA Guidelines identifies more than six collisions of the same nature occurring within a five-year period to be a collision pattern. Reported collisions at study area intersections have historically taken place at a rate of:

- Bank/Gilmour: 0.58 collisions/MEV, with a total of 11 collisions occurring within the five-year period. No particular collision pattern is present.
- Bank/MacLaren: 0.05 collisions/MEV, with only 1 collision occurring within the five-year period. No particular collision pattern is present.
- Gilmour/Kent: 0.17 collisions/MEV, with 5 collisions occurring within the five-year period. No particular collision pattern is present.
- Kent/MacLaren: 0.38 collisions/MEV, with a total of 11 collisions occurring within the five-year period. No particular collision pattern is present.
- Kent/Gladstone: 0.69 collisions/MEV, with a total of 29 collisions occurring within the five-year period. Although there are 7 rear end collisions at this intersection, the collisions occurred between different movements and travel directions. On the other hand, 14 angled collisions have occurred at this intersection, where 7 of the collisions were the result of northbound and eastbound vehicles "going ahead". As such, this may indicate a collision pattern is present with regards to angled collisions between northbound and southbound vehicles. However, it is noted that the collisions/MEV at this intersection is well below 1.00.
- Kent/Somerset: 0.59 collisions/MEV, with a total of 23 collisions occurring within the five-year period. Although there are 7 turning movement collisions at this intersection, the collisions occurred between different movements and travel directions. As such, there are no particular collision patterns identified.

With regards to road segments within the study area, the following collision data is provided:

- Bank St, between MacLaren St and Gilmour St: a total of 4 collisions occurred along this road segment within the five-year period.
- Kent St, between Gladstone Ave and Somerset St: in total, 17 collisions occurred in the five-year period. As this is a relatively long road segment, with 4 intersections between the two roads, there are no concerns with regards to the number of collisions.
- MacLaren St, between Bank St and Kent St: a total of 10 collisions have occurred in the five-year period. Of the total, 8 collisions involved single unattended vehicles, where 5 collisions recorded "unknown" circumstances. The single unattended vehicle collisions likely occurred between a moving vehicle on MacLaren St and an on-street parked vehicle.
- Gilmour St, between Kent St and Bank St: no recorded collisions data was available for the five-year period, indicating no collisions occurred.

A total of 8 pedestrian collisions have occurred in the study area out of the total 112 collisions. 6 of the pedestrian collisions occurred at the intersection of Kent/Somerset, while 1 occurred at Gladstone/Kent and 1 occurred at Gilmour/Kent. Additionally, a total of 2 bicycle collisions occurred within the study area, with 1 occurring at Kent/Somerset and 1 at Bank/Gilmour. All pedestrian and bicycle collisions resulted in non-fatal injuries.

The source collision data as provided by the City of Ottawa and related analysis are provided as Appendix C.

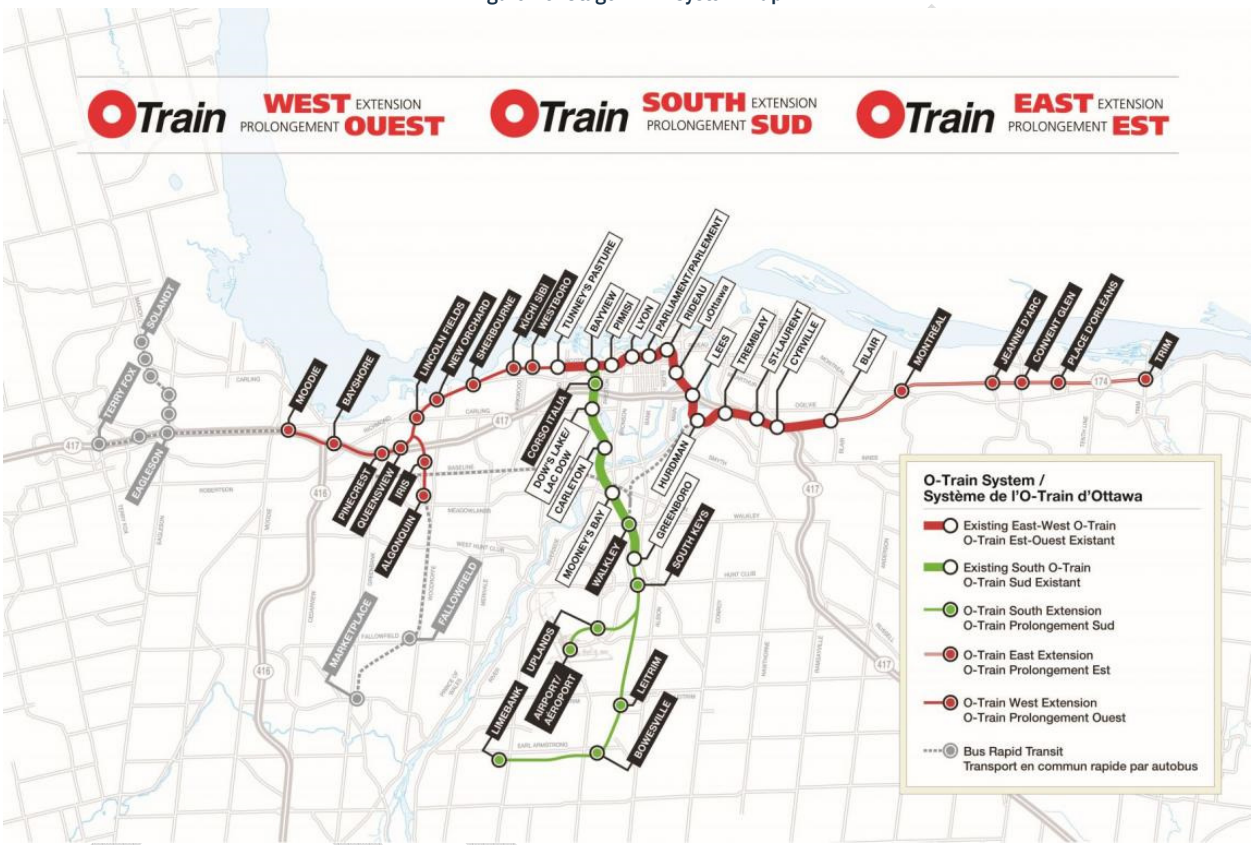
2.1.3. Planned Conditions

Planned Study Area Transportation Network Changes

LRT Stage 2

Stage 2 of the City of Ottawa LRT system is currently under construction. Stage 2, as shown in Figure 10, is a combination of three extensions – south, east and west – totaling 44 km of new rail and 24 new LRT stations. As mentioned previously, the proposed development site is within 600m of the LRT's Parliament Station

Figure 10: Stage 2 LRT System Map



Centretown Community Design Plan (CDP)

The purpose of the CDP is to create a comprehensive design plan to guide and manage future growth in the Centretown area of Ottawa. The study area is generally square in shape and is bounded by Elgin St to the east, Kent St to the west, Highway 417 to the south and Gloucester St to the north. The CDP was completed in 2013 and discussed the potential conversion of Kent St to a two-way road.

Other Area Developments

The following section outlines adjacent developments in the general area that were considered in the TIA. The criteria for inclusion of other area developments are the proximity to the proposed development site and the potential impact to study area intersections. Developments that are either approved or have an active planning application in the City are included below, with the location illustrated in Figure 11.

Figure 11: Other Area Developments

390 Bank Street

A TIA was prepared by CGH Transportation in June 2021, for a residential development consisting of 127 apartment units and 6,828 ft^2 of retail space. The buildout of the development was anticipated to be constructed by 2024. The development was anticipated to generate 16 and 19 veh/h during the morning and afternoon peak hours, respectively.

2.2. Study Area and Time Periods

The development may be constructed by 2031, however, for purposes of this report it is assumed that full buildout of the proposed residential development will be 2024. As such, the horizon years being analyzed in this report are 2024 and 2029 (five years after full buildout) horizon years, using the weekday morning and afternoon peak hour time periods.

Proposed study area intersections and boundary roads are outlined below and highlighted in Figure 12.

- Somerset/Kent (signalized)
- MacLaren/Kent (unsignalized)
- Gilmour/Kent (signalized)
- Gladstone/Kent (signalized)
- Gilmour/O'Connor (signalized)
- Gilmour/Bank (signalized)
- MacLaren/Bank (signalized)
- Kent St, at site frontage
- Gilmour St, at site frontage

Figure 12: Study Area Intersections

2.3. Exemption Review

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

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 – 4.4 Design Review Component	All elements	Not required for applications involving ZBLA or OPA. However, a brief description may be provided.
4.8 Network Concept	4.8 Network Concept	Only required if proposed development is anticipated to generate more than 200 person-trips over the permitted zoning

3. Forecasting Report

3.1. Development Generated Travel Demand

3.1.1. Trip Generation and mode shares

Existing Development Trips

As mentioned previously, the site is currently occupied by an office building that is 6-storeys high. The trips that are currently generated by the office building are accounted for as they reduce the number of 'new' trips that will be generated by the proposed development within the study area. Appropriate trip rates for an office building have been obtained from the ITE Trip Generation Manual (10th edition) and provided as shown in Table 2.

Table 2: Existing Office Building Trip Rates

Land Use	Data Source	Trip Rates	
		AM Peak Hour	PM Peak Hour
Office Building (7-Storey)	ITE 710	T = 1.16(x); T = 0.94(x) + 26.49;	T = 1.15(x); Ln(T) = 0.95Ln(x) + 0.36;
Notes:	*T = Average Vehicle Trip Ends* *x = Gross Floor Area (GFA) (1000 ft²)*		

The gross floor area used for the office building was determined using the GeoOttawa measuring tool, as shown in Figure 13, which indicates a total area of approximately 8,668 ft^2 per floor (i.e. a total area of approximately 52,000 ft^2 for 6-storeys).

Figure 13: Existing Office Building Area Measurement

Using the total gross floor area and the office building trip rates, the person trips generated by the existing office building can be calculated. Note that the trip rates are multiplied by a factor of 1.28, as per TIA standards, to account for typical North American auto occupancy values of approximately 1.15 and combined transit and non-motorized modal shares of less than 10%. The resulting total person trips/hour for the existing office building are provided in Table 3. The inbound and outbound percentages were also obtained from the ITE Manual.

Table 3: Existing Office Building Peak Hour Person Trip Generation

Land Use	Area (ft^2)	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In (86%)	Out (14%)	Total	In (16%)	Out (84%)	Total
Office Building (6-Storey)	52,000	82	14	96	12	66	78

As shown in Table 3, the existing office building generates a total of 96 and 78 person trips during the morning and afternoon peak hours. Mode shares for different travel modes were obtained from the 2020 TRANS Trip Generation Manual for Employment Generators in the Ottawa Inner Area district. As such, a breakdown of the trips generated by the different travel modes is provided in Table 4 below.

Table 4: Existing Office Building Morning and Afternoon Travel Mode Breakdown

Travel Mode	Mode Shares	AM Peak (Person Trips/h)			Mode Shares	PM Peak (Person Trips/h)		
		In (86%)	Out (14%)	Total		In (16%)	Out (84%)	Total
Auto Driver	45%	37	7	44	45%	6	30	36
Passenger	7%	6	1	7	7%	1	5	6
Transit	29%	24	4	28	29%	3	19	22
Bike	8%	6	1	7	8%	1	5	6
Walk	11%	9	1	10	11%	1	7	8
Total Person Trips	**100%**	**82**	**14**	**96**	**100%**	**12**	**66**	**78**

The existing office building generates a total of 44 and 36 vehicle trips during the morning and afternoon peak hours, respectively.

Proposed Development Trips

The proposed development will consist of 405 residential units, 21,388 ft^2 office space and 7,833 ft^2 commercial space within a 35-storey high-rise apartment building. The sections below determine trips generated by each land use.

Residential Building Trip Generation

The appropriate trip generation rates for a high-rise apartment land use were obtained from the 2020 TRANS Trip Generation Manual. Table 3 in the Manual provides person-trip rates during the peak AM and PM periods (7am-9:30am and 3:30PM-6PM). The trip rates are summarized in Table 5 below.

Table 5: High-Rise Apartments Trip Rates

Land Use	Data Source	Trip Rates	
		AM Peak Period (7-9:30am)	PM Peak Period (3:30-6pm)
High-Rise Apartments (35 floors)	TRANS 2020	T = 0.8(du);	T = 0.9(du);
Notes: *T = Average Vehicle Trip Ends* *du = Dwelling unit*			

Using the trip rates provided in Table 5, the total number of person trips generated during the morning and afternoon peak periods can be found in Table 6.

Table 6: Apartment Building Peak Period Person Trip Generation

Land Use	Dwelling Units	AM Peak Period Person Trips	PM Peak Period Person Trips
High-Rise Apartments (35 floors)	405	329	370

The proposed development is anticipated to generate 329 and 370 person trips during the morning and afternoon peak periods, respectively. The total peak period person trips in Table 6 are then divided into different travel modes, as shown in Table 7, using mode share percentages obtained from the 2020 TRANS Manual for the "Ottawa Inner Area" district.

Table 7: Apartment Building Peak Period Trips Mode Shares Breakdown

Travel Mode	Mode Share	AM Peak Period Person Trip	Mode Share	PM Peak Period Person Trips
Auto Driver	27%	89	26%	96
Auto Passenger	6%	20	8%	30
Transit	28%	92	21%	78
Cycling	5%	16	6%	22
Walking	34%	112	39%	144
Total Person Trips	**100%**	**329**	**100%**	**370**

Standard traffic analysis is usually conducted using the morning and afternoon peak hour trips as they represent a worst-case scenario. In the 2020 TRANS Manual, Table 4 provides conversions rates from peak period to peak hours for different mode shares. The conversion rates are provided in Table 8 below.

Table 8: Peak Period to Peak Hour Conversion Factors (2020 TRANS Manual)

Travel Mode	Peak Period to Peak Hour Conversion Factors	
	AM	PM
Auto Driver	0.48	0.44
Passenger	0.31	0.29
Transit	0.55	0.47
Bike	0.58	0.48
Walk	0.58	0.52

Note that conversion factors for auto passenger trips are not available in the 2020 TRANS Manual. To obtain the passenger trip factor it was assumed that the total person trip peak hour conversion factor is the average of the

provided adjustment factors minus the passenger trip peak hour conversion factor and has been calculated as shown in the example below:

$$0.5 = \frac{x + 0.48 + 0.55 + 0.58 + 0.58}{5}$$

$$x = 2.5 - 0.48 - 0.55 - 0.58 - 0.58$$

$$x = 0.31 \rightarrow AM\ passenger\ trip\ peak\ hour\ conversion\ factor$$

Using the conversion rates in Table 8 and the peak period person trips for different travel modes in Table 7, the peak hour trips for different travel modes can be calculated as shown in Table 9. The peak hour mode share percentages were calculated using the percentage of each travel mode to the total person trips.

Table 9: Apartment Building Peak Hour Trips, with Actual Mode Share Percentages

Travel Mode	Peak Hour Mode Share Percentages	AM Peak Hour Trips	Peak Hour Mode Share Percentages	PM Peak Hour Trips
Auto Driver	24%	43	25%	42
Auto Passenger	4%	6	5%	9
Transit	29%	51	21%	37
Cycling	6%	9	6%	11
Walking	37%	65	43%	75
Total Person Trips	**100%**	**174**	**100%**	**174**

As shown in Table 9, the proposed development is anticipated to generate a total of approximately 174 person trips during both the morning and afternoon peak hours. Vehicle trips are anticipated to be 43 veh/h during both the morning and afternoon peak hours. Active transportation mode shares (bike and walk) generate the highest number of trips for the proposed development (74 to 86 trips during peak hours), which is expected given the location of the development in a core sector of the City of Ottawa. As shown in Table 10, these trips are divided into inbound and outbound trips using percentages obtained from Table 9 of the 2020 TRANS Manual.

Table 10: Apartment Building Peak Hour Travel Mode Trips

Travel Mode	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
	In (31%)	Out (69%)	Total	In (58%)	Out (42%)	Total
Auto Driver	13	30	43	24	18	42
Passenger	2	4	6	5	4	9
Transit	16	35	51	21	16	37
Bike	3	6	9	6	5	11
Walk	20	45	65	44	32	75
Total Person Trips	**54**	**120**	**174**	**100**	**75**	**174**

Office and Commercial Space Trip Generation

The appropriate trip generation rates for the office and commercial land uses were obtained from the ITE Trip Generation Manual and summarized in Table 11 below.

Table 11: Office and Commercial Spaces Trip Rates

Land Use	Data Source	Trip Rates	
		AM Peak Hour	PM Peak Hour
Office Space	ITE 710	T = 1.16(x); T = 0.94(x) + 26.49;	T = 1.15(x); Ln(T) = 0.95Ln(x) + 0.36;
Commercial Space	ITE 820	T = 0.94(x);	T = 3.81(x);

Notes: *T = Average Vehicle Trip Ends*
x = Gross Floor Area (GFA) (1000 ft²)

Using the total gross floor areas of the office and commercial spaces and their respective trip rates, the person trips generated are calculated as shown in Table 12. Note that the trip rates are multiplied by a factor of 1.28, as per TIA standards, to account for typical North American auto occupancy values of approximately 1.15 and combined transit and non-motorized modal shares of less than 10%. The inbound and outbound percentages were also obtained from the ITE Manual.

Table 12: Office and Commercial Peak Hour Person Trip Generation

Land Use	Area (ft²)	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Office Space	21,338	51	9	60	5	29	34
Commercial Space	7,833	5	4	9	18	20	38
Total		**56**	**13**	**69**	**23**	**49**	**72**

As shown in Table 12, the office space is anticipated to generate a total of 60 and 34 person trips, while the commercial space is anticipated to generate a total of 9 and 38 person trips during the morning and afternoon peak hours. Mode shares for different travel modes were obtained from the 2020 TRANS Trip Generation Manual for Employment Generators and Commercial Generators in the Ottawa Inner Area district. As such, a breakdown of the trips generated by different travel modes for the office space and the commercial space is provided in Table 13 and Table 14 below.

Table 13: Office Space Morning and Afternoon Travel Mode Breakdown

Travel Mode	Mode Shares	AM Peak (Person Trips/h)			Mode Shares	PM Peak (Person Trips/h)		
		In (86%)	Out (14%)	Total		In (16%)	Out (84%)	Total
Auto Driver	45%	23	5	28	45%	3	14	17
Passenger	7%	4	1	5	7%	1	2	3
Transit	29%	15	2	17	29%	1	8	9
Bike	8%	4	0	4	8%	0	2	2
Walk	11%	5	1	6	11%	0	3	3
Total Person Trips	**100%**	**51**	**9**	**60**	**100%**	**5**	**29**	**34**

Table 14: Commercial Space Morning and Afternoon Travel Mode Breakdown

Travel Mode	Mode Shares	AM Peak (Person Trips/h)			Mode Shares	PM Peak (Person Trips/h)		
		In (62%)	Out (38%)	Total		In (48%)	Out (52%)	Total
Auto Driver	39%	2	2	4	22%	4	5	9
Passenger	2%	1	1	2	4%	1	1	2
Transit	16%	0	0	0	12%	2	2	4
Bike	3%	0	0	0	4%	1	1	2
Walk	40%	2	1	3	58%	10	11	21
Total Person Trips	**100%**	**5**	**4**	**9**	**100%**	**18**	**20**	**38**

The office space is anticipated to generate up to 28 vehicle trips during peak hours, while the commercial space is anticipated to generate up to 9 vehicle trips during peak hours.

Total Trips Generated

The total trips anticipated to be generated by the proposed development are calculated by summing the trips generated by the residential (Table 10), office (Table 13) and commercial (Table 14) land uses. The total trips generated are provided in Table 15 below.

Table 15: Total Trips Generated by Proposed Development

Travel Mode	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
	In	Out	Total	In	Out	Total
Auto Driver	38	37	75	31	37	68
Passenger	7	6	13	7	7	14
Transit	31	37	68	24	26	50
Bike	7	6	13	7	8	15
Walk	27	47	74	54	46	99
Total Person Trips	**110**	**133**	**243**	**123**	**124**	**246**

The proposed development is anticipated to generate approximately 245 total person trips during peak hours. Up to 75 vehicle trips, 68 transit trips and 114 active transportation trips are expected during the peak hours.

Net Total Trips Generated

The 'new' number of trips that are anticipated to be generated by the proposed development are provided in Table 16, which reflect the difference between the total trips anticipated to be generated by the proposed development in Table 15 and the existing office building trips in Table 4. The resulting net new trips are summarized in Table 16.

Table 16: 'New' Trips Generated by the Proposed Development

Travel Mode	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
	In	Out	Total	In	Out	Total
Auto Driver	1	30	31	25	7	32
Passenger	1	5	6	6	2	8
Transit	7	33	40	21	7	28
Bike	1	5	6	6	3	9
Walk	18	46	64	53	39	91
Total Person Trips	**28**	**119**	**147**	**111**	**58**	**168**

The total number of 'new' person trips anticipated to be generated by the proposed development are 147 and 168 person trips during the morning and afternoon peak hours, respectively. The proposed development is anticipated to generate 31 to 32 'new' vehicle trips, 28 to 40 'new' transit trips and 70 to 100 new active transportation trips during the peak hours.

3.1.2. Trip Distribution and Assignment

Based on the 2011 OD Survey (Ottawa Inner Area district) and the location of adjacent arterial roadways and neighbourhoods, the distribution of site-generated traffic volumes was estimated as follows:

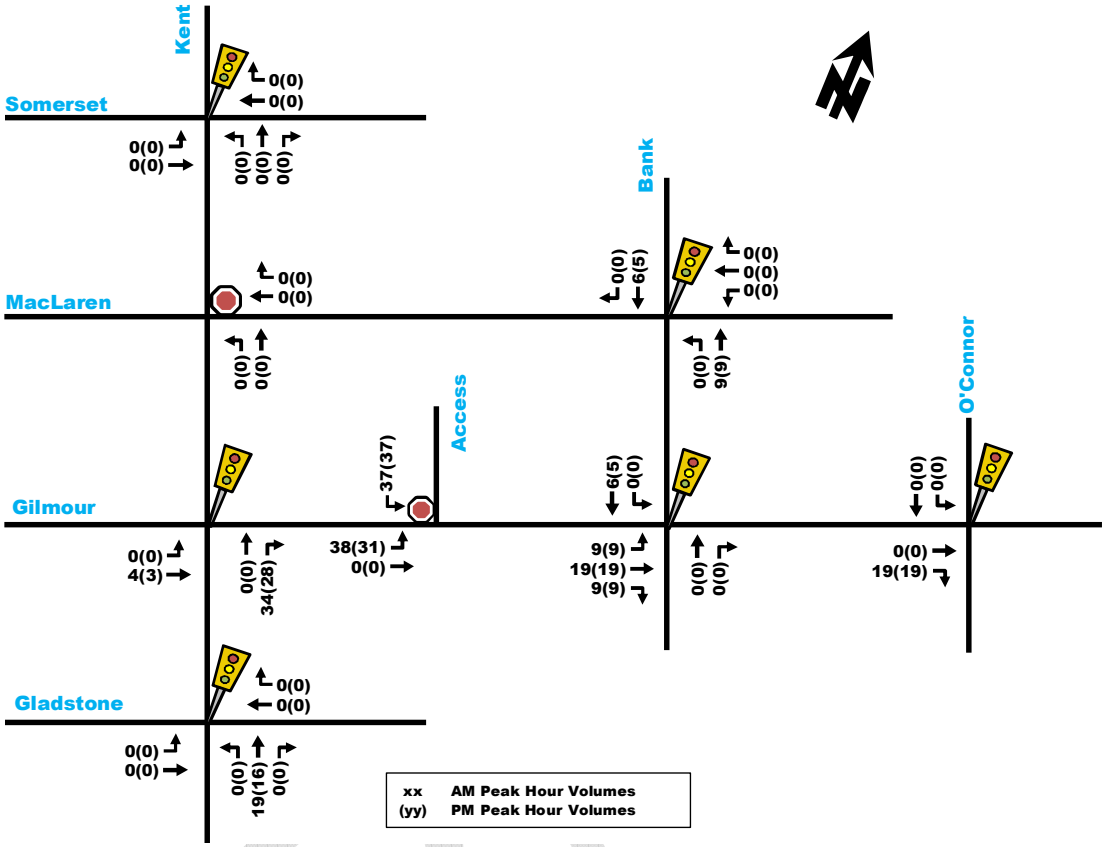
- 25% to/from the north;
- 25% to/from the south;
- 20% to/from the east; and,
- 30% to/from the west.

The anticipated site-generated auto trips for the proposed development from Table 15 were then assigned to the road networks as shown in Figure 14. Since the proposed development access located along Gilmour St permits left-in/left-out movements only and the road network is composed of one-way travel, the following trip distribution assumptions were made:

- Traffic to/from the north:
  - Arriving traffic:
    - If travelling southbound on a north-south road east of the site, take a circuitous route by travelling southbound on Bank St, turn right and head westbound on James St, then turn right on Kent St, where traffic can head northbound to turn right onto Gilmour St and finally turn left into the site's driveway.
    - If travelling southbound on a north-south road west of the site, approach from the west of the Kent St/Gilmour St intersection and turn left into the site's driveway.
  - Departing traffic will travel east on Gilmour St away from the site driveway and turn left onto Bank St to head north.
- Traffic to/from the south:
  - Arriving traffic may use Bank St to travel northbound turn left and head westbound on James St, then turn right on Kent St, where traffic can head northbound to turn right onto Gilmour St and finally turn left into the site's driveway.
  - Departing traffic will travel east on Gilmour St away from the site driveway and turn right onto Bank St to head south.
- Traffic to/from the east:
  - Arriving traffic is assumed to use Hwy 417 WB primarily and take the Metcalfe St exit, travelling westbound on Catherine St, then northbound on Kent St to turn right onto Gilmour St and finally turn left into the site's driveway.
  - Departing traffic is assumed to use Hwy 417 EB primarily by travelling east on Gilmour St away from the site driveway and turning right on O'Connor St to travel southbound to Isabella St and travel eastbound to access the highway.
- Traffic to/from the west:
  - Arriving traffic is assumed to use Hwy 417 EB primarily and take the Kent St exit to travel northbound, then turn right onto Gilmour St and finally turn left into the site's driveway.

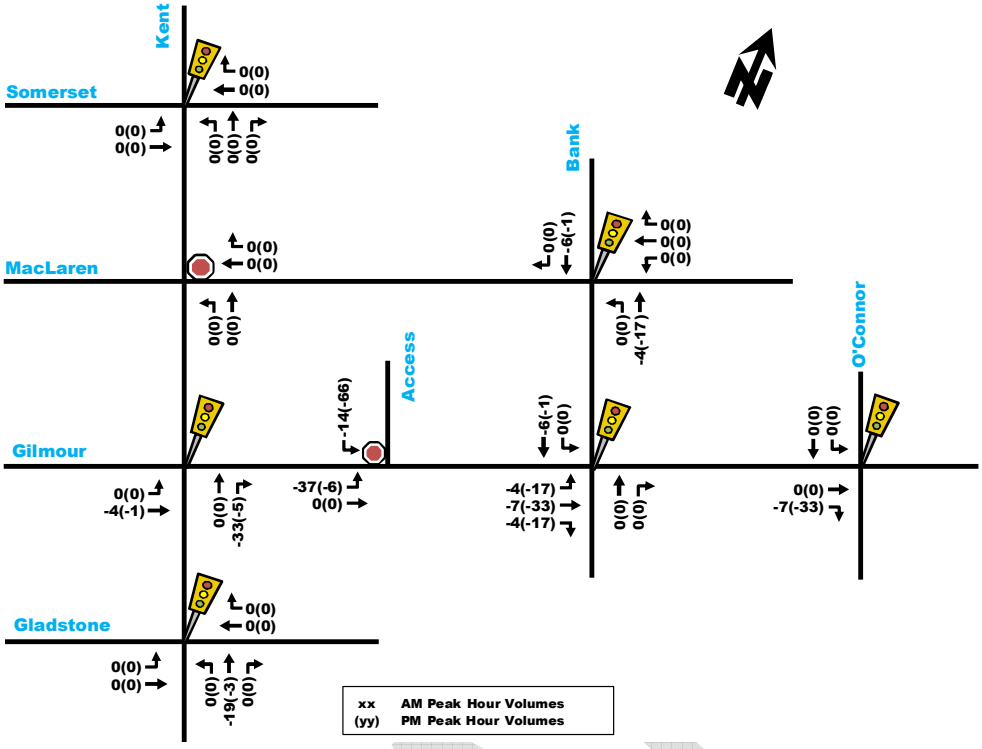
- Departing traffic is assumed to use Hwy 417 WB primarily by travelling east on Gilmour St away from the site driveway and turning right on O'Connor St to travel southbound to Catherine St, then turning right onto the highway ramp.

Figure 14: 2024 Site-Generated Traffic



Based on the site-generated vehicle trips of the existing office building (provided in Table 4), study area traffic volumes are expected to decrease as shown in Figure 15. A similar trip distribution and assignment has been assumed for the existing office building's vehicle trips as the proposed residential development. This reduction in traffic volumes will be applied to the total projected traffic volumes for horizon years 2024 and 2029.

Figure 15: Existing Office Building Study Area Traffic Reductions



3.2. Background Network Traffic

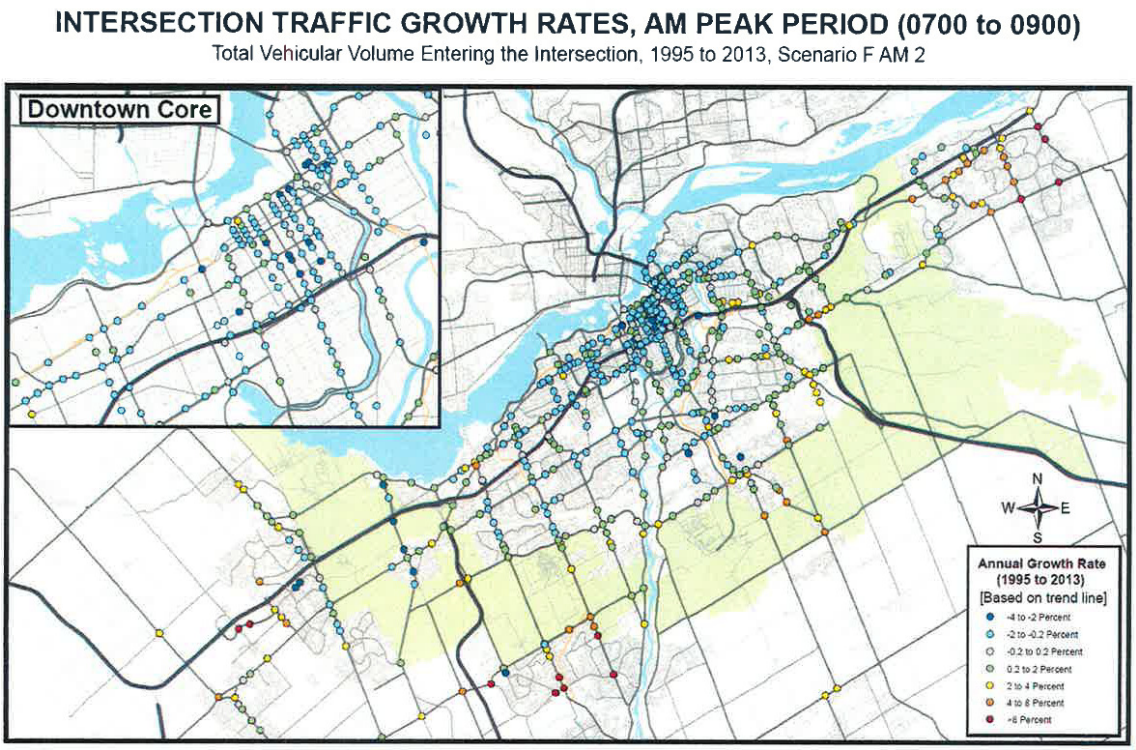
3.2.1. Transportation network plans

Refer to Section 2.1.3: Planned Study Area Transportation Network Changes.

3.2.2. Background Growth

Historically, traffic within the study area has seen a decline in growth, as illustrated by the growth rates map obtained from the City of Ottawa in Figure 16.

Figure 16: Vehicle Growth Rates at Intersections within the City of Ottawa



Given that the proposed development will be located in the well-developed core downtown area of the city of Ottawa, where there is a high level of transit and active transportation connectivity, traffic along study area roadways is not anticipated to increase drastically within the future horizon years. Additionally, although the development is outside of the 600 m TOD distance of the LRT stations, the LRT can be accessed approximately 1.0 km north of the development site via frequent bus routes on Bank St.

Nonetheless, a conservative background growth rate of 1% has been applied to through movements of major study area roadways (Bank St, Kent St, Gladstone Ave, Somerset St W and O'Connor St) to account for trips that may be generated by future other area developments that are minor or located outside the scope of the study area. Figure 17 provides the future background traffic at horizon year 2024 and Figure 18 provides the future background traffic at horizon year 2029.

Figure 17: Future Background 2024 Traffic Volumes

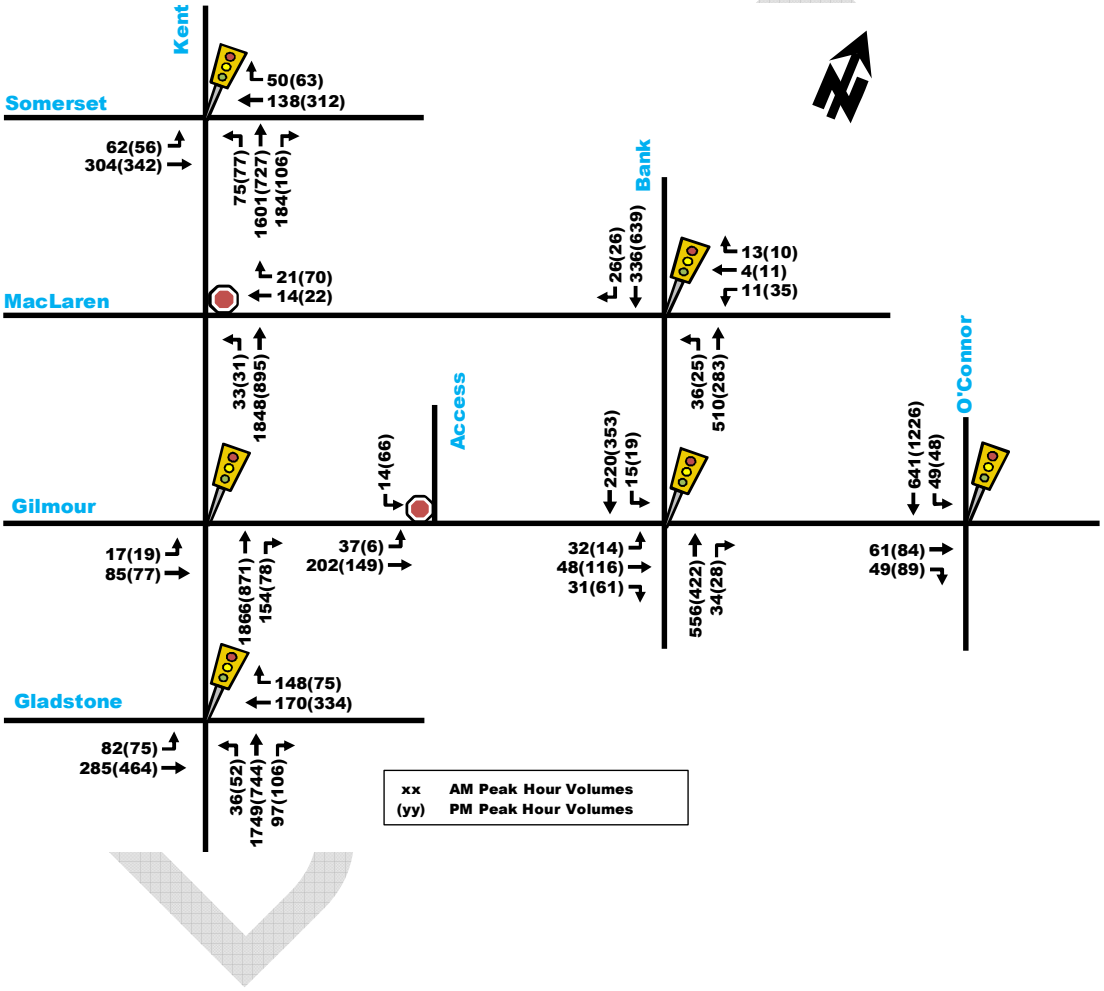
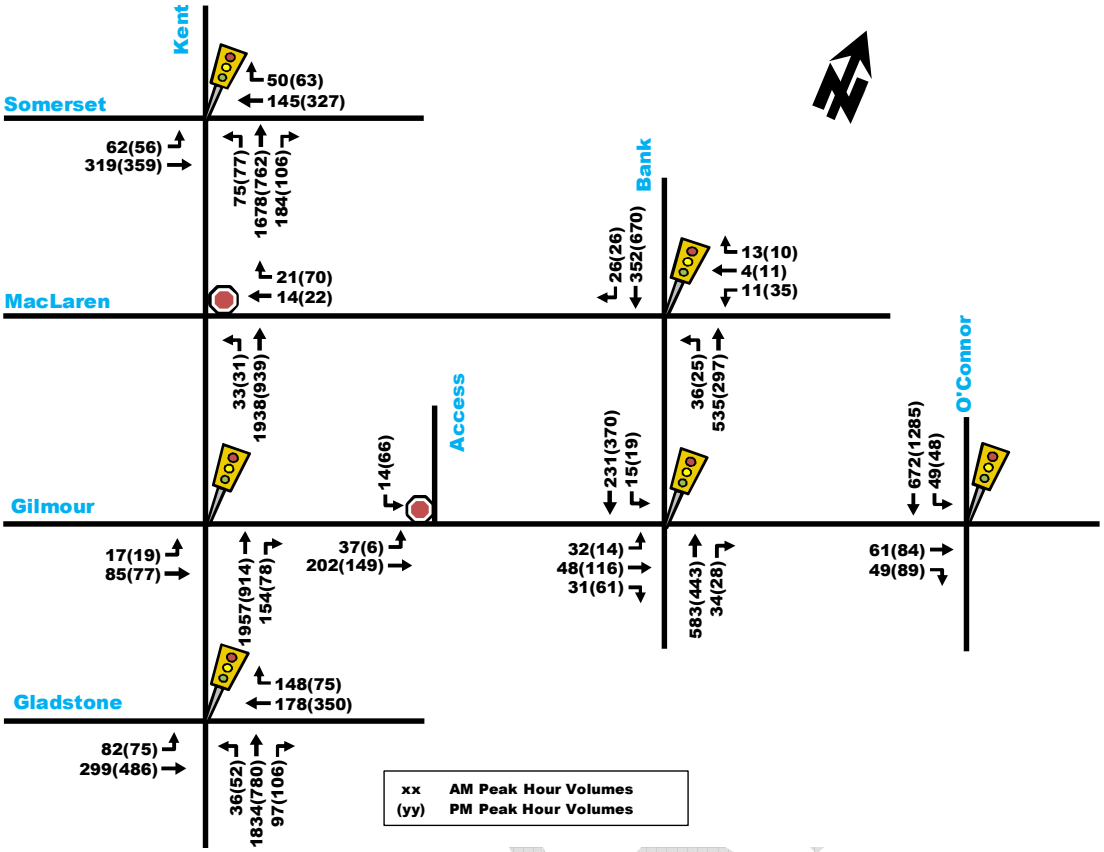


Figure 18: Future Background 2029 Traffic Volumes



3.2.3. Other Developments

Description of other area developments taking place within the study area was provided in Section 2.1.3: Other Area Developments. Only one future development, located at 390 Bank St, was identified. Traffic volumes anticipated to be generated by this development at study area intersections are very minimal (5 vehicles or less). Therefore, these volumes have not been included and are assumed to be a part of the anticipated background growth percentage.

3.3. Demand Rationalization

The total projected future traffic volumes can be determined by superimposing the site-generated traffic volumes in Figure 14, onto the future background traffic volumes in Figure 17 and Figure 18, and providing a reduction due to the existing office building trips in Figure 15. The resulting total projected traffic volumes 2024 and 2029 illustrated in Figure 19 and Figure 20.

Figure 19: Total Projected 2024 Traffic Volumes

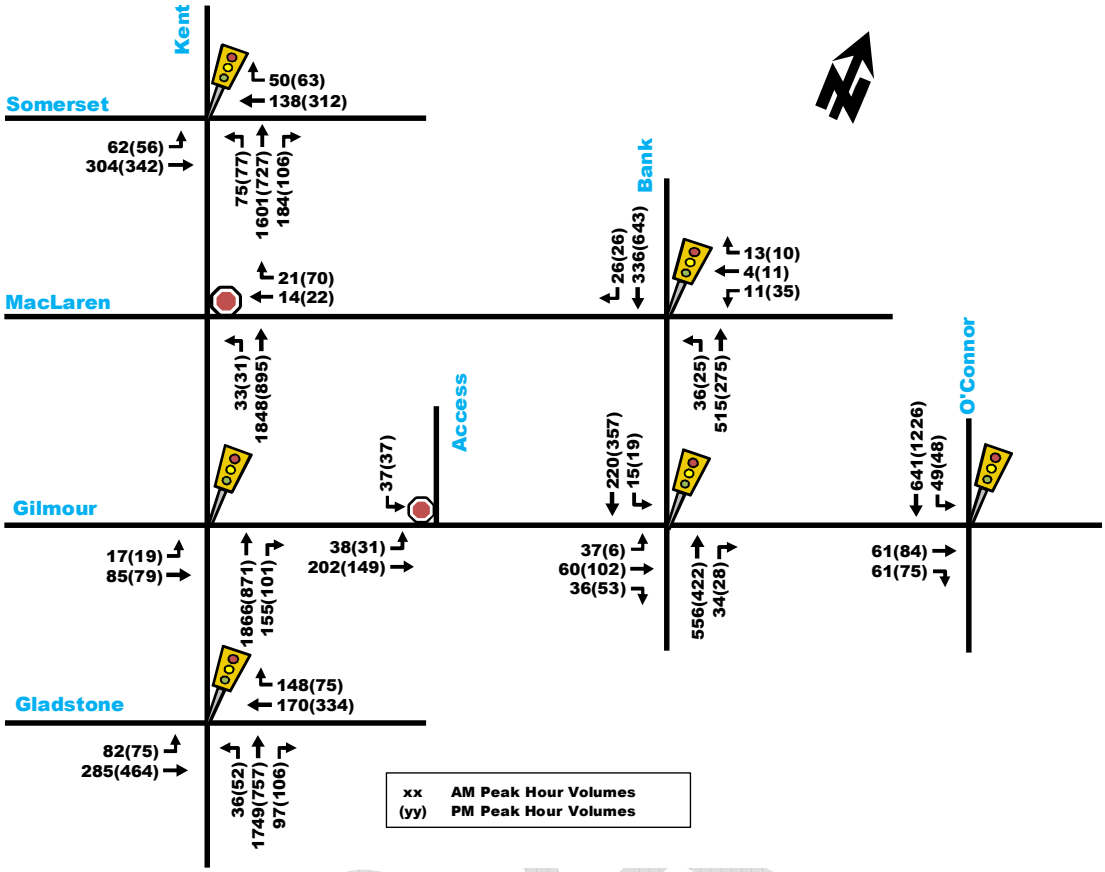
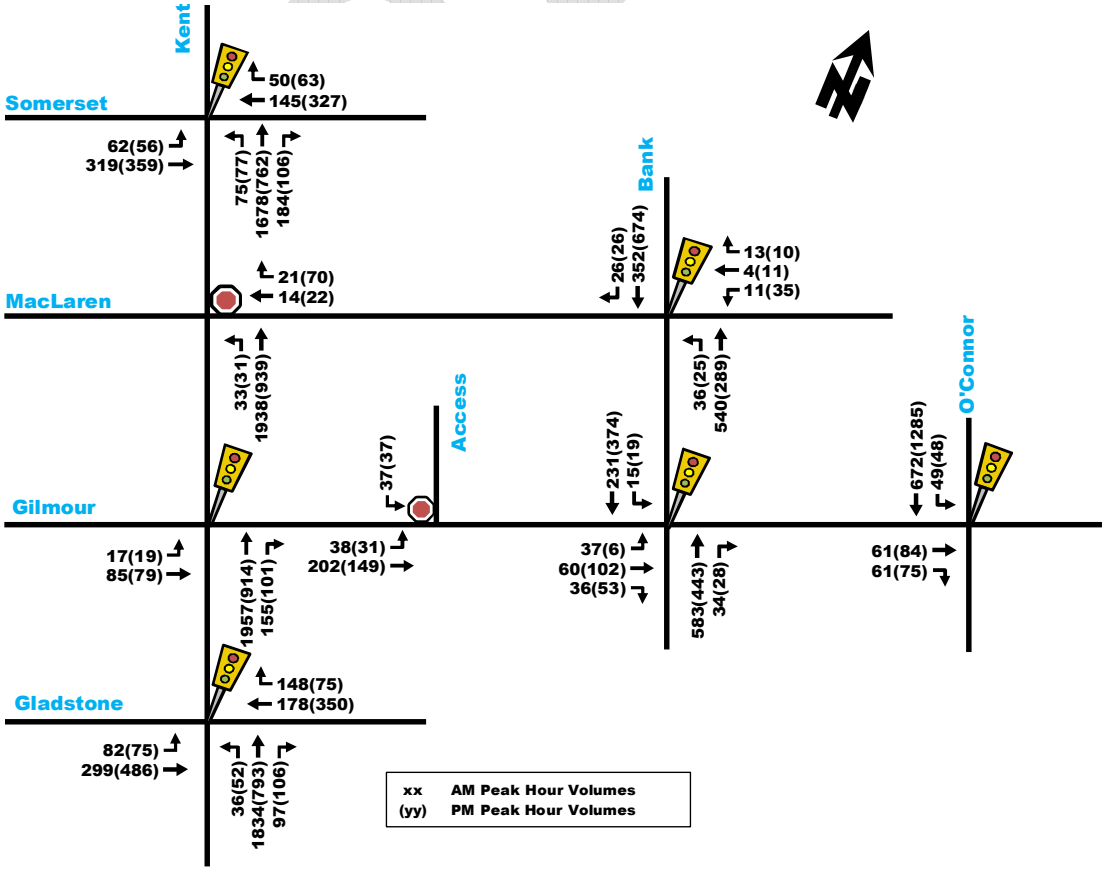


Figure 20: Total Projected 2029 Traffic Volumes



4. Analysis

4.1. Development Design

As this is a ZBLA, design related elements will be provided in more detail in the future Site Plan Application (SPA) submission of the proposed development. Vehicle and bicycle parking spaces are proposed to be provided in a five-level underground parking garage. Pedestrian, cyclist and transit amenities are expected to be maintained in the future. A loading bay and garbage pickup area will be provided at the east end of the site, immediately east of the underground parking garage entrance on Gilmour St. The City of Ottawa's TDM-supportive Development Design and Infrastructure checklist has been provided in Appendix D and discussed in more detail in Section 4.5.

4.2. Parking

Based on City of Ottawa Parking Provisions, Schedule 1A, the proposed development is located in "Area X", where no off-street resident or visitor parking is required for the first twelve units. For residential land uses in Area X, residents parking is required at a rate of 0.5 spaces per dwelling units, which equates to 200 parking spaces. Visitor parking is required at a rate of 0.1 spaces per unit and up to a maximum of 30 spaces, which means that 30 parking spaces must be provided for the 405 units. Bicycle parking is required at a rate of 0.5 per dwelling unit, which equates to 203 bicycle parking spaces.

The total number of parking spaces that will be provided by the proposed development is 332 vehicle parking spaces (289 resident and 43 visitor) and 191 bicycle parking spaces. As such, the proposed development meets the minimum required parking supply for vehicles and provides slightly less spaces than the minimum requirement for bicycle parking.

4.3. Boundary Street Design

The detailed Multi-Modal Level of Service (MMLOS) analysis for boundary streets and signalized intersections will be provided in the future Site Plan Application.

4.4. Access Intersection Design

Vehicle access to the underground parking garage of the proposed development will be provided along Gilmour St, near the east end of the site.

4.5. Transportation Demand Management

4.5.1. Context for TDM

Based on the type of development, it is assumed that most trips generated by the proposed site will be residents leaving the site in the AM peak to go to work and returning from work to the proposed site in the PM peak. Trips related to the office land use will exhibit the opposite travel pattern, where trips generated will travel to the site during the AM peak and leave the site during the PM peak. Sections 3.1.1 and 3.1.2 describe how many trips are anticipated per travel mode and anticipates the likely locations that they will travel to and from based on the OD-Survey 2011 for Ottawa. The site is located in the "Downtown Ottawa Urban Design Strategy" Design Priority Area (DPA) according to the Official Plan.

4.5.2. Need and Opportunity

The proposed development is located in a well-developed core area of the City of Ottawa, where transit and active transportation facilities, such as the LRT, the bike tracks and the sidewalks, are well-maintained and developed, which naturally results in increased transit and active transportation usage and decreased auto trips. In addition, the proposed development is expected to utilize measures to maintain sustainable transit and active mode shares, as described in more detail in Section 4.5.3 below.

4.5.3. TDM Program

The TDM Infrastructure and TDM Measures Checklists have been provided in Appendix D. Both the residential and non-residential checklists have been provided, given that both land uses will be present on site. The proposed measures for each respective checklist are provided below.

<u>Proposed measures identified in the TDM Measures Checklist are:</u>

- Display local area maps with walking/cycling access routes and key destinations at major entrances
- Display relevant transit schedules and route maps at entrances
- Provide online links to OC Transpo ad STO information
- Contract with provider to install on-site carshare vehicles and promote their use by residents (note that this will be investigated and confirmed as part of the future SPA)
- Unbundle parking cost from monthly rent and lease rates at multi-tenant sites
- Provide a multimodal travel option information package to new residents

<u>Proposed measures identified in the TDM-supportive Development Design and Infrastructure Checklist are:</u>

- Locate building close to the street, and do not locate parking areas between the street and building
- Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations
- Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort
- Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations
- Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible
- Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks
- Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps
- Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on- road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians
- Provide safe, direct and attractive walking routes from building entrances to nearby transit stops
- Ensure that walking routes to transit stops are secure and lighted wherever possible
- Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails
- Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible
- Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well- used areas
- Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored

- Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers
- Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces (note that this will be investigated and confirmed as part of the future SPA)
- Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for (for residents, parking is provided at a rate of 0.7 and 0.1 per unit for residents and visitors, respectively)

4.6. Neighbourhood Traffic Management

This module compares the maximum one-way traffic of a local or collector road during morning and afternoon peak hours, to the respective threshold provided by the City of Ottawa TIA Guidelines. Site-generated traffic of the proposed development are expected to use local road Gilmour St as part of their access route to/from the proposed development. The thresholds provided in the TIA Guidelines indicate a maximum one-way traffic of 120 veh/h for local roads. Using the total projected 2029 traffic volumes in Figure 20, future traffic volumes along Gilmour St can be compared to its local road threshold as follows:

- The maximum one-way traffic is approximately 240 veh/h at the east leg of the Kent/Gilmour intersection during the morning peak hour. This volume is greater than the 120 veh/h threshold of a local road and is approaching a collector road threshold of 300 veh/h. Notably, these volumes are approximately the same in existing conditions, as the existing office building generated similar inbound traffic during the morning peak hour as the proposed residential building

Since Gilmour St is a one-way eastbound road with a relatively wide travel lane of approximately 6.0 m in some sections, it can be expected that the road can accommodate a greater amount of traffic than a regular local road. Therefore, there are no anticipated capacity issues for vehicles on this road.

4.7. Transit

Transit facilities are anticipated to continue operating in the future as mentioned in Section 2.1.2: Transit Network. The proposed development is anticipated to generate 45 and 32 transit trips during the morning and afternoon peak hours respectively. As such, the proposed development will have little impact to the surrounding transit network.

4.8. Review of Network Concept

Exempt – see Table 1.

4.9. Intersection Design

4.9.1. Intersection control

The site access to the existing underground parking garage is assumed to use Stop control for vehicles exiting, which will be sufficient given the low volumes.

4.9.2. Intersection design

Synchro 10 Trafficware was used to analyze intersection performance of intersections within the study area. Critical movements at each of the intersections were assessed based on either the movement with the highest volume-to-capacity ratio (for signalized intersections), or the movement experiencing the highest average delay (for unsignalized intersections). It should be noted that, as per the TIA Guidelines, the Peak Hour Factor (PHF) used for analysis was 0.9 in existing conditions and 1.0 in all future scenario conditions. All Synchro report outputs for existing and future conditions have been provided in Appendix E.

Existing Conditions

Table 17 below summarizes the intersection performance of study area intersections, based on the existing conditions traffic volumes illustrated in Figure 8.

Table 17: Existing Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Kent St/Somerset St W (S)	B(A)	0.70(0.49)	NBT(WBT)	18.9(18.9)	B(A)	0.69(0.48)
Kent St/Gilmour St (S)	B(A)	0.69(0.34)	NBT(NBT)	22.6(10.3)	B(A)	0.67(0.33)
Kent St/Gladstone Ave (S)	C(A)	0.76(0.59)	NBT(EBT)	18.5(17.3)	C(A)	0.73(0.52)
Bank St/MacLaren St (S)	A(B)	0.55(0.66)	NBT(SBT)	5.4(10.3)	A(A)	0.53(0.53)
Bank St/Gilmour St (S)	A(A)	0.59(0.45)	NBT(NBT)	11.6(8.5)	A(A)	0.46(0.40)
O'Connor St/Gilmour St (S)	A(B)	0.36(0.67)	SBT(SBT)	8.7(13.8)	A(B)	0.35(0.64)
Kent St/MacLaren St (U)	D(B)	29.5(13.7)	WB(WB)	0.7(1.5)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 0.9 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection, critical movement based on max v/c
(U) – Unsignalized Intersection, critical movement based on highest average delay

As shown in Table 17, signalized intersections 'as a whole' operate at a LOS 'C' or better during both peak hours, with critical movement also operating at LOS 'C' or better. Critical movements of unsignalized intersections operate at a LOS 'D' or better during both peak hours.

Total Future Background 2024

Table 18 below summarizes the Synchro traffic operations at study area intersections, based on the future background 2024 conditions in Figure 17.

Table 18: Future Background 2024 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Kent St/Somerset St W (S)	B(A)	0.67(0.47)	NBT(WBT)	18.3(18.4)	B(A)	0.66(0.46)
Kent St/Gilmour St (S)	B(A)	0.67(0.31)	NBT(NBT)	22.3(9.8)	B(A)	0.65(0.30)
Kent St/Gladstone Ave (S)	C(A)	0.73(0.56)	NBT(EBT)	17.9(16.8)	B(A)	0.70(0.49)
Bank St/MacLaren St (S)	A(B)	0.53(0.63)	NBT(SBT)	5.2(9.9)	A(A)	0.51(0.51)
Bank St/Gilmour St (S)	A(A)	0.57(0.43)	NBT(EBT)	11.1(9.4)	A(A)	0.45(0.40)
O'Connor St/Gilmour St (S)	A(B)	0.35(0.64)	SBT(SBT)	8.7(13.9)	A(B)	0.34(0.62)
Kent St/MacLaren St (U)	D(B)	26.0(13.3)	WB(WB)	0.6(1.5)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection, critical movement based on max v/c
(U) – Unsignalized Intersection, critical movement based on highest average delay

As shown in Table 18, study area intersections are projected to operate similar or slightly better than existing conditions due to increasing the PHF to 1.0.

Total Future Background 2029

Table 19 below summarizes the Synchro traffic operations at study area intersections, based on future background 2029 traffic volumes in Figure 18.

Table 19: Total Future Background 2029 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Kent St/Somerset St W (S)	B(A)	0.70(0.49)	NBT(WBT)	19.0(18.9)	B(A)	0.69(0.48)
Kent St/Gilmour St (S)	B(A)	0.70(0.33)	NBT(NBT)	22.8(10.2)	B(A)	0.68(0.32)
Kent St/Gladstone Ave (S)	C(A)	0.76(0.59)	NBT(EBT)	18.6(17.2)	C(A)	0.73(0.51)
Bank St/MacLaren St (S)	A(B)	0.55(0.66)	NBT(SBT)	5.3(10.3)	A(A)	0.53(0.53)
Bank St/Gilmour St (S)	A(A)	0.59(0.45)	NBT(NBT)	11.4(9.5)	A(A)	0.46(0.42)
O'Connor St/Gilmour St (S)	A(B)	0.36(0.67)	SBT(SBT)	8.8(14.2)	A(B)	0.35(0.64)
Kent St/MacLaren St (U)	D(B)	27.5(13.4)	WB(WB)	0.6(1.4)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection, critical movement based on max v/c
(U) – Unsignalized Intersection, critical movement based on highest average delay

As indicated by Table 19, traffic operations are anticipated to be similar to the future background 2024 traffic operations, with slightly higher delays and v/c ratios.

Total Projected 2024

Based on total projected 2024 traffic volumes in Figure 19, study area intersections were analyzed using Synchro, with results summarized in Table 20 below.

Table 20: Total Projected 2024 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Kent St/Somerset St W (S)	B(A)	0.67(0.47)	NBT(WBT)	18.3(18.4)	B(A)	0.66(0.46)
Kent St/Gilmour St (S)	B(A)	0.67(0.32)	NBT(NBT)	22.3(9.9)	B(A)	0.65(0.31)
Kent St/Gladstone Ave (S)	C(A)	0.73(0.56)	NBT(EBT)	17.9(16.9)	B(A)	0.70(0.49)
Bank St/MacLaren St (S)	A(B)	0.54(0.63)	NBT(SBT)	5.3(10.0)	A(A)	0.52(0.51)
Bank St/Gilmour St (S)	A(A)	0.57(0.43)	NBT(NBT)	11.5(8.9)	A(A)	0.45(0.40)
O'Connor St/Gilmour St (S)	A(B)	0.35(0.64)	SBT(SBT)	8.5(13.6)	A(B)	0.34(0.62)
Kent St/MacLaren St (U)	D(B)	25.9(13.2)	WB(WB)	0.6(1.4)	A(A)	-
Gilmour St/Site Access (U)	B(A)	10.4(9.9)	SB(SB)	2.5(2.8)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection, critical movement based on max v/c
(U) – Unsignalized Intersection, critical movement based on highest average delay

As indicated by Table 20, traffic operations are anticipated to be similar to the future background 2024 traffic operations, with slightly higher delays and v/c ratios. The site access is expected to operate at a LOS 'B' or better during both peak hours.

Total Projected 2029

Based on total projected 2029 traffic volumes in Figure 20, study are intersections were analyzed using Synchro, with results summarized in Table 21 below.

Table 21: Total Projected 2029 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Kent St/Somerset St W (S)	B(A)	0.70(0.49)	NBT(WBT)	19.0(18.9)	B(A)	0.69(0.48)
Kent St/Gilmour St (S)	B(A)	0.70(0.34)	NBT(NBT)	22.8(10.4)	B(A)	0.68(0.33)
Kent St/Gladstone Ave (S)	C(A)	0.76(0.59)	NBT(EBT)	18.6(17.3)	C(A)	0.73(0.52)
Bank St/MacLaren St (S)	A(B)	0.56(0.66)	NBT(SBT)	5.5(10.4)	A(A)	0.54(0.53)
Bank St/Gilmour St (S)	A(A)	0.59(0.45)	NBT(NBT)	11.8(9.0)	A(A)	0.46(0.41)
O'Connor St/Gilmour St (S)	A(B)	0.36(0.67)	SBT(SBT)	8.5(14.0)	A(B)	0.35(0.64)
Kent St/MacLaren St (U)	D(B)	27.5(13.4)	WB(WB)	0.6(1.4)	A(A)	-
Gilmour St/Site Access (U)	B(A)	10.4(9.9)	SB(SB)	2.5(2.8)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection, critical movement based on max v/c
(U) – Unsignalized Intersection, critical movement based on highest average delay

As indicated by Table 21, traffic operations are anticipated to be similar to the future background 2029 traffic operations, with slightly higher delays and v/c ratios. The site access is expected to operate at a LOS 'B' or better during both peak hours.

5. Findings, Conclusions and Recommendations

Based on the results summarized herein, the following transportation related conclusions are offered:

Proposed Development

- The proposed development will be located at the municipal address of 359 Kent St, which is at the northwest corner of the intersection of Kent/Gilmour. The site is currently occupied by a 6-storey office building and a surface parking lot, which will be replaced by the proposed development.
- The development will consist of a 35-storey high-rise residential building with 405 apartment units, 21,388 ft² office space and 7,833 ft² commercial space and will be constructed in a single phase by 2024.
- Access will be provided via an underground parking garage ramp along Gilmour St. The proposed development will provide 332 vehicle parking and 191 bicycle parking spaces within a five-level underground parking garage.
- At full buildout in 2024, the development is anticipated to generate a total of approximately 245 person trips during both peak hours. Vehicle trips are anticipated to be 68 to 75 veh/h during both peak hours. Transit trips are anticipated to be 50 and 68 trips during the morning and afternoon peak hours respectively. Active transportation modes (bike and walk) are anticipated to generate the most trips given the site location in a core sector of the City of Ottawa, with 87 and 114 trips generated during the morning and afternoon peak hours respectively.
- Accounting for trips generated by the existing office building, the proposed development is anticipate to generate 147 to 168 'new' total person trips, 31 to 32 'new' vehicle trips, 28 to 40 'new' transit trips and 70 to 100 'new' active transportation trips during peak hours.

Existing and Background Conditions

- In existing conditions, all intersections 'as a whole' are anticipated to operate at LOS 'C' or better during both peak hours. Critical movements of signalized intersections are anticipated to operate at LOS 'C' or better during peak hours. Critical movements of unsignalized intersections are anticipated to operate at LOS 'D' or better during peak hours.

- A background growth rate of 1% per year was conservatively applied to through movements at major study area intersections during horizon years 2024 and 2029.
- As required by the TIA Guidelines, the PHF in future conditions is increased to 1.0, which results in similar traffic operations for total future background 2024 and 2029 compared to existing conditions.

Projected Conditions

- Total projected 2024 and 2029 traffic operations are similar to their respective future background operations, with slightly higher delays and v/c ratios.
- In both existing and future conditions, traffic along Gilmour St exceeds the 120 veh/h threshold of a local road, with 240 veh/h. There are no capacity concerns along the Gilmour St as traffic operations at study area intersections are acceptable and the road may accommodate more traffic due to eastbound only operations. As such, there are not recommended modifications or reclassification of Gilmour St.

In summary, the proposed development will have little impact on the surrounding road network and transit facilities and is recommended to proceed from a transportation perspective.

APPENDIX A

SCREENING FORM

Office: +1 613.738.4160
1223 Michael Street, Suite 100|Ottawa, ON K1J 7T2

City of Ottawa 2017 TIA Guidelines

TIA Screening Form

Date	28-Jun-21
Project	359 Kent Street TIA
Project Number	908979-10065

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

Module 1.1 - Description of Proposed Development	
Municipal Address	359 Kent St, Ottawa, ON K2P 2M8
Description of location	Northeast corner of Kent/Gilmour intersection
Land Use	High-rise residential apartment building
Development Size	30-storeys, 367 units
Number of Accesses and Locations	Access to underground parking garage along Gilmour St
Development Phasing	One phase
Buildout Year	Assumed 2024
Sketch Plan / Site Plan	See attached

Module 1.2 - Trip Generation Trigger		
Land Use Type	Townhomes or Apartments	
Development Size	367	Units
Trip Generation Trigger Met?	Yes	

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

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

APPENDIX B

TRAFFIC COUNT DATA

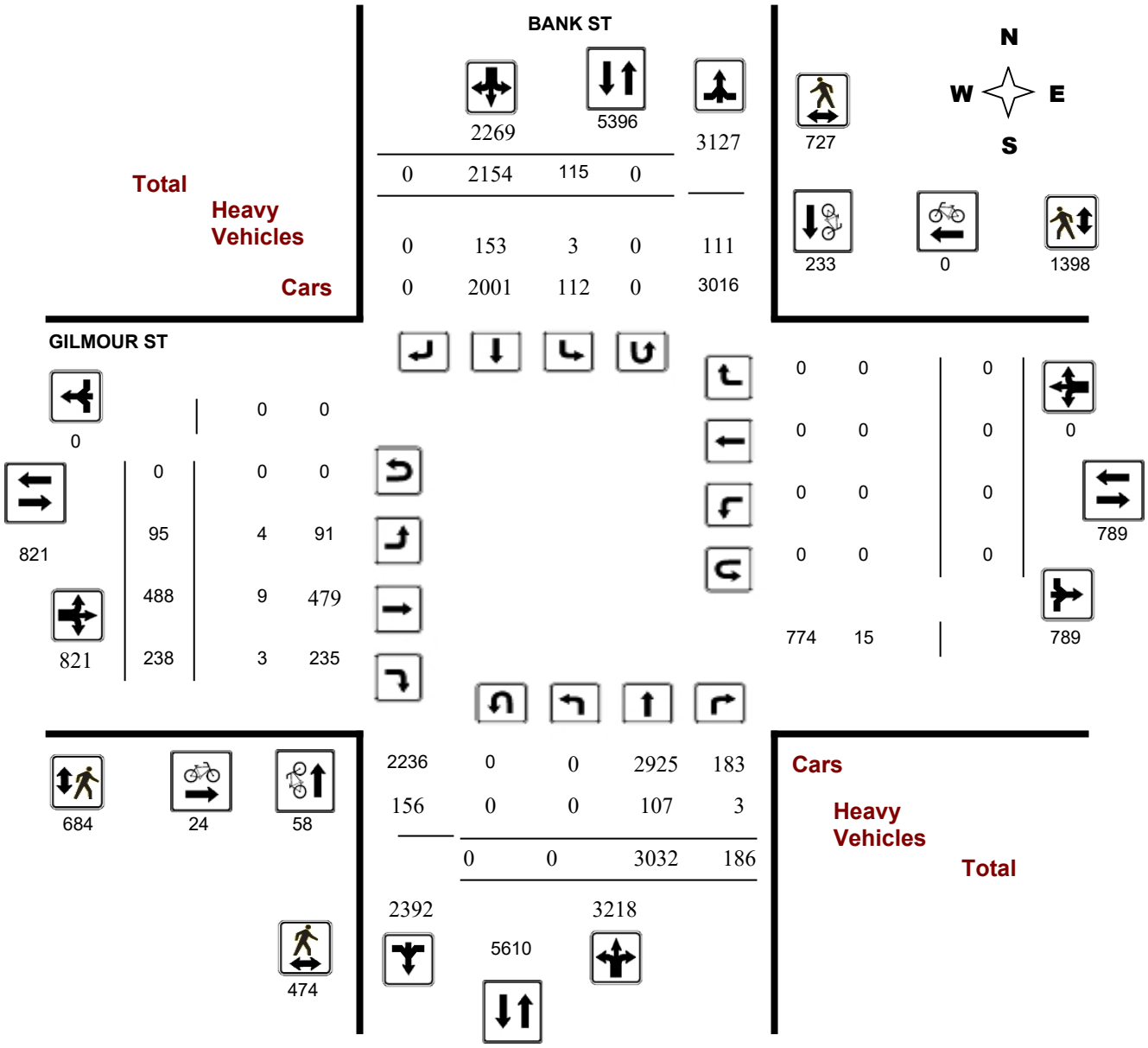
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015
Start Time: 07:00
WO No: 35291
Device: Jamar Technologies, Inc

Full Study Diagram



Transportation Services - Traffic Services

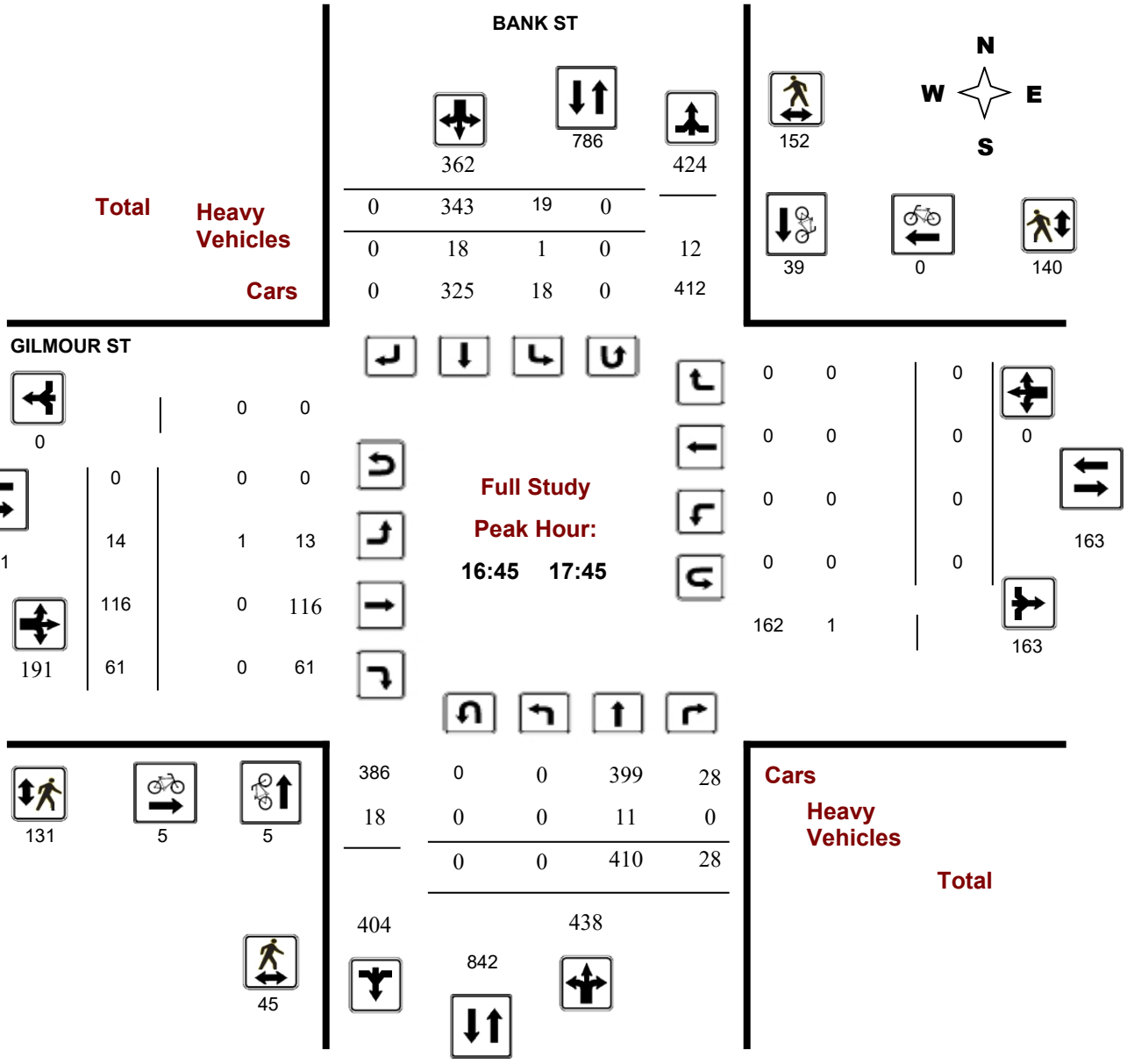
Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study Peak Hour Diagram



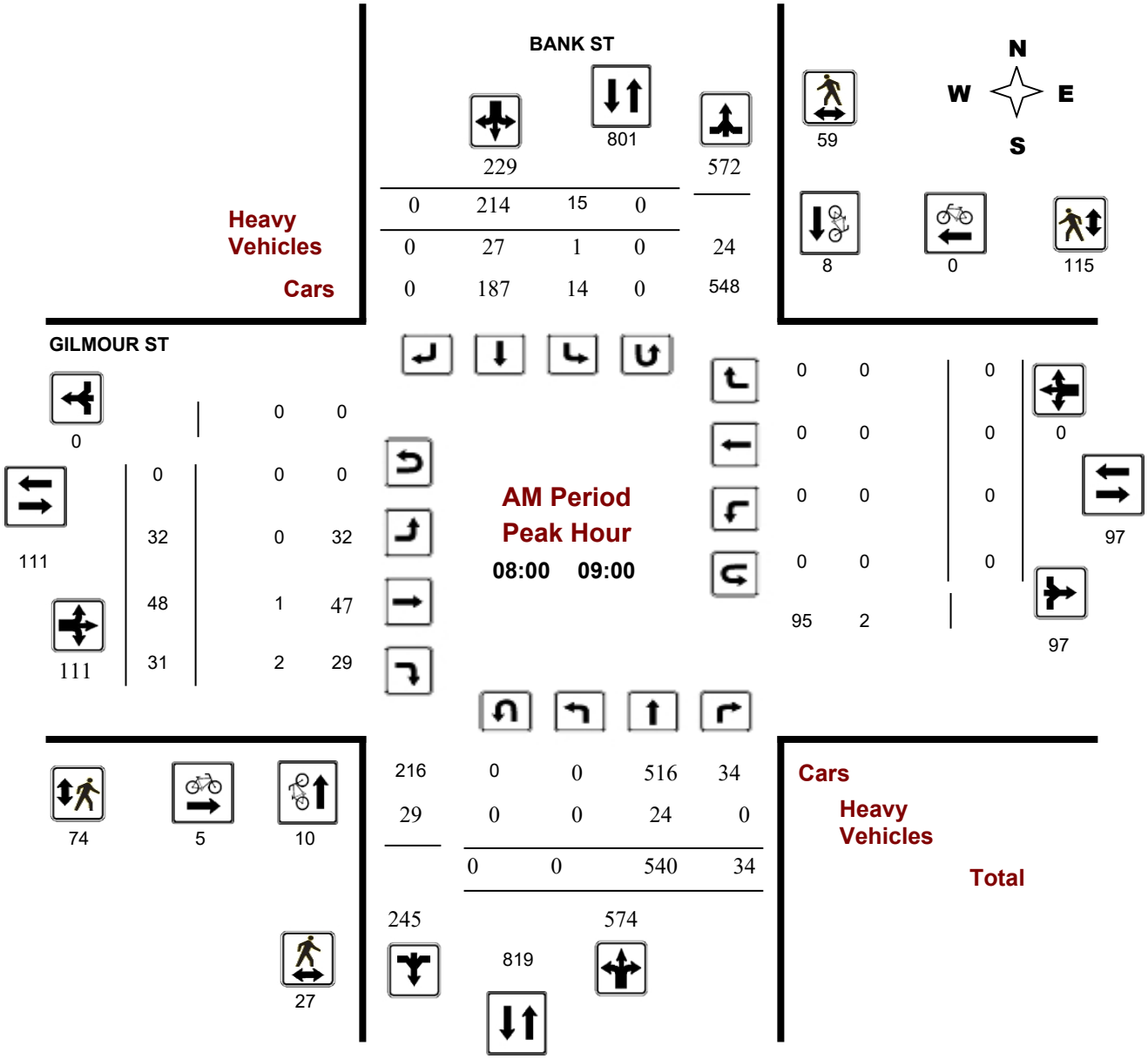
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015
Start Time: 07:00

WO No: 35291
Device: Jamar Technologies, Inc



Comments

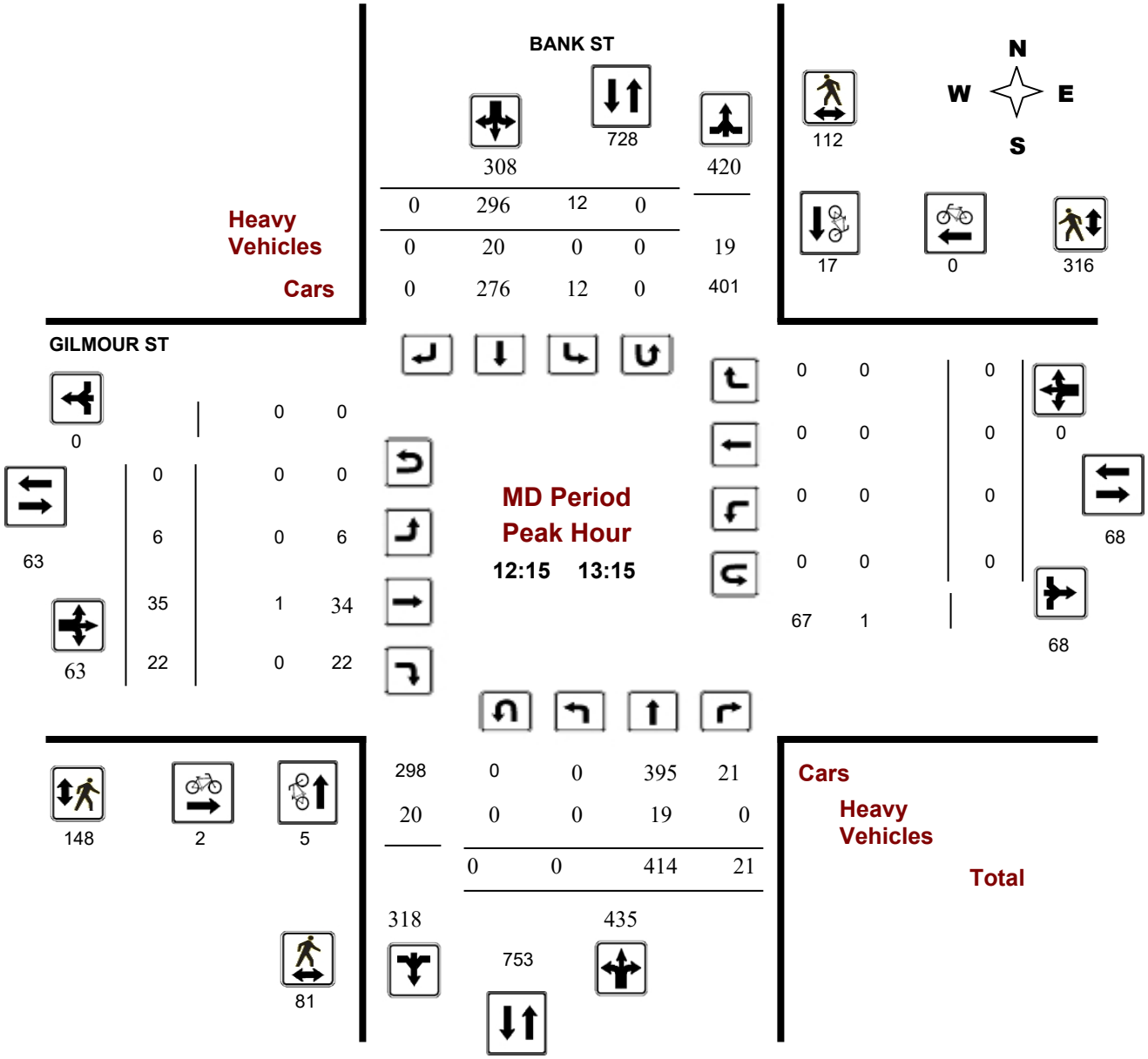
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015
Start Time: 07:00

WO No: 35291
Device: Jamar Technologies, Inc



Comments

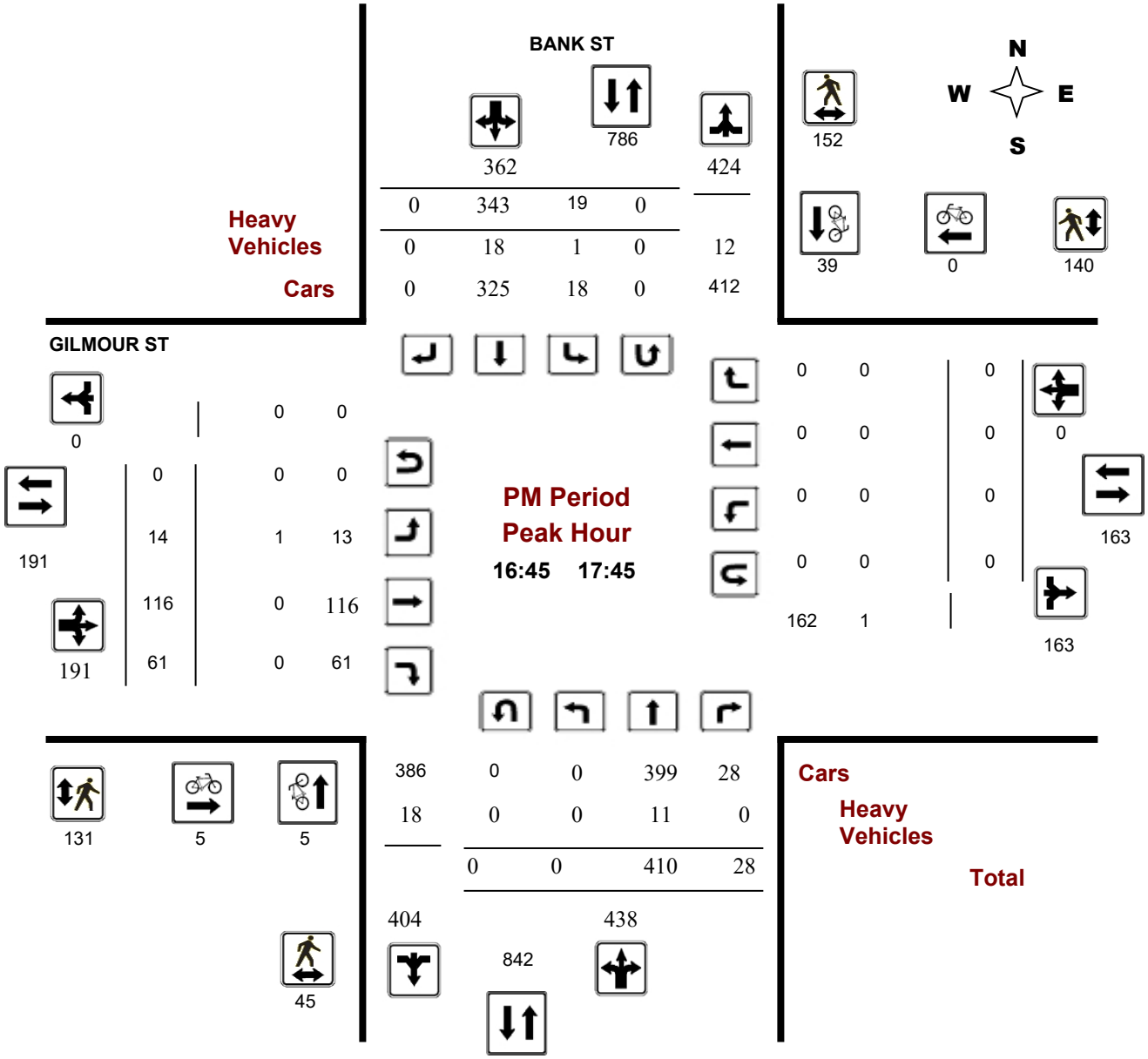
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015
Start Time: 07:00

WO No: 35291
Device: Jamar Technologies, Inc



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, August 25, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

.90

	BANK ST									GILMOUR ST									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	0	277	22	**299**	12	174	0	**186**	**485**	8	51	13	**72**	0	0	0	**0**	**72**	**557**
08:00 09:00	0	540	34	**574**	15	214	0	**229**	**803**	32	48	31	**111**	0	0	0	**0**	**111**	**914**
09:00 10:00	0	362	21	**383**	12	209	0	**221**	**604**	11	31	17	**59**	0	0	0	**0**	**59**	**663**
11:30 12:30	0	381	6	**387**	8	271	0	**279**	**666**	5	40	23	**68**	0	0	0	**0**	**68**	**734**
12:30 13:30	0	342	24	**366**	10	280	0	**290**	**656**	6	26	22	**54**	0	0	0	**0**	**54**	**710**
15:00 16:00	0	376	29	**405**	23	352	0	**375**	**780**	7	62	36	**105**	0	0	0	**0**	**105**	**885**
16:00 17:00	0	389	26	**415**	23	326	0	**349**	**764**	10	103	29	**142**	0	0	0	**0**	**142**	**906**
17:00 18:00	0	365	24	**389**	12	328	0	**340**	**729**	16	127	67	**210**	0	0	0	**0**	**210**	**939**
Sub Total	0	3032	186	**3218**	115	2154	0	**2269**	**5487**	95	488	238	**821**	0	0	0	**0**	**821**	**6308**
U Turns	0			**0**	0			**0**	**0**	**0**			**0**	0			**0**	**0**	**0**
Total	0	3032	186	**3218**	115	2154	0	**2269**	**5487**	95	488	238	**821**	0	0	0	**0**	**821**	**6308**
EQ 12Hr	0	4214	259	**4473**	160	2994	0	**3154**	**7627**	132	678	331	**1141**	0	0	0	**0**	**1141**	**8768**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																	**1.39**		
AVG 12Hr	0	3793	233	**4026**	144	2695	0	**2839**	**6865**	119	610	298	**1027**	0	0	0	**0**	**1027**	**7892**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																	**.90**		
AVG 24Hr	0	4969	305	**5274**	189	3530	0	**3719**	**8993**	156	799	390	**1345**	0	0	0	**0**	**1345**	**10338**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																	**1.31**		

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study 15 Minute Increments

		BANK ST									GILMOUR ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	49	7	56	3	37	0	40	**96**	3	7	2	12	0	0	0	0	**12**	**108**
07:15	07:30	0	71	7	78	0	52	0	52	**130**	2	12	5	19	0	0	0	0	**19**	**149**
07:30	07:45	0	78	4	82	6	44	0	50	**132**	2	10	2	14	0	0	0	0	**14**	**146**
07:45	08:00	0	79	4	83	3	41	0	44	**127**	1	22	4	27	0	0	0	0	**27**	**154**
08:00	08:15	0	146	3	149	3	58	0	61	**210**	9	10	7	26	0	0	0	0	**26**	**236**
08:15	08:30	0	150	9	159	4	57	0	61	**220**	10	20	2	32	0	0	0	0	**32**	**252**
08:30	08:45	0	128	11	139	4	63	0	67	**206**	11	10	16	37	0	0	0	0	**37**	**243**
08:45	09:00	0	116	11	127	4	36	0	40	**167**	2	8	6	16	0	0	0	0	**16**	**183**
09:00	09:15	0	82	11	93	3	44	0	47	**140**	5	12	4	21	0	0	0	0	**21**	**161**
09:15	09:30	0	85	1	86	3	51	0	54	**140**	6	11	1	18	0	0	0	0	**18**	**158**
09:30	09:45	0	106	2	108	4	52	0	56	**164**	0	3	6	9	0	0	0	0	**9**	**173**
09:45	10:00	0	89	7	96	2	62	0	64	**160**	0	5	6	11	0	0	0	0	**11**	**171**
11:30	11:45	0	110	2	112	0	45	0	45	**157**	0	8	10	18	0	0	0	0	**18**	**175**
11:45	12:00	0	77	1	78	2	58	0	60	**138**	1	13	3	17	0	0	0	0	**17**	**155**
12:00	12:15	0	88	3	91	4	75	0	79	**170**	3	6	3	12	0	0	0	0	**12**	**182**
12:15	12:30	0	106	0	106	2	93	0	95	**201**	1	13	7	21	0	0	0	0	**21**	**222**
12:30	12:45	0	102	8	110	1	54	0	55	**165**	1	7	6	14	0	0	0	0	**14**	**179**
12:45	13:00	0	120	8	128	5	71	0	76	**204**	2	9	4	15	0	0	0	0	**15**	**219**
13:00	13:15	0	86	5	91	4	78	0	82	**173**	2	6	5	13	0	0	0	0	**13**	**186**
13:15	13:30	0	34	3	37	0	77	0	77	**114**	1	4	7	12	0	0	0	0	**12**	**126**
15:00	15:15	0	79	1	80	4	66	0	70	**150**	2	7	5	14	0	0	0	0	**14**	**164**
15:15	15:30	0	124	4	128	8	96	0	104	**232**	3	13	5	21	0	0	0	0	**21**	**253**
15:30	15:45	0	87	15	102	6	103	0	109	**211**	1	17	7	25	0	0	0	0	**25**	**236**
15:45	16:00	0	86	9	95	5	87	0	92	**187**	1	25	19	45	0	0	0	0	**45**	**232**
16:00	16:15	0	67	5	72	2	91	0	93	**165**	2	26	12	40	0	0	0	0	**40**	**205**
16:15	16:30	0	67	8	75	4	73	0	77	**152**	5	30	7	42	0	0	0	0	**42**	**194**
16:30	16:45	0	110	3	113	10	64	0	74	**187**	1	28	4	33	0	0	0	0	**33**	**220**
16:45	17:00	0	145	10	155	7	98	0	105	**260**	2	19	6	27	0	0	0	0	**27**	**287**
17:00	17:15	0	128	9	137	4	78	0	82	**219**	4	35	11	50	0	0	0	0	**50**	**269**
17:15	17:30	0	49	3	52	5	63	0	68	**120**	5	46	20	71	0	0	0	0	**71**	**191**
17:30	17:45	0	88	6	94	3	104	0	107	**201**	3	16	24	43	0	0	0	0	**43**	**244**
17:45	18:00	0	100	6	106	0	83	0	83	**189**	4	30	12	46	0	0	0	0	**46**	**235**
Total:		0	3032	186	3218	115	2154	0	2269	**5487**	95	488	238	821	0	0	0	0	**5487**	**6,308**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study Cyclist Volume

Time Period		BANK ST			GILMOUR ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	3	0	**3**	0	0	**0**	**3**
07:15	07:30	3	1	**4**	0	0	**0**	**4**
07:30	07:45	1	3	**4**	1	0	**1**	**5**
07:45	08:00	4	0	**4**	1	0	**1**	**5**
08:00	08:15	1	3	**4**	0	0	**0**	**4**
08:15	08:30	1	1	**2**	3	0	**3**	**5**
08:30	08:45	3	0	**3**	2	0	**2**	**5**
08:45	09:00	5	4	**9**	0	0	**0**	**9**
09:00	09:15	1	1	**2**	1	0	**1**	**3**
09:15	09:30	2	5	**7**	0	0	**0**	**7**
09:30	09:45	5	7	**12**	0	0	**0**	**12**
09:45	10:00	0	3	**3**	0	0	**0**	**3**
11:30	11:45	0	6	**6**	0	0	**0**	**6**
11:45	12:00	0	9	**9**	0	0	**0**	**9**
12:00	12:15	3	13	**16**	4	0	**4**	**20**
12:15	12:30	0	4	**4**	1	0	**1**	**5**
12:30	12:45	0	2	**2**	0	0	**0**	**2**
12:45	13:00	0	4	**4**	0	0	**0**	**4**
13:00	13:15	5	7	**12**	1	0	**1**	**13**
13:15	13:30	0	0	**0**	0	0	**0**	**0**
15:00	15:15	0	7	**7**	1	0	**1**	**8**
15:15	15:30	2	6	**8**	2	0	**2**	**10**
15:30	15:45	1	21	**22**	0	0	**0**	**22**
15:45	16:00	2	8	**10**	1	0	**1**	**11**
16:00	16:15	1	21	**22**	0	0	**0**	**22**
16:15	16:30	1	15	**16**	1	0	**1**	**17**
16:30	16:45	2	20	**22**	0	0	**0**	**22**
16:45	17:00	2	13	**15**	0	0	**0**	**15**
17:00	17:15	1	10	**11**	4	0	**4**	**15**
17:15	17:30	0	6	**6**	0	0	**0**	**6**
17:30	17:45	2	10	**12**	1	0	**1**	**13**
17:45	18:00	7	23	**30**	0	0	**0**	**30**
Total		58	233	**291**	24	0	**24**	**315**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study Pedestrian Volume

	BANK ST			GILMOUR ST			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	7	9	**16**	6	5	**11**	**27**
07:15 07:30	6	5	**11**	16	13	**29**	**40**
07:30 07:45	7	3	**10**	9	16	**25**	**35**
07:45 08:00	13	12	**25**	29	28	**57**	**82**
08:00 08:15	4	13	**17**	6	7	**13**	**30**
08:15 08:30	7	20	**27**	50	29	**79**	**106**
08:30 08:45	3	12	**15**	10	42	**52**	**67**
08:45 09:00	13	14	**27**	8	37	**45**	**72**
09:00 09:15	11	21	**32**	9	21	**30**	**62**
09:15 09:30	4	17	**21**	6	32	**38**	**59**
09:30 09:45	5	8	**13**	21	15	**36**	**49**
09:45 10:00	23	21	**44**	8	43	**51**	**95**
11:30 11:45	15	9	**24**	23	34	**57**	**81**
11:45 12:00	21	24	**45**	11	64	**75**	**120**
12:00 12:15	38	45	**83**	29	143	**172**	**255**
12:15 12:30	21	46	**67**	31	115	**146**	**213**
12:30 12:45	18	15	**33**	42	79	**121**	**154**
12:45 13:00	23	29	**52**	51	91	**142**	**194**
13:00 13:15	19	22	**41**	24	31	**55**	**96**
13:15 13:30	15	32	**47**	22	45	**67**	**114**
15:00 15:15	18	17	**35**	7	32	**39**	**74**
15:15 15:30	35	24	**59**	21	33	**54**	**113**
15:30 15:45	10	14	**24**	27	11	**38**	**62**
15:45 16:00	38	18	**56**	10	49	**59**	**115**
16:00 16:15	20	32	**52**	14	72	**86**	**138**
16:15 16:30	11	38	**49**	13	75	**88**	**137**
16:30 16:45	9	22	**31**	1	45	**46**	**77**
16:45 17:00	9	39	**48**	11	48	**59**	**107**
17:00 17:15	16	54	**70**	51	58	**109**	**179**
17:15 17:30	5	27	**32**	27	10	**37**	**69**
17:30 17:45	15	32	**47**	42	24	**66**	**113**
17:45 18:00	15	33	**48**	49	51	**100**	**148**
Total	474	727	**1201**	684	1398	**2082**	**3283**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study Heavy Vehicles

		BANK ST									GILMOUR ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	3	2	**5**	0	5	0	**5**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
07:15	07:30	0	4	0	**4**	0	4	0	**4**	**8**	0	1	0	**1**	0	0	0	**0**	**1**	**9**
07:30	07:45	0	2	0	**2**	0	6	0	**6**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
07:45	08:00	0	1	0	**1**	0	3	0	**3**	**4**	0	3	0	**3**	0	0	0	**0**	**3**	**7**
08:00	08:15	0	8	0	**8**	0	4	0	**4**	**12**	0	0	1	**1**	0	0	0	**0**	**1**	**13**
08:15	08:30	0	4	0	**4**	0	4	0	**4**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
08:30	08:45	0	6	0	**6**	1	7	0	**8**	**14**	0	0	0	**0**	0	0	0	**0**	**0**	**14**
08:45	09:00	0	6	0	**6**	0	12	0	**12**	**18**	0	1	1	**2**	0	0	0	**0**	**2**	**20**
09:00	09:15	0	3	0	**3**	0	3	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
09:15	09:30	0	3	0	**3**	0	7	0	**7**	**10**	1	1	0	**2**	0	0	0	**0**	**2**	**12**
09:30	09:45	0	4	0	**4**	0	6	0	**6**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
09:45	10:00	0	4	0	**4**	0	5	0	**5**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
11:30	11:45	0	3	0	**3**	0	5	0	**5**	**8**	0	0	1	**1**	0	0	0	**0**	**1**	**9**
11:45	12:00	0	2	0	**2**	0	4	0	**4**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
12:00	12:15	0	3	0	**3**	1	2	0	**3**	**6**	2	0	0	**2**	0	0	0	**0**	**2**	**8**
12:15	12:30	0	5	0	**5**	0	5	0	**5**	**10**	0	1	0	**1**	0	0	0	**0**	**1**	**11**
12:30	12:45	0	5	0	**5**	0	3	0	**3**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
12:45	13:00	0	2	0	**2**	0	5	0	**5**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
13:00	13:15	0	7	0	**7**	0	7	0	**7**	**14**	0	0	0	**0**	0	0	0	**0**	**0**	**14**
13:15	13:30	0	1	0	**1**	0	3	0	**3**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
15:00	15:15	0	4	0	**4**	0	4	0	**4**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
15:15	15:30	0	4	0	**4**	0	6	0	**6**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
15:30	15:45	0	1	0	**1**	0	6	0	**6**	**7**	0	1	0	**1**	0	0	0	**0**	**1**	**8**
15:45	16:00	0	2	0	**2**	0	4	0	**4**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
16:00	16:15	0	3	0	**3**	0	3	0	**3**	**6**	0	1	0	**1**	0	0	0	**0**	**1**	**7**
16:15	16:30	0	1	0	**1**	0	3	0	**3**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
16:30	16:45	0	2	0	**2**	0	4	0	**4**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
16:45	17:00	0	3	0	**3**	1	5	0	**6**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
17:00	17:15	0	2	0	**2**	0	4	0	**4**	**6**	1	0	0	**1**	0	0	0	**0**	**1**	**7**
17:15	17:30	0	1	0	**1**	0	3	0	**3**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
17:30	17:45	0	5	0	**5**	0	6	0	**6**	**11**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
17:45	18:00	0	3	1	**4**	0	5	0	**5**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
Total:	None	0	107	3	**110**	3	153	0	**156**	**266**	4	9	3	**16**	0	0	0	**0**	**16**	**282**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ GILMOUR ST

Survey Date: Tuesday, August 25, 2015 **WO No:** 35291

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study 15 Minute U-Turn Total

Time Period		BANK ST Northbound U-Turn Total	BANK ST Southbound U-Turn Total	GILMOUR ST Eastbound U-Turn Total	GILMOUR ST Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	**0**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	0	0	**0**
09:00	09:15	0	0	0	0	**0**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	0	**0**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	0	0	0	0	**0**
12:15	12:30	0	0	0	0	**0**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	0	0	0	0	**0**
13:15	13:30	0	0	0	0	**0**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	0	**0**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	0	0	**0**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	0	**0**
17:45	18:00	0	0	0	0	**0**
Total		0	0	0	0	**0**

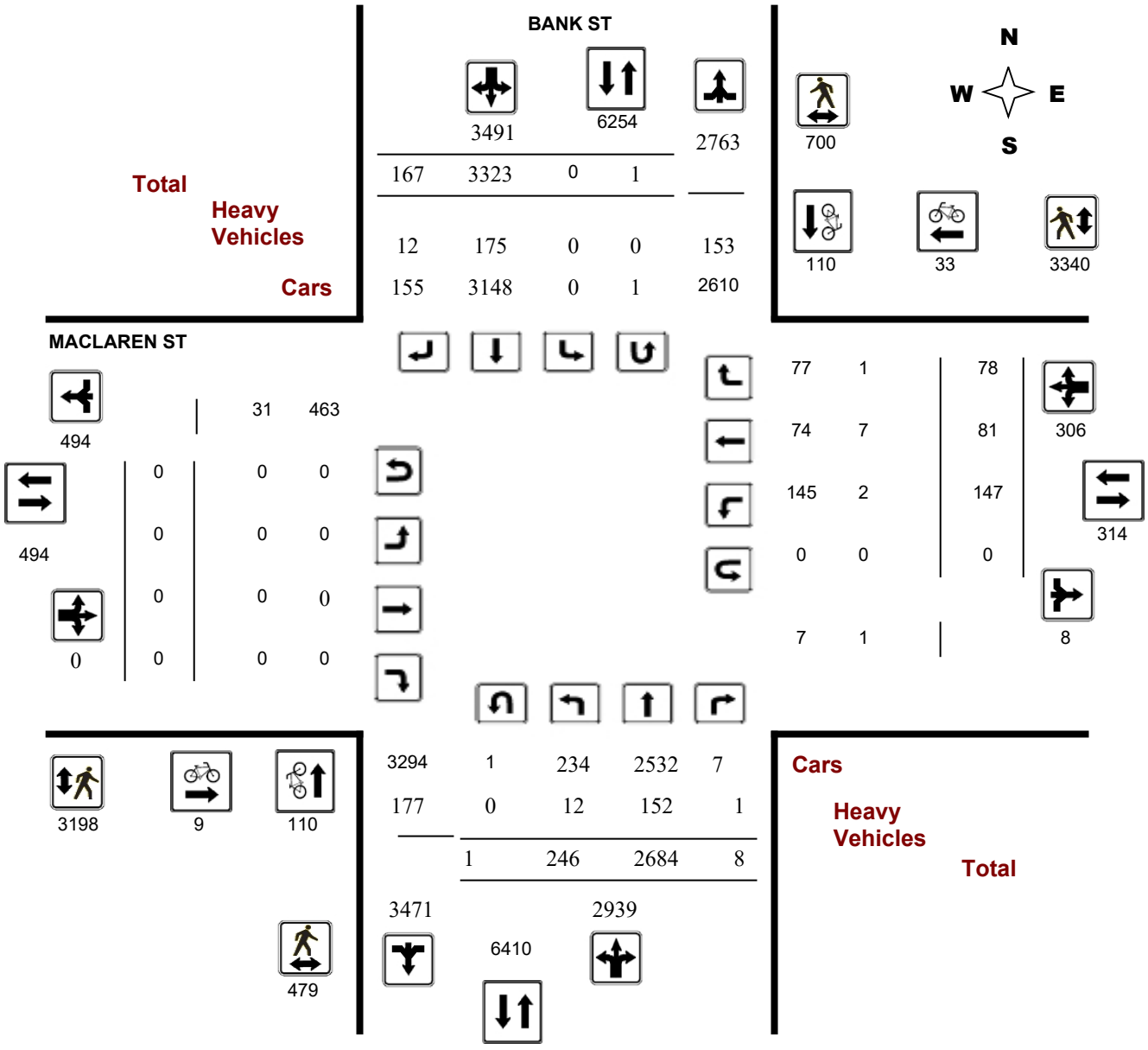
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019
Start Time: 07:00
WO No: 38538
Device: Miovision

Full Study Diagram



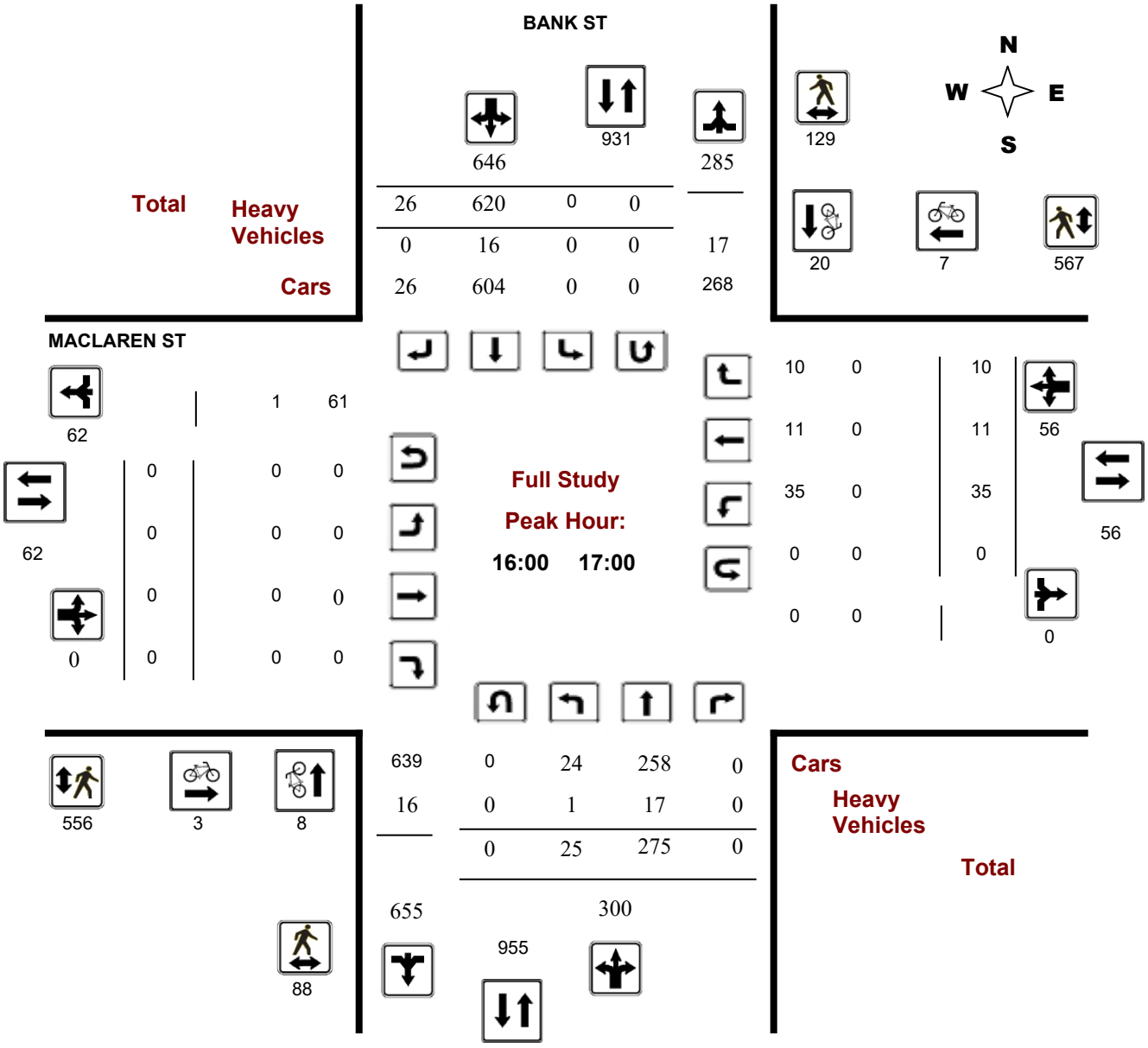
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019
Start Time: 07:00
WO No: 38538
Device: Miovision

Full Study Peak Hour Diagram



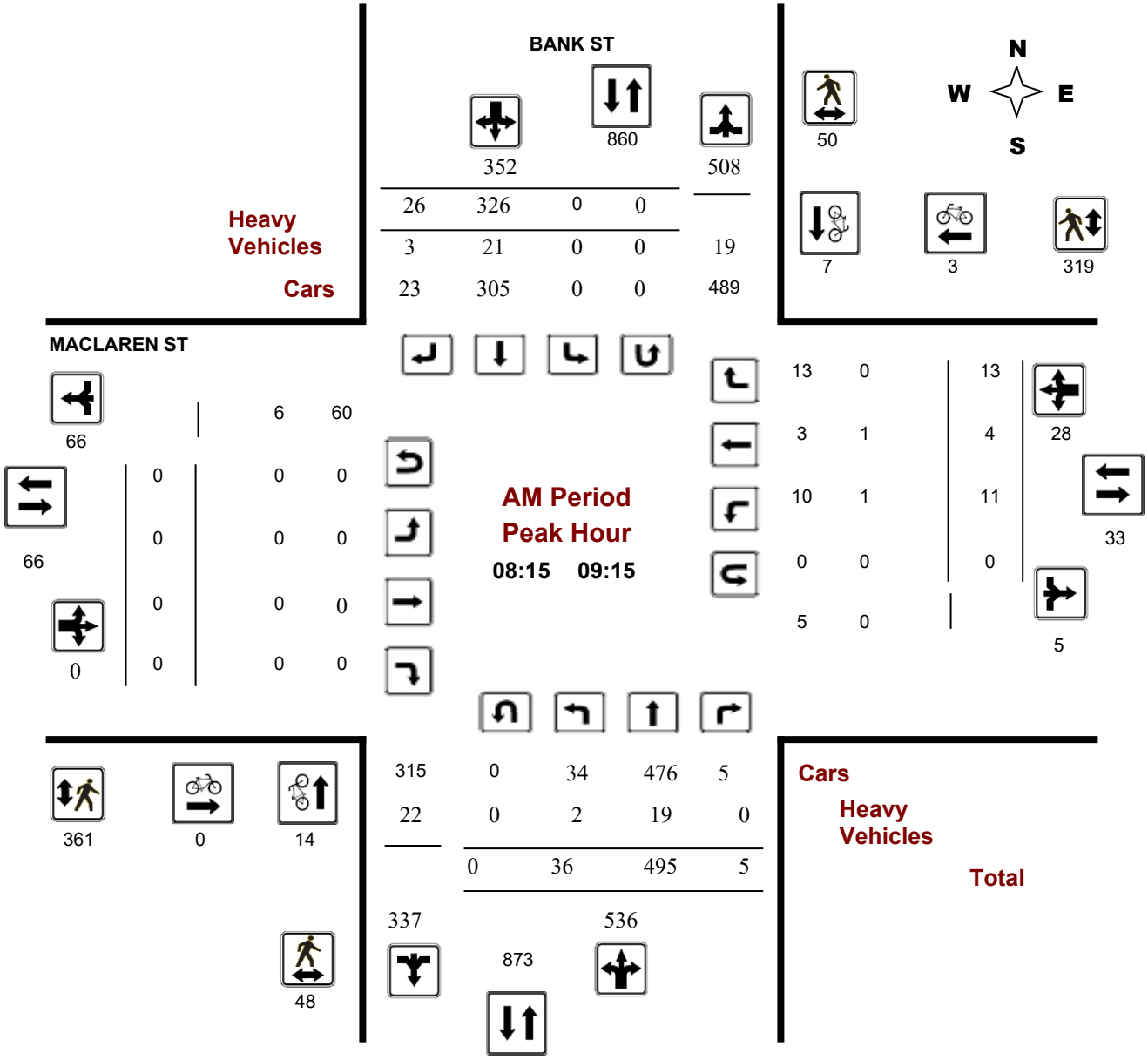
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019
Start Time: 07:00

WO No: 38538
Device: Miovision



Comments

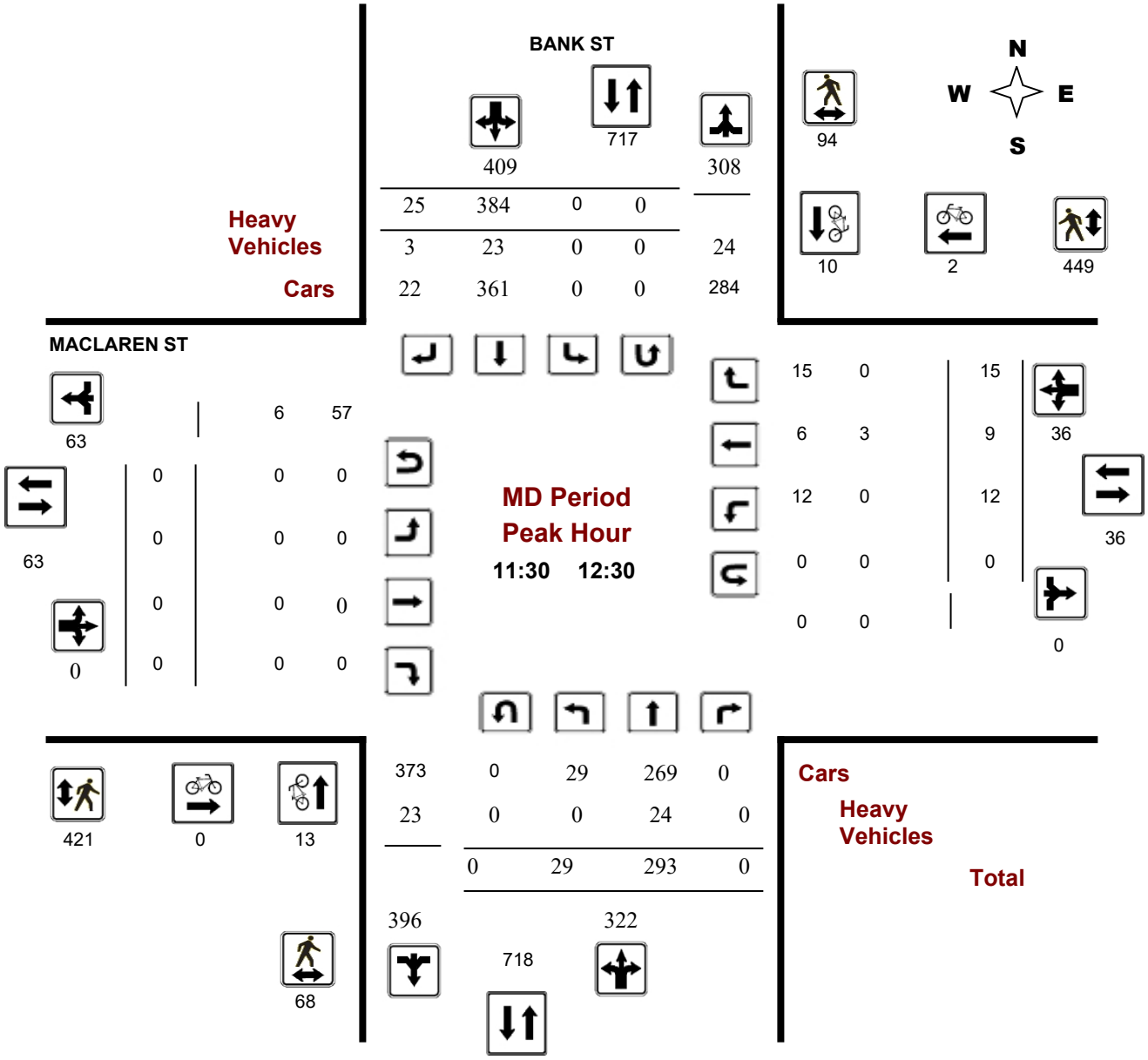
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019
Start Time: 07:00

WO No: 38538
Device: Miovision



Comments

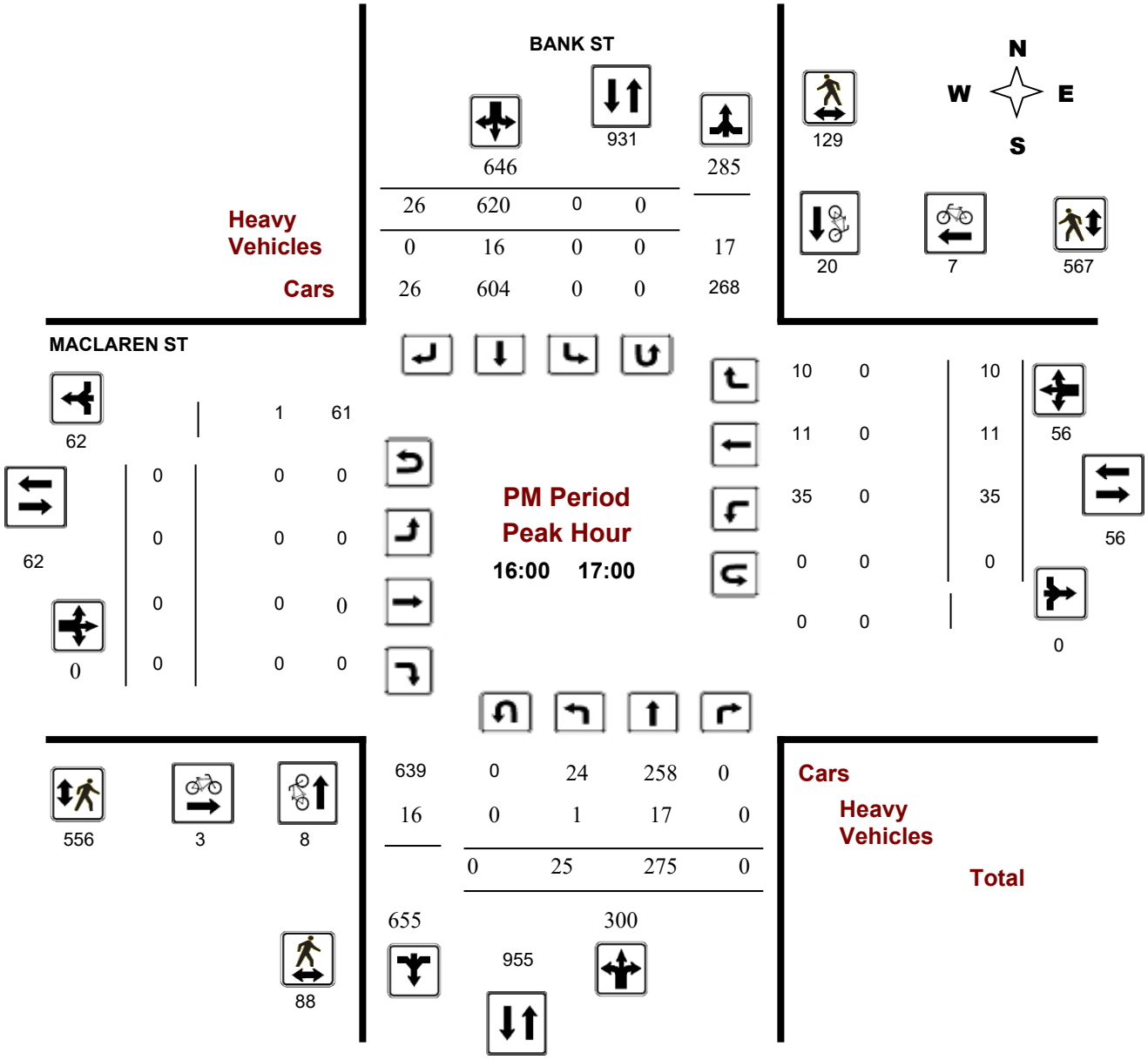
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, April 16, 2019

Total Observed U-Turns

Northbound: 1 Southbound: 1

Eastbound: 0 Westbound: 0

AADT Factor

.90

	BANK ST									MACLAREN ST									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	29	386	0	**415**	0	237	12	**249**	**664**	0	0	0	**0**	12	6	8	**26**	**26**	**690**
08:00 09:00	34	488	2	**524**	0	304	21	**325**	**849**	0	0	0	**0**	17	7	11	**35**	**35**	**884**
09:00 10:00	42	448	6	**496**	0	355	20	**375**	**871**	0	0	0	**0**	3	0	4	**7**	**7**	**878**
11:30 12:30	29	293	0	**322**	0	384	25	**409**	**731**	0	0	0	**0**	12	9	15	**36**	**36**	**767**
12:30 13:30	29	282	0	**311**	0	362	25	**387**	**698**	0	0	0	**0**	12	15	13	**40**	**40**	**738**
15:00 16:00	35	245	0	**280**	0	524	16	**540**	**820**	0	0	0	**0**	24	16	8	**48**	**48**	**868**
16:00 17:00	25	275	0	**300**	0	620	26	**646**	**946**	0	0	0	**0**	35	11	10	**56**	**56**	**1002**
17:00 18:00	23	267	0	**290**	0	537	22	**559**	**849**	0	0	0	**0**	32	17	9	**58**	**58**	**907**
Sub Total	246	2684	8	**2938**	0	3323	167	**3490**	**6428**	0	0	0	**0**	147	81	78	**306**	**306**	**6734**
U Turns	1			**1**	1			**1**	**2**	**0**			**0**	0			**0**	**0**	**2**
Total	247	2684	8	**2939**	1	3323	167	**3491**	**6430**	0	0	0	**0**	147	81	78	**306**	**306**	**6736**
EQ 12Hr	343	3731	11	**4085**	1	4619	232	**4852**	**8937**	0	0	0	**0**	204	113	108	**425**	**425**	**9362**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	309	3358	10	**3677**	1	4157	209	**4367**	**8044**	0	0	0	**0**	184	102	97	**383**	**383**	**8427**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	405	4399	13	**4817**	1	5446	274	**5721**	**10538**	0	0	0	**0**	241	134	127	**502**	**502**	**11040**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		BANK ST									MACLAREN ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	5	84	0	89	0	52	3	55	**144**	0	0	0	0	2	1	1	4	**4**	**148**
07:15	07:30	8	94	0	102	0	62	2	64	**166**	0	0	0	0	3	1	0	4	**4**	**170**
07:30	07:45	6	91	0	97	0	67	4	71	**168**	0	0	0	0	2	4	2	8	**8**	**176**
07:45	08:00	10	117	0	127	0	56	3	59	**186**	0	0	0	0	5	0	5	10	**10**	**196**
08:00	08:15	10	122	0	132	0	69	3	72	**204**	0	0	0	0	6	3	1	10	**10**	**214**
08:15	08:30	8	121	0	129	0	84	7	91	**220**	0	0	0	0	5	1	7	13	**13**	**233**
08:30	08:45	6	115	0	121	0	74	6	80	**201**	0	0	0	0	4	3	1	8	**8**	**209**
08:45	09:00	10	130	2	142	0	77	5	82	**224**	0	0	0	0	2	0	2	4	**4**	**228**
09:00	09:15	12	129	3	144	0	91	8	99	**243**	0	0	0	0	0	0	3	3	**3**	**246**
09:15	09:30	11	124	2	137	0	82	3	85	**222**	0	0	0	0	1	0	0	1	**1**	**223**
09:30	09:45	9	113	1	123	0	84	5	89	**212**	0	0	0	0	1	0	0	1	**1**	**213**
09:45	10:00	10	82	0	92	0	98	4	102	**194**	0	0	0	0	1	0	1	2	**2**	**196**
11:30	11:45	10	82	0	92	0	80	6	86	**178**	0	0	0	0	3	1	2	6	**6**	**184**
11:45	12:00	5	71	0	76	0	92	5	97	**173**	0	0	0	0	1	2	3	6	**6**	**179**
12:00	12:15	11	78	0	89	0	111	6	117	**206**	0	0	0	0	3	4	6	13	**13**	**219**
12:15	12:30	3	62	0	65	0	101	8	109	**174**	0	0	0	0	5	2	4	11	**11**	**185**
12:30	12:45	8	64	0	72	0	79	3	82	**154**	0	0	0	0	5	4	4	13	**13**	**167**
12:45	13:00	6	75	0	81	0	90	10	100	**181**	0	0	0	0	1	2	3	6	**6**	**187**
13:00	13:15	11	69	0	80	0	85	3	88	**168**	0	0	0	0	3	4	1	8	**8**	**176**
13:15	13:30	5	74	0	79	1	108	9	118	**197**	0	0	0	0	3	5	5	13	**13**	**210**
15:00	15:15	8	65	0	73	0	124	5	129	**202**	0	0	0	0	9	5	3	17	**17**	**219**
15:15	15:30	11	71	0	82	0	134	7	141	**223**	0	0	0	0	6	4	2	12	**12**	**235**
15:30	15:45	8	60	0	68	0	132	2	134	**202**	0	0	0	0	0	4	3	7	**7**	**209**
15:45	16:00	8	49	0	57	0	134	2	136	**193**	0	0	0	0	9	3	0	12	**12**	**205**
16:00	16:15	4	80	0	84	0	156	2	158	**242**	0	0	0	0	10	5	1	16	**16**	**258**
16:15	16:30	4	55	0	59	0	152	11	163	**222**	0	0	0	0	8	0	5	13	**13**	**235**
16:30	16:45	8	64	0	72	0	151	5	156	**228**	0	0	0	0	5	4	1	10	**10**	**238**
16:45	17:00	9	76	0	85	0	161	8	169	**254**	0	0	0	0	12	2	3	17	**17**	**271**
17:00	17:15	6	58	0	64	0	168	6	174	**238**	0	0	0	0	12	3	3	18	**18**	**256**
17:15	17:30	4	65	0	69	0	124	6	130	**199**	0	0	0	0	8	7	1	16	**16**	**215**
17:30	17:45	7	67	0	74	0	127	6	133	**207**	0	0	0	0	4	3	3	10	**10**	**217**
17:45	18:00	6	77	0	83	0	118	4	122	**205**	0	0	0	0	8	4	2	14	**14**	**219**
Total:		247	2684	8	2939	1	3323	167	3491	**6430**	0	0	0	0	147	81	78	306	**6430**	**6,736**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		BANK ST			MACLAREN ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	2	0	**2**	0	0	**0**	**2**
07:15	07:30	3	0	**3**	0	0	**0**	**3**
07:30	07:45	5	1	**6**	0	1	**1**	**7**
07:45	08:00	4	0	**4**	0	1	**1**	**5**
08:00	08:15	7	0	**7**	0	1	**1**	**8**
08:15	08:30	1	2	**3**	0	1	**1**	**4**
08:30	08:45	8	0	**8**	0	1	**1**	**9**
08:45	09:00	4	2	**6**	0	0	**0**	**6**
09:00	09:15	1	3	**4**	0	1	**1**	**5**
09:15	09:30	6	1	**7**	0	1	**1**	**8**
09:30	09:45	1	3	**4**	0	1	**1**	**5**
09:45	10:00	3	0	**3**	0	0	**0**	**3**
11:30	11:45	3	5	**8**	0	1	**1**	**9**
11:45	12:00	3	2	**5**	0	0	**0**	**5**
12:00	12:15	5	2	**7**	0	0	**0**	**7**
12:15	12:30	2	1	**3**	0	1	**1**	**4**
12:30	12:45	4	3	**7**	0	0	**0**	**7**
12:45	13:00	4	5	**9**	0	0	**0**	**9**
13:00	13:15	3	5	**8**	1	1	**2**	**10**
13:15	13:30	4	5	**9**	0	1	**1**	**10**
15:00	15:15	4	2	**6**	1	1	**2**	**8**
15:15	15:30	4	2	**6**	0	0	**0**	**6**
15:30	15:45	1	5	**6**	1	2	**3**	**9**
15:45	16:00	3	5	**8**	1	2	**3**	**11**
16:00	16:15	4	3	**7**	0	2	**2**	**9**
16:15	16:30	3	7	**10**	1	2	**3**	**13**
16:30	16:45	1	7	**8**	0	2	**2**	**10**
16:45	17:00	0	3	**3**	2	1	**3**	**6**
17:00	17:15	6	8	**14**	1	2	**3**	**17**
17:15	17:30	2	15	**17**	0	5	**5**	**22**
17:30	17:45	2	9	**11**	0	1	**1**	**12**
17:45	18:00	7	4	**11**	1	1	**2**	**13**
Total		110	110	**220**	9	33	**42**	**262**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

Time Period	BANK ST NB Approach (E or W Crossing)	BANK ST SB Approach (E or W Crossing)	BANK ST Total	MACLAREN ST EB Approach (N or S Crossing)	MACLAREN ST WB Approach (N or S Crossing)	MACLAREN ST Total	Grand Total
07:00 07:15	3	4	**7**	26	35	**61**	**68**
07:15 07:30	5	5	**10**	35	34	**69**	**79**
07:30 07:45	6	7	**13**	56	49	**105**	**118**
07:45 08:00	14	8	**22**	65	68	**133**	**155**
08:00 08:15	12	9	**21**	78	72	**150**	**171**
08:15 08:30	13	10	**23**	89	87	**176**	**199**
08:30 08:45	12	14	**26**	87	77	**164**	**190**
08:45 09:00	15	11	**26**	106	99	**205**	**231**
09:00 09:15	8	15	**23**	79	56	**135**	**158**
09:15 09:30	12	18	**30**	61	48	**109**	**139**
09:30 09:45	6	9	**15**	60	45	**105**	**120**
09:45 10:00	7	13	**20**	61	34	**95**	**115**
11:30 11:45	8	25	**33**	76	78	**154**	**187**
11:45 12:00	21	25	**46**	104	99	**203**	**249**
12:00 12:15	20	22	**42**	131	121	**252**	**294**
12:15 12:30	19	22	**41**	110	151	**261**	**302**
12:30 12:45	9	22	**31**	96	138	**234**	**265**
12:45 13:00	20	27	**47**	97	142	**239**	**286**
13:00 13:15	24	21	**45**	92	110	**202**	**247**
13:15 13:30	10	41	**51**	88	113	**201**	**252**
15:00 15:15	15	15	**30**	105	84	**189**	**219**
15:15 15:30	8	23	**31**	87	106	**193**	**224**
15:30 15:45	17	36	**53**	90	142	**232**	**285**
15:45 16:00	16	23	**39**	96	124	**220**	**259**
16:00 16:15	16	17	**33**	138	112	**250**	**283**
16:15 16:30	17	43	**60**	120	169	**289**	**349**
16:30 16:45	36	37	**73**	157	122	**279**	**352**
16:45 17:00	19	32	**51**	141	164	**305**	**356**
17:00 17:15	28	37	**65**	184	155	**339**	**404**
17:15 17:30	20	46	**66**	170	214	**384**	**450**
17:30 17:45	16	30	**46**	144	159	**303**	**349**
17:45 18:00	27	33	**60**	169	133	**302**	**362**
Total	479	700	**1179**	3198	3340	**6538**	**7717**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		BANK ST									MACLAREN ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	1	9	0	**10**	0	5	0	**5**	**15**	0	0	0	**0**	0	0	0	**0**	**0**	**15**
07:15	07:30	0	5	0	**5**	0	8	0	**8**	**13**	0	0	0	**0**	0	0	0	**0**	**0**	**13**
07:30	07:45	0	3	0	**3**	0	4	0	**4**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
07:45	08:00	1	4	0	**5**	0	5	0	**5**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
08:00	08:15	1	4	0	**5**	0	4	0	**4**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
08:15	08:30	1	6	0	**7**	0	6	2	**8**	**15**	0	0	0	**0**	1	1	0	**2**	**2**	**17**
08:30	08:45	0	5	0	**5**	0	7	0	**7**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**12**
08:45	09:00	0	3	0	**3**	0	4	1	**5**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
09:00	09:15	1	5	0	**6**	0	4	0	**4**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
09:15	09:30	1	3	1	**5**	0	9	1	**10**	**15**	0	0	0	**0**	0	0	0	**0**	**0**	**15**
09:30	09:45	0	8	0	**8**	0	8	1	**9**	**17**	0	0	0	**0**	0	0	0	**0**	**0**	**17**
09:45	10:00	1	6	0	**7**	0	2	1	**3**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
11:30	11:45	0	5	0	**5**	0	8	2	**10**	**15**	0	0	0	**0**	0	0	0	**0**	**0**	**15**
11:45	12:00	0	5	0	**5**	0	4	0	**4**	**9**	0	0	0	**0**	0	1	0	**1**	**1**	**10**
12:00	12:15	0	9	0	**9**	0	2	1	**3**	**12**	0	0	0	**0**	0	1	0	**1**	**1**	**13**
12:15	12:30	0	5	0	**5**	0	9	0	**9**	**14**	0	0	0	**0**	0	1	0	**1**	**1**	**15**
12:30	12:45	0	7	0	**7**	0	7	0	**7**	**14**	0	0	0	**0**	0	1	1	**2**	**2**	**16**
12:45	13:00	1	5	0	**6**	0	3	0	**3**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
13:00	13:15	1	3	0	**4**	0	9	0	**9**	**13**	0	0	0	**0**	0	1	0	**1**	**1**	**14**
13:15	13:30	1	4	0	**5**	0	9	2	**11**	**16**	0	0	0	**0**	0	0	0	**0**	**0**	**16**
15:00	15:15	0	4	0	**4**	0	7	0	**7**	**11**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
15:15	15:30	0	6	0	**6**	0	2	1	**3**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
15:30	15:45	1	2	0	**3**	0	5	0	**5**	**8**	0	0	0	**0**	0	1	0	**1**	**1**	**9**
15:45	16:00	0	3	0	**3**	0	9	0	**9**	**12**	0	0	0	**0**	1	0	0	**1**	**1**	**13**
16:00	16:15	1	3	0	**4**	0	3	0	**3**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
16:15	16:30	0	6	0	**6**	0	4	0	**4**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
16:30	16:45	0	4	0	**4**	0	7	0	**7**	**11**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
16:45	17:00	0	4	0	**4**	0	2	0	**2**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
17:00	17:15	0	3	0	**3**	0	3	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
17:15	17:30	0	6	0	**6**	0	4	0	**4**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
17:30	17:45	0	3	0	**3**	0	7	0	**7**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
17:45	18:00	0	4	0	**4**	0	5	0	**5**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
Total:	None	12	152	1	**165**	0	175	12	**187**	**352**	0	0	0	**0**	2	7	1	**10**	**10**	**362**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ MACLAREN ST

Survey Date: Tuesday, April 16, 2019 **WO No:** 38538

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		BANK ST Northbound U-Turn Total	BANK ST Southbound U-Turn Total	MACLAREN ST Eastbound U-Turn Total	MACLAREN ST Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	**0**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	0	0	**0**
09:00	09:15	0	0	0	0	**0**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	0	**0**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	0	0	0	0	**0**
12:15	12:30	0	0	0	0	**0**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	1	0	0	0	**1**
13:15	13:30	0	1	0	0	**1**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	0	**0**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	0	0	**0**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	0	**0**
17:45	18:00	0	0	0	0	**0**
Total		1	1	0	0	**2**

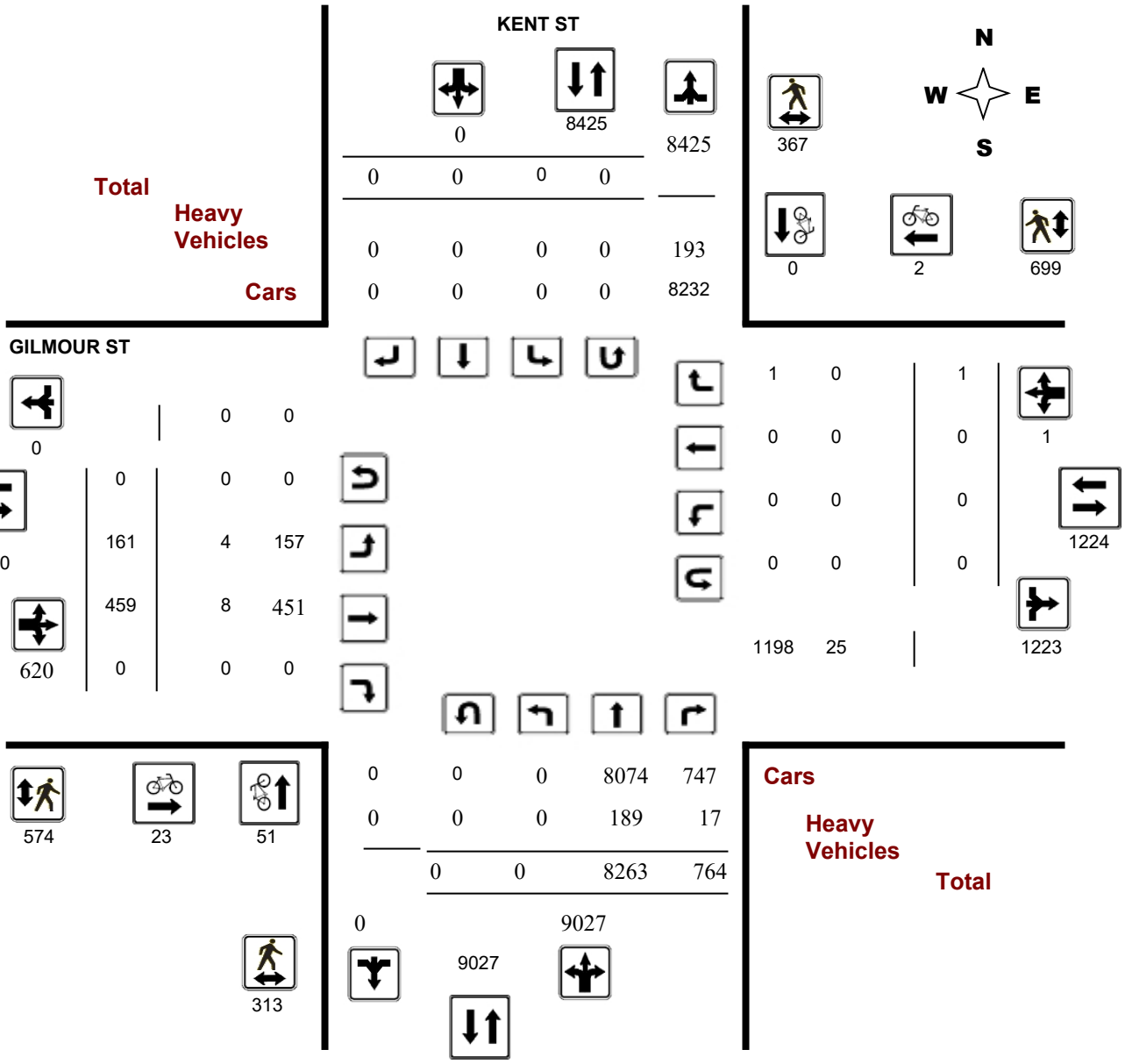
Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017
Start Time: 07:00
WO No: 36849
Device: Miovision

Full Study Diagram



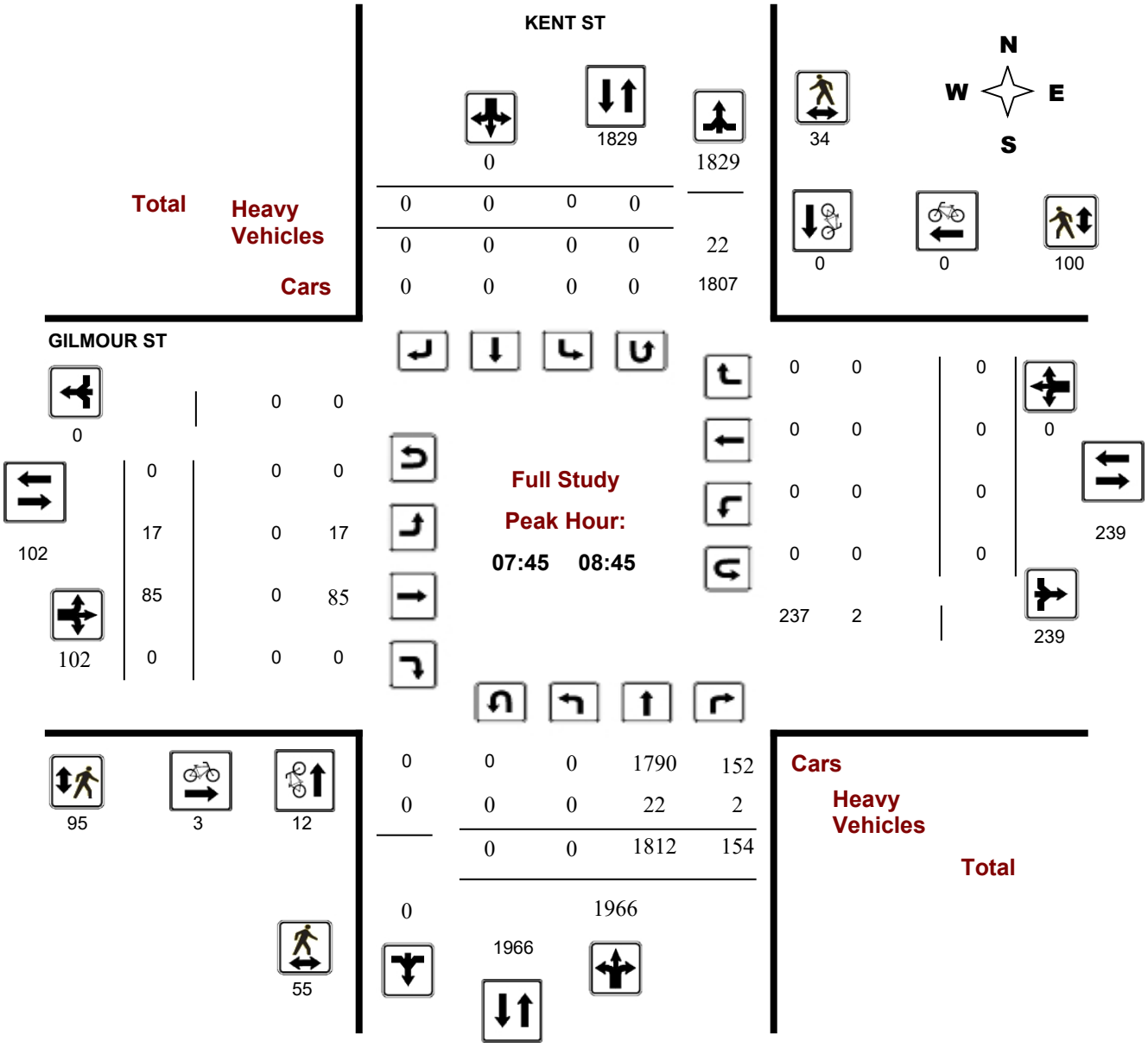
Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017
Start Time: 07:00
WO No: 36849
Device: Miovision

Full Study Peak Hour Diagram



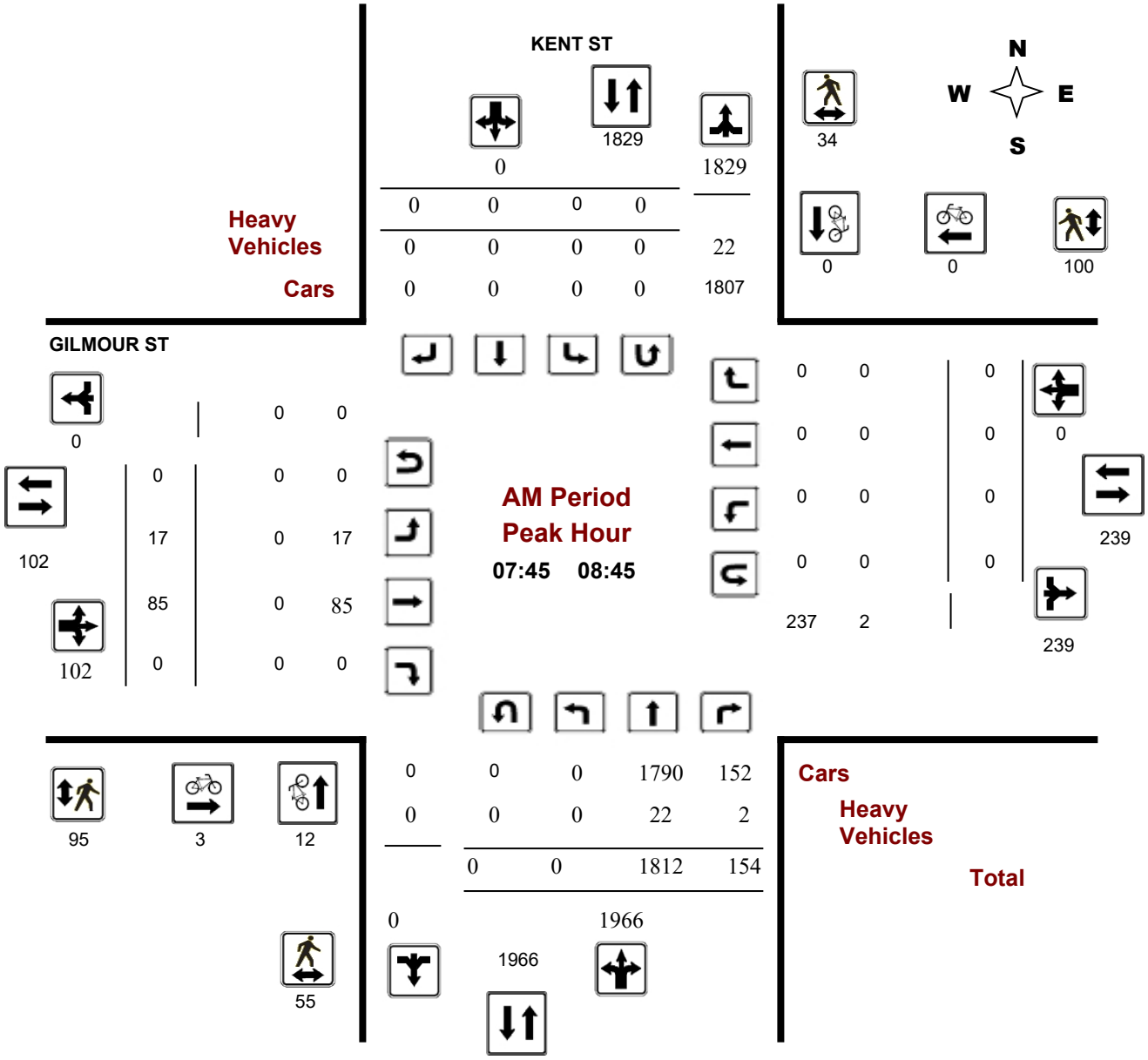
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision



Comments

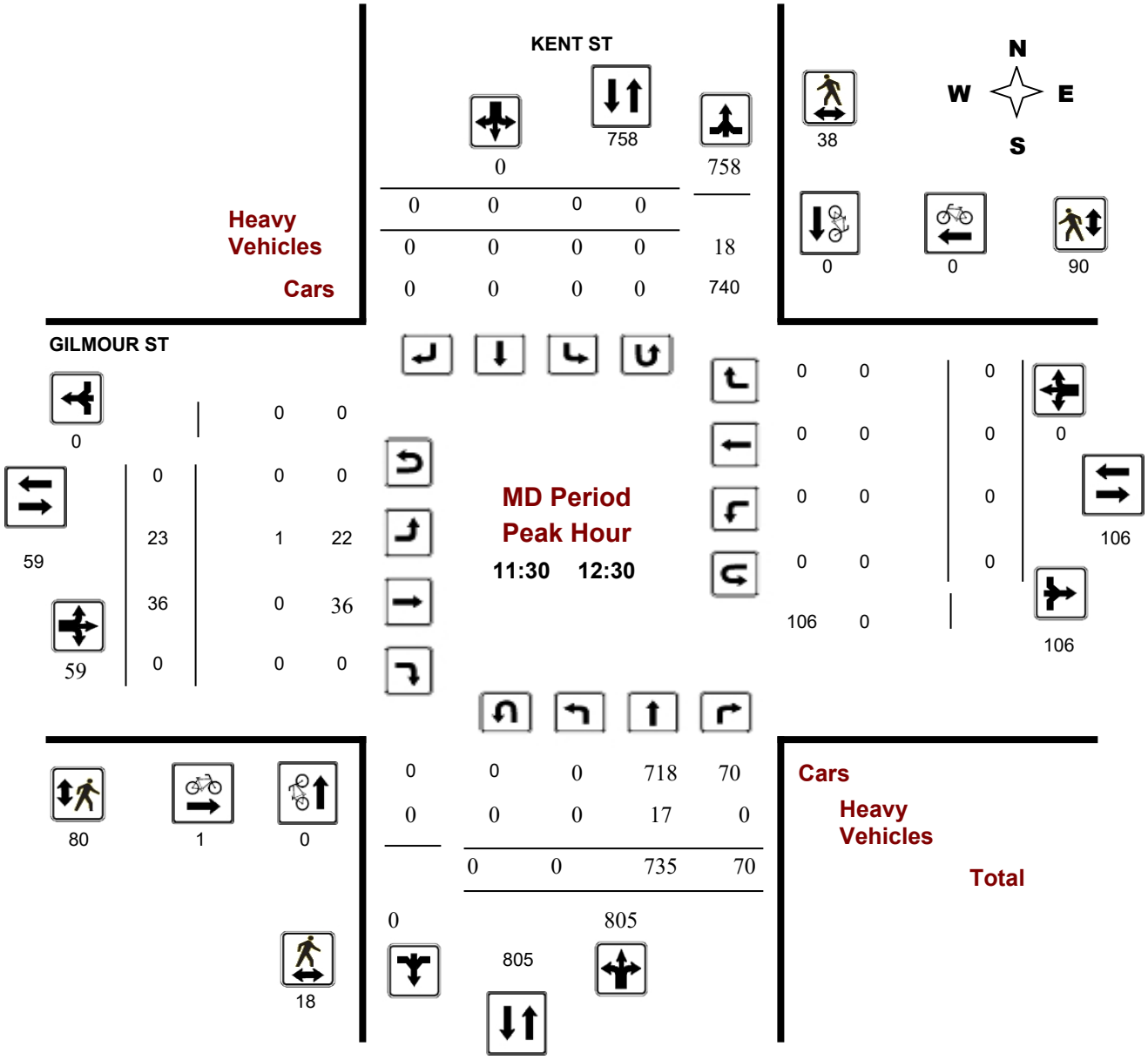
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision



Comments

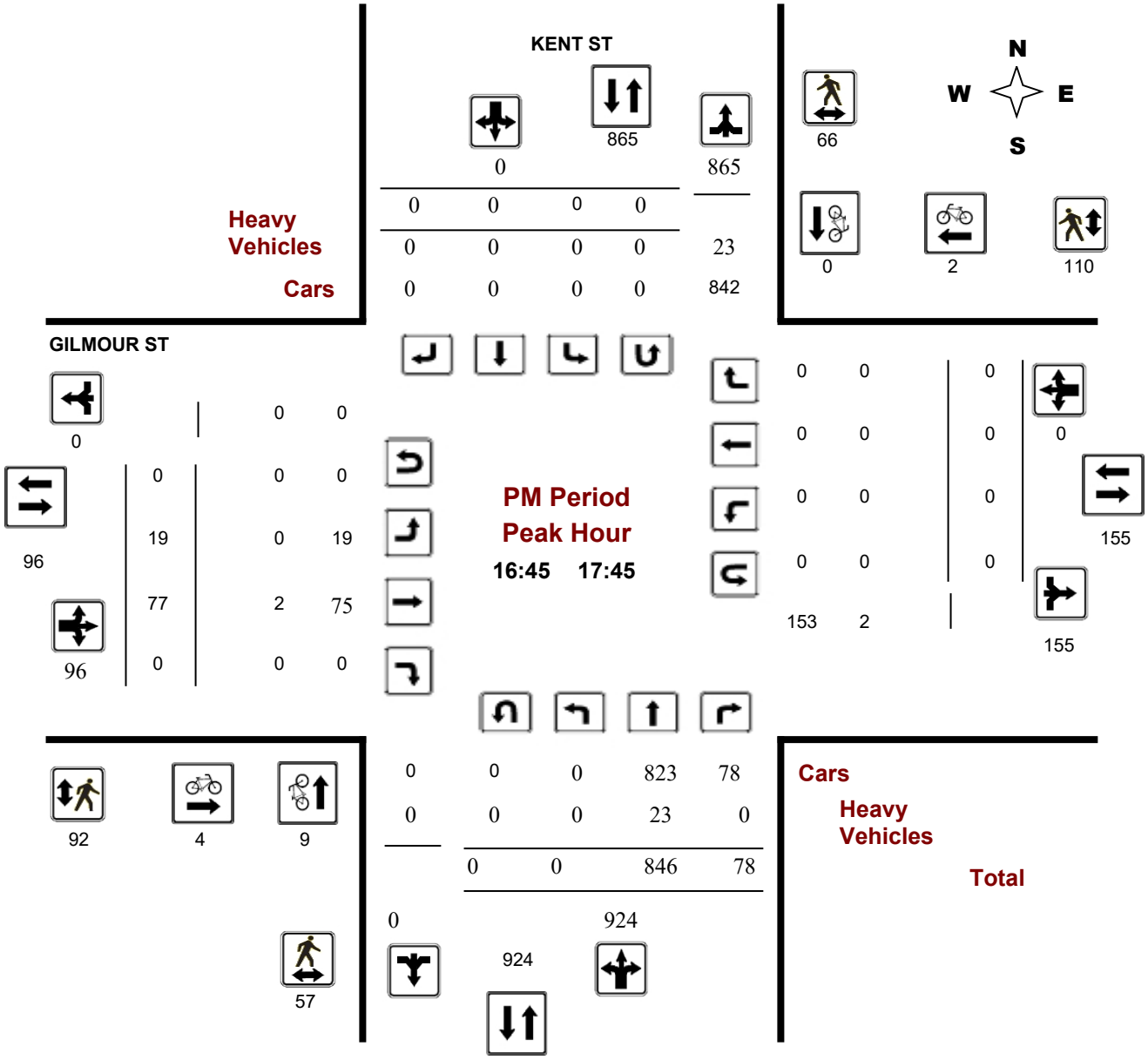
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, April 05, 2017

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

.90

	KENT ST								GILMOUR ST									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	0	1629	91	**1720**	0	0	0	**0**	**1720**	14	41	0	**55**	0	0	0	**0**	**55**	**1775**
08:00 09:00	0	1767	156	**1923**	0	0	0	**0**	**1923**	19	98	0	**117**	0	0	0	**0**	**117**	**2040**
09:00 10:00	0	1075	123	**1198**	0	0	0	**0**	**1198**	30	46	0	**76**	0	0	1	**1**	**77**	**1275**
11:30 12:30	0	735	70	**805**	0	0	0	**0**	**805**	23	36	0	**59**	0	0	0	**0**	**59**	**864**
12:30 13:30	0	638	86	**724**	0	0	0	**0**	**724**	18	60	0	**78**	0	0	0	**0**	**78**	**802**
15:00 16:00	0	777	83	**860**	0	0	0	**0**	**860**	24	45	0	**69**	0	0	0	**0**	**69**	**929**
16:00 17:00	0	792	86	**878**	0	0	0	**0**	**878**	15	60	0	**75**	0	0	0	**0**	**75**	**953**
17:00 18:00	0	850	69	**919**	0	0	0	**0**	**919**	18	73	0	**91**	0	0	0	**0**	**91**	**1010**
Sub Total	0	8263	764	**9027**	0	0	0	**0**	**9027**	161	459	0	**620**	0	0	1	**1**	**621**	**9648**
U Turns	0			**0**	0			**0**	**0**	**0**			**0**	0			**0**	**0**	**0**
Total	0	8263	764	**9027**	0	0	0	**0**	**9027**	161	459	0	**620**	0	0	1	**1**	**621**	**9648**
EQ 12Hr	0	11486	1062	**12548**	0	0	0	**0**	**12548**	224	638	0	**862**	0	0	1	**1**	**863**	**13411**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																	**1.39**		
AVG 12Hr	0	10337	956	**11293**	0	0	0	**0**	**11293**	202	574	0	**776**	0	0	1	**1**	**777**	**12070**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																	**.90**		
AVG 24Hr	0	13541	1252	**14793**	0	0	0	**0**	**14793**	265	752	0	**1017**	0	0	1	**1**	**1018**	**15811**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																	**1.31**		

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		KENT ST									GILMOUR ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	361	16	377	0	0	0	0	**377**	2	8	0	10	0	0	0	0	**10**	**387**
07:15	07:30	0	394	21	415	0	0	0	0	**415**	3	10	0	13	0	0	0	0	**13**	**428**
07:30	07:45	0	409	23	432	0	0	0	0	**432**	3	10	0	13	0	0	0	0	**13**	**445**
07:45	08:00	0	465	31	496	0	0	0	0	**496**	6	13	0	19	0	0	0	0	**19**	**515**
08:00	08:15	0	430	43	473	0	0	0	0	**473**	7	30	0	37	0	0	0	0	**37**	**510**
08:15	08:30	0	480	43	523	0	0	0	0	**523**	3	19	0	22	0	0	0	0	**22**	**545**
08:30	08:45	0	437	37	474	0	0	0	0	**474**	1	23	0	24	0	0	0	0	**24**	**498**
08:45	09:00	0	420	33	453	0	0	0	0	**453**	8	26	0	34	0	0	0	0	**34**	**487**
09:00	09:15	0	351	26	377	0	0	0	0	**377**	7	17	0	24	0	0	0	0	**24**	**401**
09:15	09:30	0	276	30	306	0	0	0	0	**306**	8	12	0	20	0	0	0	0	**20**	**326**
09:30	09:45	0	248	30	278	0	0	0	0	**278**	8	12	0	20	0	0	1	1	**21**	**299**
09:45	10:00	0	200	37	237	0	0	0	0	**237**	7	5	0	12	0	0	0	0	**12**	**249**
11:30	11:45	0	179	23	202	0	0	0	0	**202**	4	5	0	9	0	0	0	0	**9**	**211**
11:45	12:00	0	220	21	241	0	0	0	0	**241**	6	14	0	20	0	0	0	0	**20**	**261**
12:00	12:15	0	165	16	181	0	0	0	0	**181**	5	9	0	14	0	0	0	0	**14**	**195**
12:15	12:30	0	171	10	181	0	0	0	0	**181**	8	8	0	16	0	0	0	0	**16**	**197**
12:30	12:45	0	169	12	181	0	0	0	0	**181**	4	13	0	17	0	0	0	0	**17**	**198**
12:45	13:00	0	154	26	180	0	0	0	0	**180**	4	12	0	16	0	0	0	0	**16**	**196**
13:00	13:15	0	161	25	186	0	0	0	0	**186**	6	14	0	20	0	0	0	0	**20**	**206**
13:15	13:30	0	154	23	177	0	0	0	0	**177**	4	21	0	25	0	0	0	0	**25**	**202**
15:00	15:15	0	178	17	195	0	0	0	0	**195**	7	13	0	20	0	0	0	0	**20**	**215**
15:15	15:30	0	205	23	228	0	0	0	0	**228**	5	10	0	15	0	0	0	0	**15**	**243**
15:30	15:45	0	206	22	228	0	0	0	0	**228**	4	13	0	17	0	0	0	0	**17**	**245**
15:45	16:00	0	188	21	209	0	0	0	0	**209**	8	9	0	17	0	0	0	0	**17**	**226**
16:00	16:15	0	179	24	203	0	0	0	0	**203**	5	13	0	18	0	0	0	0	**18**	**221**
16:15	16:30	0	191	18	209	0	0	0	0	**209**	4	17	0	21	0	0	0	0	**21**	**230**
16:30	16:45	0	215	19	234	0	0	0	0	**234**	2	14	0	16	0	0	0	0	**16**	**250**
16:45	17:00	0	207	25	232	0	0	0	0	**232**	4	16	0	20	0	0	0	0	**20**	**252**
17:00	17:15	0	200	13	213	0	0	0	0	**213**	6	21	0	27	0	0	0	0	**27**	**240**
17:15	17:30	0	226	26	252	0	0	0	0	**252**	7	18	0	25	0	0	0	0	**25**	**277**
17:30	17:45	0	213	14	227	0	0	0	0	**227**	2	22	0	24	0	0	0	0	**24**	**251**
17:45	18:00	0	211	16	227	0	0	0	0	**227**	3	12	0	15	0	0	0	0	**15**	**242**
Total:		0	8263	764	9027	0	0	0	0	**9027**	161	459	0	620	0	0	1	1	**9027**	**9,648**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		KENT ST			GILMOUR ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	3	0	**3**	0	0	**0**	**3**
07:15	07:30	2	0	**2**	1	0	**1**	**3**
07:30	07:45	0	0	**0**	1	0	**1**	**1**
07:45	08:00	2	0	**2**	1	0	**1**	**3**
08:00	08:15	2	0	**2**	1	0	**1**	**3**
08:15	08:30	3	0	**3**	1	0	**1**	**4**
08:30	08:45	5	0	**5**	0	0	**0**	**5**
08:45	09:00	3	0	**3**	0	0	**0**	**3**
09:00	09:15	1	0	**1**	2	0	**2**	**3**
09:15	09:30	0	0	**0**	1	0	**1**	**1**
09:30	09:45	0	0	**0**	1	0	**1**	**1**
09:45	10:00	2	0	**2**	1	0	**1**	**3**
11:30	11:45	0	0	**0**	0	0	**0**	**0**
11:45	12:00	0	0	**0**	0	0	**0**	**0**
12:00	12:15	0	0	**0**	1	0	**1**	**1**
12:15	12:30	0	0	**0**	0	0	**0**	**0**
12:30	12:45	0	0	**0**	0	0	**0**	**0**
12:45	13:00	2	0	**2**	1	0	**1**	**3**
13:00	13:15	0	0	**0**	1	0	**1**	**1**
13:15	13:30	1	0	**1**	1	0	**1**	**2**
15:00	15:15	1	0	**1**	0	0	**0**	**1**
15:15	15:30	3	0	**3**	2	0	**2**	**5**
15:30	15:45	1	0	**1**	1	0	**1**	**2**
15:45	16:00	0	0	**0**	1	0	**1**	**1**
16:00	16:15	5	0	**5**	0	0	**0**	**5**
16:15	16:30	0	0	**0**	0	0	**0**	**0**
16:30	16:45	3	0	**3**	0	0	**0**	**3**
16:45	17:00	1	0	**1**	1	0	**1**	**2**
17:00	17:15	1	0	**1**	1	0	**1**	**2**
17:15	17:30	5	0	**5**	0	1	**1**	**6**
17:30	17:45	2	0	**2**	2	1	**3**	**5**
17:45	18:00	3	0	**3**	1	0	**1**	**4**
Total		51	0	**51**	23	2	**25**	**76**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

		KENT ST			GILMOUR ST			
Time Period		NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00	07:15	3	9	**12**	3	13	**16**	**28**
07:15	07:30	5	7	**12**	9	6	**15**	**27**
07:30	07:45	1	5	**6**	5	18	**23**	**29**
07:45	08:00	12	8	**20**	14	22	**36**	**56**
08:00	08:15	10	8	**18**	21	22	**43**	**61**
08:15	08:30	15	7	**22**	32	24	**56**	**78**
08:30	08:45	18	11	**29**	28	32	**60**	**89**
08:45	09:00	18	9	**27**	17	21	**38**	**65**
09:00	09:15	11	6	**17**	19	17	**36**	**53**
09:15	09:30	15	10	**25**	14	11	**25**	**50**
09:30	09:45	9	7	**16**	17	19	**36**	**52**
09:45	10:00	8	13	**21**	14	20	**34**	**55**
11:30	11:45	3	9	**12**	12	17	**29**	**41**
11:45	12:00	4	10	**14**	22	30	**52**	**66**
12:00	12:15	4	9	**13**	19	23	**42**	**55**
12:15	12:30	7	10	**17**	27	20	**47**	**64**
12:30	12:45	11	14	**25**	27	30	**57**	**82**
12:45	13:00	8	13	**21**	16	23	**39**	**60**
13:00	13:15	9	15	**24**	12	16	**28**	**52**
13:15	13:30	9	12	**21**	8	17	**25**	**46**
15:00	15:15	8	9	**17**	16	20	**36**	**53**
15:15	15:30	13	20	**33**	18	18	**36**	**69**
15:30	15:45	13	13	**26**	25	24	**49**	**75**
15:45	16:00	9	17	**26**	13	31	**44**	**70**
16:00	16:15	6	11	**17**	14	22	**36**	**53**
16:15	16:30	8	16	**24**	17	28	**45**	**69**
16:30	16:45	11	17	**28**	28	31	**59**	**87**
16:45	17:00	15	21	**36**	23	45	**68**	**104**
17:00	17:15	15	17	**32**	18	29	**47**	**79**
17:15	17:30	20	11	**31**	28	19	**47**	**78**
17:30	17:45	7	17	**24**	23	17	**40**	**64**
17:45	18:00	8	6	**14**	15	14	**29**	**43**
Total	.....	313	367	**680**	574	699	**1273**	**1953**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		KENT ST									GILMOUR ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	3	1	**4**	0	0	0	**0**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
07:15	07:30	0	7	1	**8**	0	0	0	**0**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
07:30	07:45	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
07:45	08:00	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
08:00	08:15	0	5	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
08:15	08:30	0	4	1	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
08:30	08:45	0	7	1	**8**	0	0	0	**0**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
08:45	09:00	0	8	0	**8**	0	0	0	**0**	**8**	0	1	0	**1**	0	0	0	**0**	**1**	**9**
09:00	09:15	0	8	1	**9**	0	0	0	**0**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
09:15	09:30	0	5	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
09:30	09:45	0	10	3	**13**	0	0	0	**0**	**13**	0	0	0	**0**	0	0	0	**0**	**0**	**13**
09:45	10:00	0	5	1	**6**	0	0	0	**0**	**6**	1	0	0	**1**	0	0	0	**0**	**1**	**7**
11:30	11:45	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
11:45	12:00	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
12:00	12:15	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
12:15	12:30	0	2	0	**2**	0	0	0	**0**	**2**	1	0	0	**1**	0	0	0	**0**	**1**	**3**
12:30	12:45	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
12:45	13:00	0	4	0	**4**	0	0	0	**0**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
13:00	13:15	0	5	0	**5**	0	0	0	**0**	**5**	0	1	0	**1**	0	0	0	**0**	**1**	**6**
13:15	13:30	0	5	1	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
15:00	15:15	0	6	2	**8**	0	0	0	**0**	**8**	1	1	0	**2**	0	0	0	**0**	**2**	**10**
15:15	15:30	0	12	0	**12**	0	0	0	**0**	**12**	0	1	0	**1**	0	0	0	**0**	**1**	**13**
15:30	15:45	0	12	0	**12**	0	0	0	**0**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**12**
15:45	16:00	0	3	2	**5**	0	0	0	**0**	**5**	1	1	0	**2**	0	0	0	**0**	**2**	**7**
16:00	16:15	0	5	2	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
16:15	16:30	0	11	0	**11**	0	0	0	**0**	**11**	0	1	0	**1**	0	0	0	**0**	**1**	**12**
16:30	16:45	0	6	1	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
16:45	17:00	0	8	0	**8**	0	0	0	**0**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
17:00	17:15	0	5	0	**5**	0	0	0	**0**	**5**	0	1	0	**1**	0	0	0	**0**	**1**	**6**
17:15	17:30	0	5	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
17:30	17:45	0	5	0	**5**	0	0	0	**0**	**5**	0	1	0	**1**	0	0	0	**0**	**1**	**6**
17:45	18:00	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
Total:	None	0	189	17	**206**	0	0	0	**0**	**206**	4	8	0	**12**	0	0	0	**0**	**12**	**218**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GILMOUR ST @ KENT ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36849

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		KENT ST Northbound U-Turn Total	KENT ST Southbound U-Turn Total	GILMOUR ST Eastbound U-Turn Total	GILMOUR ST Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	**0**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	0	0	**0**
09:00	09:15	0	0	0	0	**0**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	0	**0**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	0	0	0	0	**0**
12:15	12:30	0	0	0	0	**0**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	0	0	0	0	**0**
13:15	13:30	0	0	0	0	**0**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	0	**0**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	0	0	**0**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	0	**0**
17:45	18:00	0	0	0	0	**0**
Total		0	0	0	0	**0**

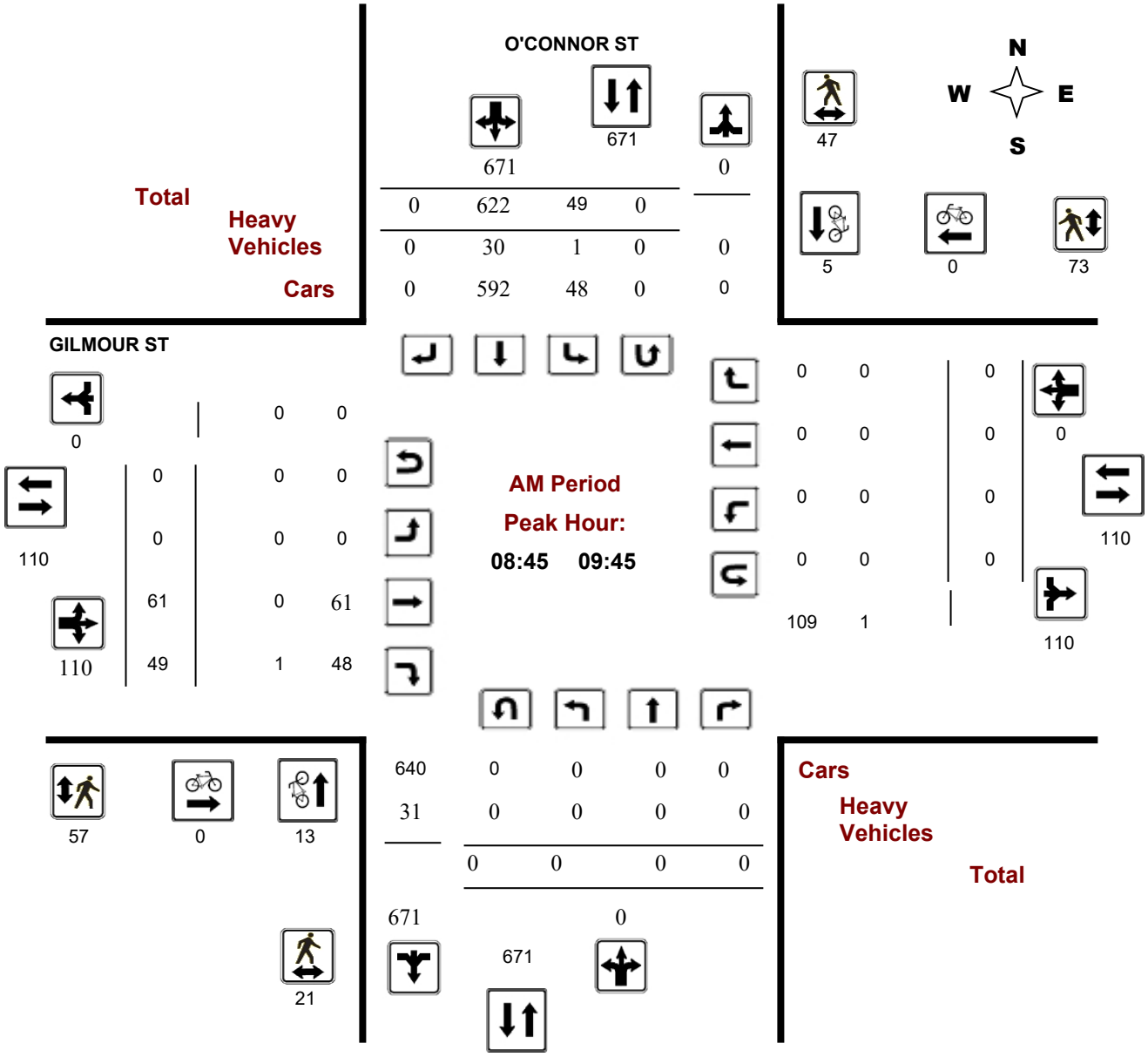
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017 **WO No:** 36785

Start Time: 07:00 **Device:** Miovision



Comments

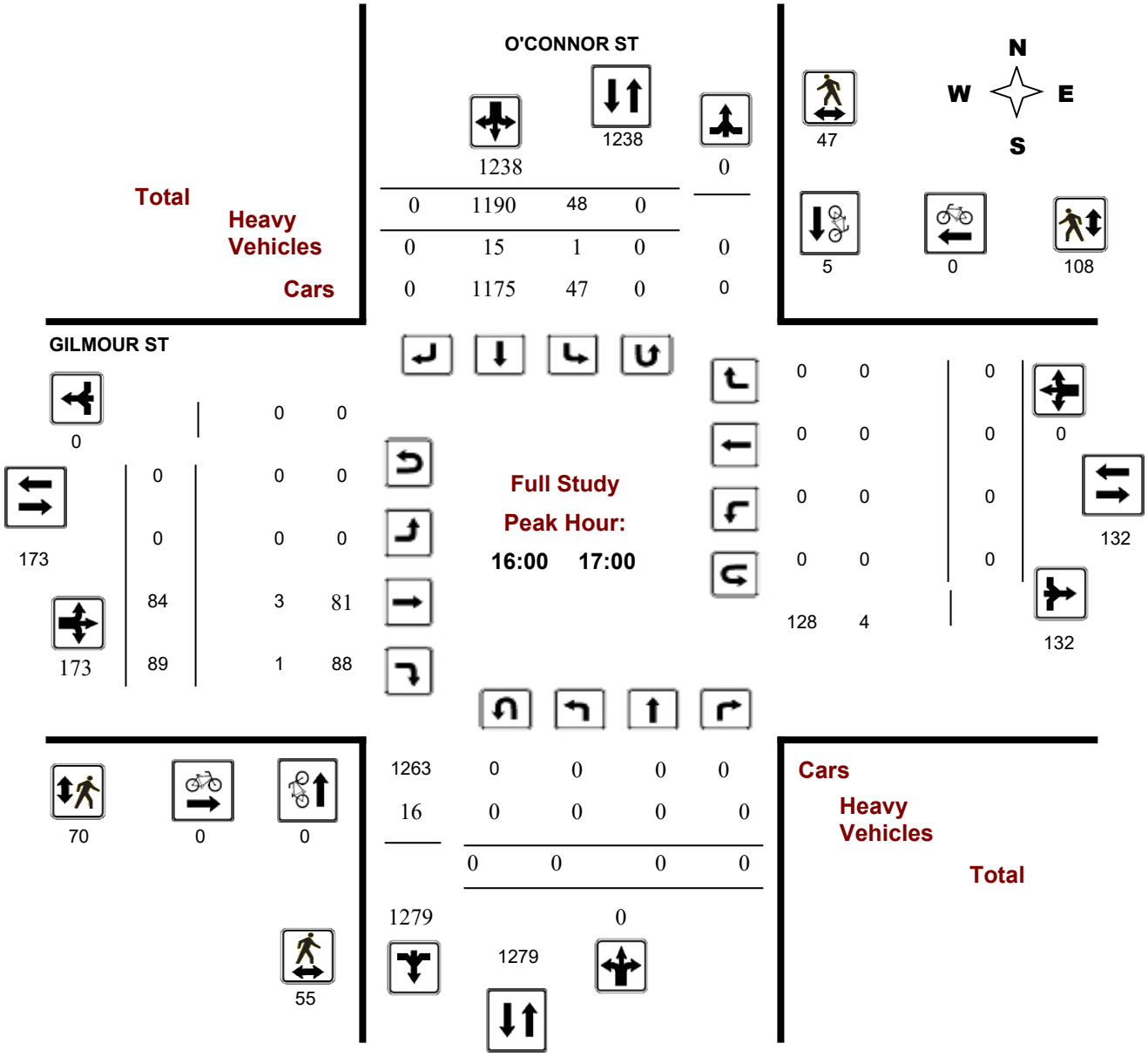
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017
Start Time: 07:00

WO No: 36785
Device: Miovision



Comments

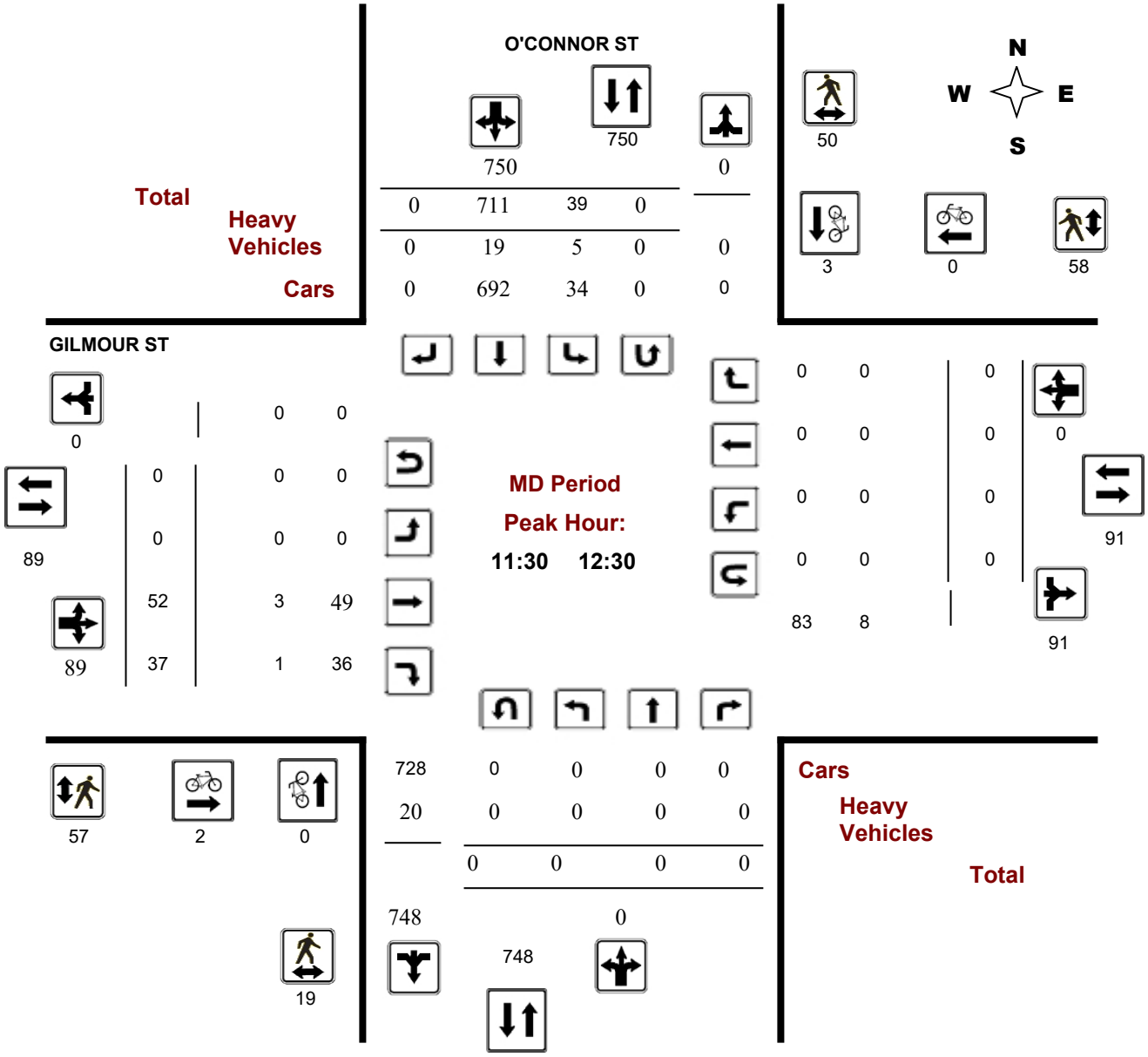
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017
Start Time: 07:00

WO No: 36785
Device: Miovision



Comments

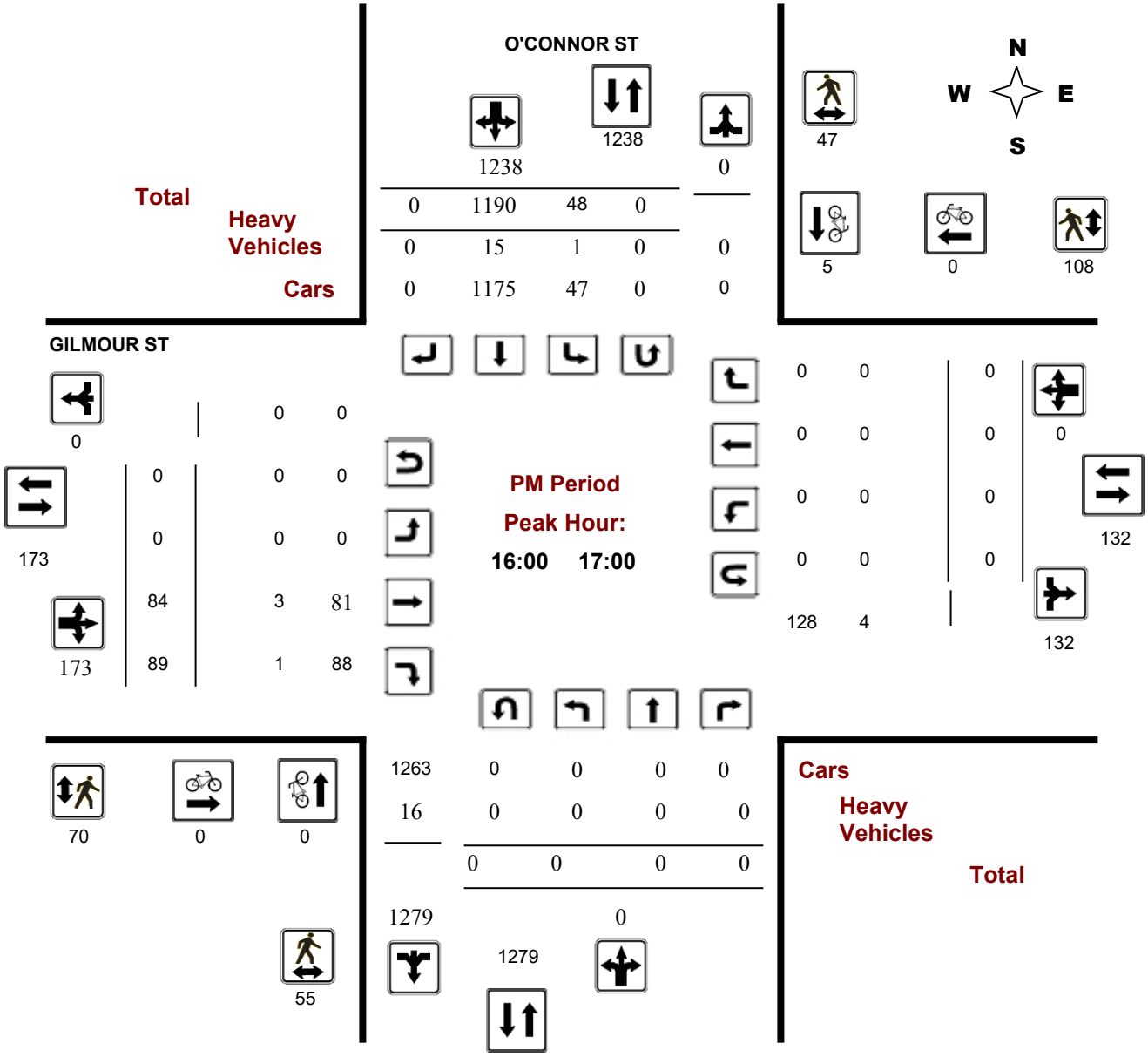
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017
Start Time: 07:00

WO No: 36785
Device: Miovision



Comments

Transportation Services - Traffic Services

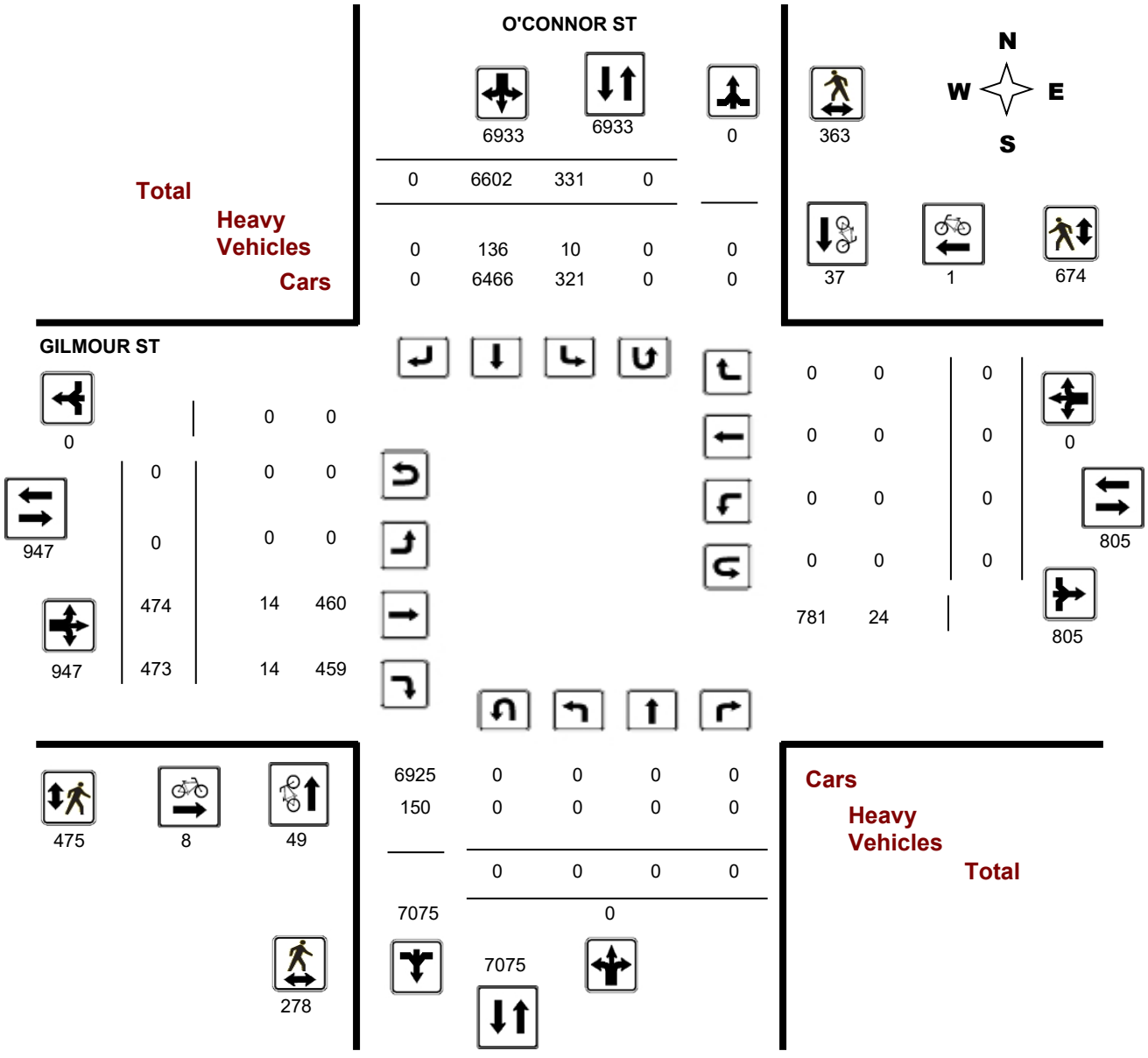
Turning Movement Count - Full Study Diagram

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017

WO#: 36785

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36785

Turning Movement Count - Full Study Summary Report

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor 1.00

Full Study

	O'CONNOR ST									GILMOUR ST									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	0	0	0	**0**	39	555	0	**594**	**594**	0	39	26	**65**	0	0	0	**0**	**65**	**659**
08:00 09:00	0	0	0	**0**	45	601	0	**646**	**646**	0	79	43	**122**	0	0	0	**0**	**122**	**768**
09:00 10:00	0	0	0	**0**	51	619	0	**670**	**670**	0	52	41	**93**	0	0	0	**0**	**93**	**763**
11:30 12:30	0	0	0	**0**	39	711	0	**750**	**750**	0	52	37	**89**	0	0	0	**0**	**89**	**839**
12:30 13:30	0	0	0	**0**	25	615	0	**640**	**640**	0	41	50	**91**	0	0	0	**0**	**91**	**731**
15:00 16:00	0	0	0	**0**	38	1192	0	**1230**	**1230**	0	54	96	**150**	0	0	0	**0**	**150**	**1380**
16:00 17:00	0	0	0	**0**	48	1190	0	**1238**	**1238**	0	84	89	**173**	0	0	0	**0**	**173**	**1411**
17:00 18:00	0	0	0	**0**	46	1119	0	**1165**	**1165**	0	73	91	**164**	0	0	0	**0**	**164**	**1329**
Sub Total	0	0	0	**0**	331	6602	0	**6933**	**6933**	0	474	473	**947**	0	0	0	**0**	**947**	**7880**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	0	0	**0**	331	6602	0	**6933**	**6933**	0	474	473	**947**	0	0	0	**0**	**947**	**7880**
EQ 12Hr	0	0	0	**0**	460	9177	0	**9637**	**9637**	0	659	657	**1316**	0	0	0	**0**	**1316**	**10953**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	0	0	0	**0**	460	9177	0	**9637**	**9637**	0	659	657	**1316**	0	0	0	**0**	**1316**	**10953**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.00**						
AVG 24Hr	0	0	0	**0**	603	12022	0	**12624**	**12624**	0	863	861	**1724**	0	0	0	**0**	**1724**	**14348**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

Comments:

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

W.O. 36785

Turning Movement Count - 15 Minute Summary Report

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

		O'CONNOR ST									GILMOUR ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	0	**0**	8	103	0	**111**	**111**	0	1	2	**3**	0	0	0	**0**	**3**	**114**
07:15	07:30	0	0	0	**0**	12	129	0	**141**	**141**	0	9	3	**12**	0	0	0	**0**	**12**	**153**
07:30	07:45	0	0	0	**0**	10	162	0	**172**	**172**	0	15	12	**27**	0	0	0	**0**	**27**	**199**
07:45	08:00	0	0	0	**0**	9	161	0	**170**	**170**	0	14	9	**23**	0	0	0	**0**	**23**	**193**
08:00	08:15	0	0	0	**0**	14	156	0	**170**	**170**	0	24	9	**33**	0	0	0	**0**	**33**	**203**
08:15	08:30	0	0	0	**0**	13	127	0	**140**	**140**	0	19	10	**29**	0	0	0	**0**	**29**	**169**
08:30	08:45	0	0	0	**0**	7	159	0	**166**	**166**	0	14	7	**21**	0	0	0	**0**	**21**	**187**
08:45	09:00	0	0	0	**0**	11	159	0	**170**	**170**	0	22	17	**39**	0	0	0	**0**	**39**	**209**
09:00	09:15	0	0	0	**0**	13	158	0	**171**	**171**	0	15	9	**24**	0	0	0	**0**	**24**	**195**
09:15	09:30	0	0	0	**0**	11	137	0	**148**	**148**	0	20	11	**31**	0	0	0	**0**	**31**	**179**
09:30	09:45	0	0	0	**0**	14	168	0	**182**	**182**	0	4	12	**16**	0	0	0	**0**	**16**	**198**
09:45	10:00	0	0	0	**0**	13	156	0	**169**	**169**	0	13	9	**22**	0	0	0	**0**	**22**	**191**
11:30	11:45	0	0	0	**0**	6	184	0	**190**	**190**	0	13	5	**18**	0	0	0	**0**	**18**	**208**
11:45	12:00	0	0	0	**0**	17	178	0	**195**	**195**	0	9	11	**20**	0	0	0	**0**	**20**	**215**
12:00	12:15	0	0	0	**0**	8	179	0	**187**	**187**	0	19	9	**28**	0	0	0	**0**	**28**	**215**
12:15	12:30	0	0	0	**0**	8	170	0	**178**	**178**	0	11	12	**23**	0	0	0	**0**	**23**	**201**
12:30	12:45	0	0	0	**0**	7	152	0	**159**	**159**	0	11	15	**26**	0	0	0	**0**	**26**	**185**
12:45	13:00	0	0	0	**0**	10	160	0	**170**	**170**	0	11	15	**26**	0	0	0	**0**	**26**	**196**
13:00	13:15	0	0	0	**0**	3	154	0	**157**	**157**	0	7	9	**16**	0	0	0	**0**	**16**	**173**
13:15	13:30	0	0	0	**0**	5	149	0	**154**	**154**	0	12	11	**23**	0	0	0	**0**	**23**	**177**
15:00	15:15	0	0	0	**0**	5	335	0	**340**	**340**	0	19	30	**49**	0	0	0	**0**	**49**	**389**
15:15	15:30	0	0	0	**0**	14	288	0	**302**	**302**	0	14	20	**34**	0	0	0	**0**	**34**	**336**
15:30	15:45	0	0	0	**0**	7	277	0	**284**	**284**	0	10	23	**33**	0	0	0	**0**	**33**	**317**
15:45	16:00	0	0	0	**0**	12	292	0	**304**	**304**	0	11	23	**34**	0	0	0	**0**	**34**	**338**
16:00	16:15	0	0	0	**0**	16	298	0	**314**	**314**	0	22	29	**51**	0	0	0	**0**	**51**	**365**
16:15	16:30	0	0	0	**0**	13	305	0	**318**	**318**	0	18	22	**40**	0	0	0	**0**	**40**	**358**
16:30	16:45	0	0	0	**0**	7	291	0	**298**	**298**	0	19	14	**33**	0	0	0	**0**	**33**	**331**
16:45	17:00	0	0	0	**0**	12	296	0	**308**	**308**	0	25	24	**49**	0	0	0	**0**	**49**	**357**
17:00	17:15	0	0	0	**0**	16	303	0	**319**	**319**	0	21	24	**45**	0	0	0	**0**	**45**	**364**
17:15	17:30	0	0	0	**0**	11	288	0	**299**	**299**	0	28	23	**51**	0	0	0	**0**	**51**	**350**
17:30	17:45	0	0	0	**0**	13	285	0	**298**	**298**	0	13	23	**36**	0	0	0	**0**	**36**	**334**
17:45	18:00	0	0	0	**0**	6	243	0	**249**	**249**	0	11	21	**32**	0	0	0	**0**	**32**	**281**
TOTAL:		0	0	0	**0**	331	6602	0	**6933**	**6933**	0	474	473	**947**	0	0	0	**0**	**947**	**7880**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
36785

GILMOUR ST @ O'CONNOR ST

Count Date: Tuesday, March 21, 2017

Start Time: 07:00

	O'CONNOR ST			GILMOUR ST			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	5	0	**5**	1	0	**1**	**6**
08:00 09:00	26	1	**27**	2	0	**2**	**29**
09:00 10:00	8	5	**13**	0	0	**0**	**13**
11:30 12:30	0	3	**3**	2	0	**2**	**5**
12:30 13:30	3	0	**3**	1	1	**2**	**5**
15:00 16:00	5	2	**7**	0	0	**0**	**7**
16:00 17:00	0	5	**5**	0	0	**0**	**5**
17:00 18:00	2	21	**23**	2	0	**2**	**25**
Total	49	37	**86**	8	1	**9**	**95**

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

Transportation Services - Traffic Services

W.O. 36785

Turning Movement Count - Heavy Vehicle Report

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017

		O'CONNOR ST									GILMOUR ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	**N TOT**	LT	ST	RT	**S TOT**	**STR TOT**	LT	ST	RT	**E TOT**	LT	ST	RT	**W TOT**	**STR TOT**	**Grand Total**
07:00	08:00	0	0	0	**0**	0	18	0	**18**	**18**	0	0	0	**0**	0	0	0	**0**	**0**	**18**
08:00	09:00	0	0	0	**0**	1	22	0	**23**	**23**	0	2	1	**3**	0	0	0	**0**	**3**	**26**
09:00	10:00	0	0	0	**0**	0	29	0	**29**	**29**	0	0	1	**1**	0	0	0	**0**	**1**	**30**
11:30	12:30	0	0	0	**0**	5	19	0	**24**	**24**	0	3	1	**4**	0	0	0	**0**	**4**	**28**
12:30	13:30	0	0	0	**0**	2	16	0	**18**	**18**	0	4	3	**7**	0	0	0	**0**	**7**	**25**
15:00	16:00	0	0	0	**0**	0	8	0	**8**	**8**	0	1	3	**4**	0	0	0	**0**	**4**	**12**
16:00	17:00	0	0	0	**0**	1	15	0	**16**	**16**	0	3	1	**4**	0	0	0	**0**	**4**	**20**
17:00	18:00	0	0	0	**0**	1	9	0	**10**	**10**	0	1	4	**5**	0	0	0	**0**	**5**	**15**
Sub Total		0	0	0	**0**	10	136	0	**146**	**146**	0	14	14	**28**	0	0	0	**0**	**28**	**174**
U-Turns (Heavy Vehicles)					**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total		0	0	0	**0**	10	136	0	**146**	**146**	0	14	14	**28**	0	0	0	**0**	**28**	**174**

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

Transportation Services - Traffic Services

Work Order
36785

Turning Movement Count - Pedestrian Volume Report

GILMOUR ST @ O'CONNOR ST

Count Date: Tuesday, March 21, 2017 **Start Time:** 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	3	2	**5**	9	7	**16**	**21**
07:15 07:30	3	2	**5**	9	12	**21**	**26**
07:30 07:45	6	8	**14**	9	22	**31**	**45**
07:45 08:00	4	10	**14**	15	16	**31**	**45**
07:00 08:00	16	22	**38**	42	57	**99**	**137**
08:00 08:15	18	12	**30**	16	17	**33**	**63**
08:15 08:30	4	18	**22**	29	33	**62**	**84**
08:30 08:45	6	16	**22**	31	37	**68**	**90**
08:45 09:00	8	18	**26**	19	30	**49**	**75**
08:00 09:00	36	64	**100**	95	117	**212**	**312**
09:00 09:15	5	8	**13**	16	18	**34**	**47**
09:15 09:30	2	8	**10**	13	15	**28**	**38**
09:30 09:45	6	13	**19**	9	10	**19**	**38**
09:45 10:00	2	6	**8**	5	12	**17**	**25**
09:00 10:00	15	35	**50**	43	55	**98**	**148**
11:30 11:45	6	6	**12**	15	12	**27**	**39**
11:45 12:00	3	8	**11**	8	11	**19**	**30**
12:00 12:15	5	18	**23**	15	20	**35**	**58**
12:15 12:30	5	18	**23**	19	15	**34**	**57**
11:30 12:30	19	50	**69**	57	58	**115**	**184**
12:30 12:45	13	16	**29**	18	31	**49**	**78**
12:45 13:00	4	11	**15**	10	17	**27**	**42**
13:00 13:15	5	10	**15**	10	9	**19**	**34**
13:15 13:30	5	14	**19**	4	16	**20**	**39**
12:30 13:30	27	51	**78**	42	73	**115**	**193**
15:00 15:15	13	12	**25**	13	14	**27**	**52**
15:15 15:30	8	12	**20**	15	12	**27**	**47**
15:30 15:45	9	13	**22**	21	18	**39**	**61**
15:45 16:00	15	10	**25**	5	19	**24**	**49**
15:00 16:00	45	47	**92**	54	63	**117**	**209**
16:00 16:15	17	15	**32**	14	29	**43**	**75**
16:15 16:30	10	8	**18**	18	20	**38**	**56**
16:30 16:45	13	10	**23**	19	23	**42**	**65**
16:45 17:00	15	14	**29**	19	36	**55**	**84**
16:00 17:00	55	47	**102**	70	108	**178**	**280**
17:00 17:15	14	18	**32**	19	34	**53**	**85**
17:15 17:30	25	9	**34**	16	33	**49**	**83**
17:30 17:45	13	11	**24**	22	30	**52**	**76**
17:45 18:00	13	9	**22**	15	46	**61**	**83**
17:00 18:00	65	47	**112**	72	143	**215**	**327**
Total	278	363	**641**	475	674	**1149**	**1790**

Comment:

Transportation Services - Traffic Services

Work Order
36785

Turning Movement Count - 15 Min U-Turn Total Report

GILMOUR ST @ O'CONNOR ST

Survey Date: Tuesday, March 21, 2017

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	0	0

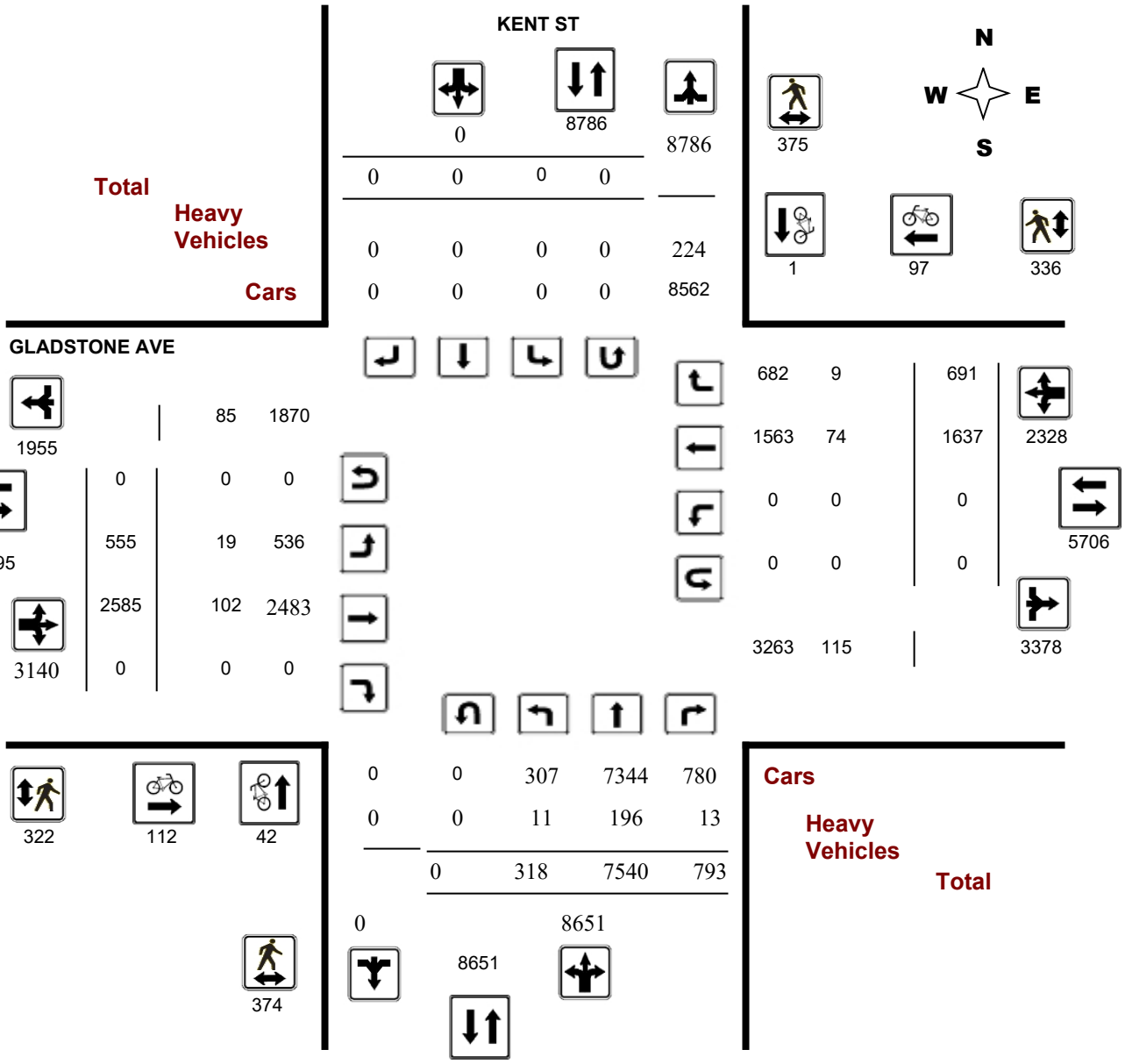
Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00
WO No: 36848
Device: Miovision

Full Study Diagram



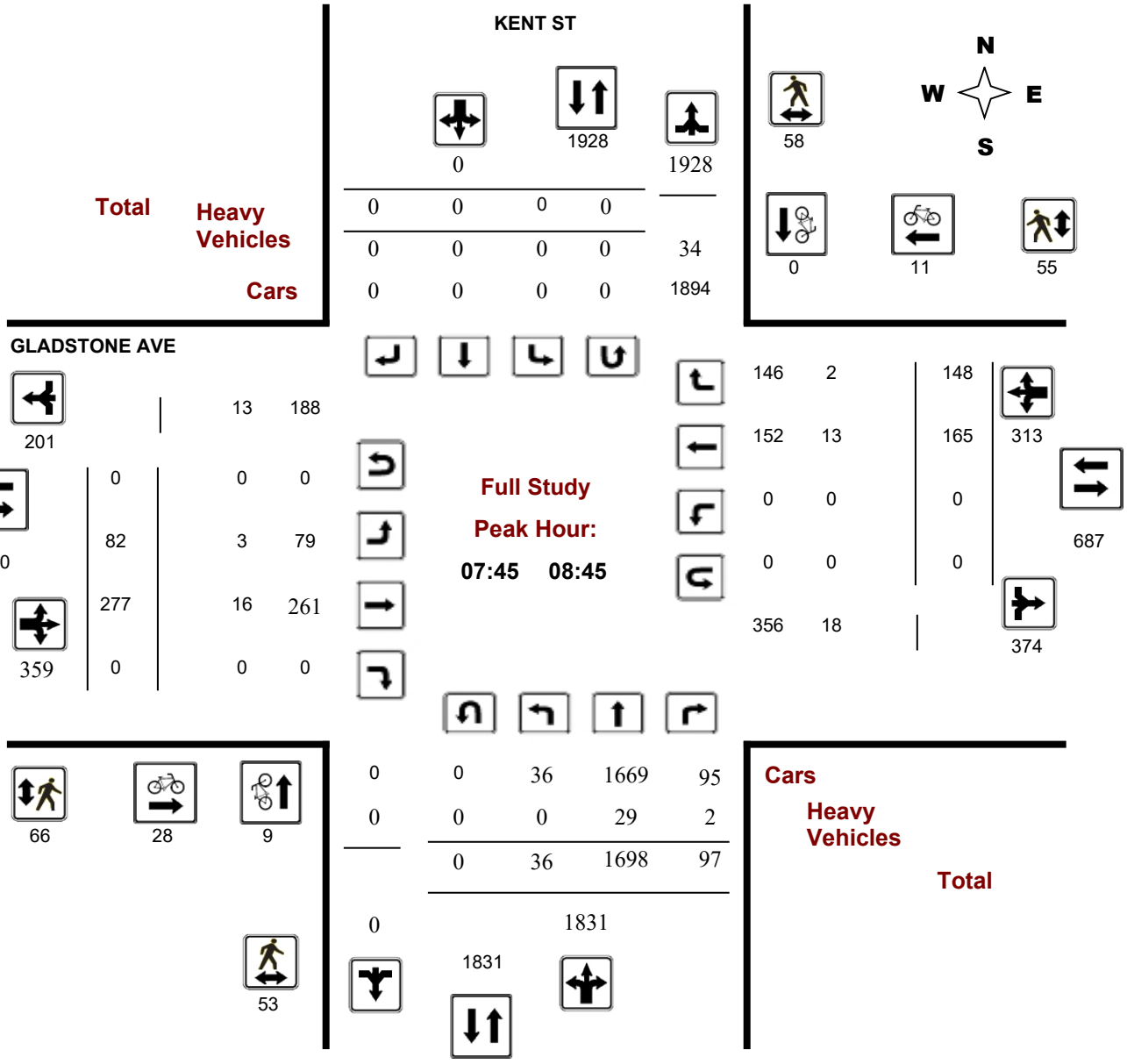
Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00
WO No: 36848
Device: Miovision

Full Study Peak Hour Diagram



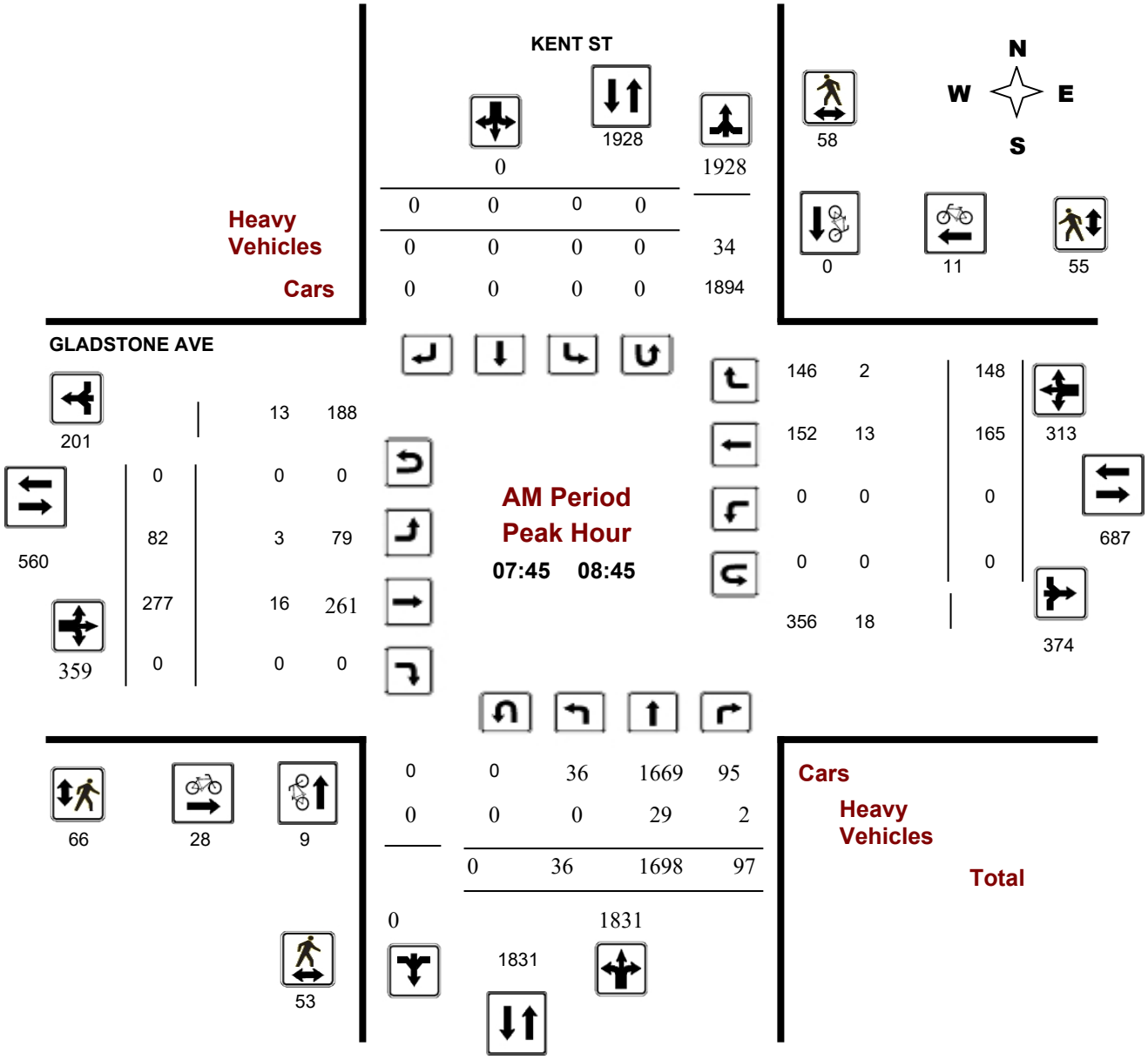
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36848
Device: Miovision



Comments

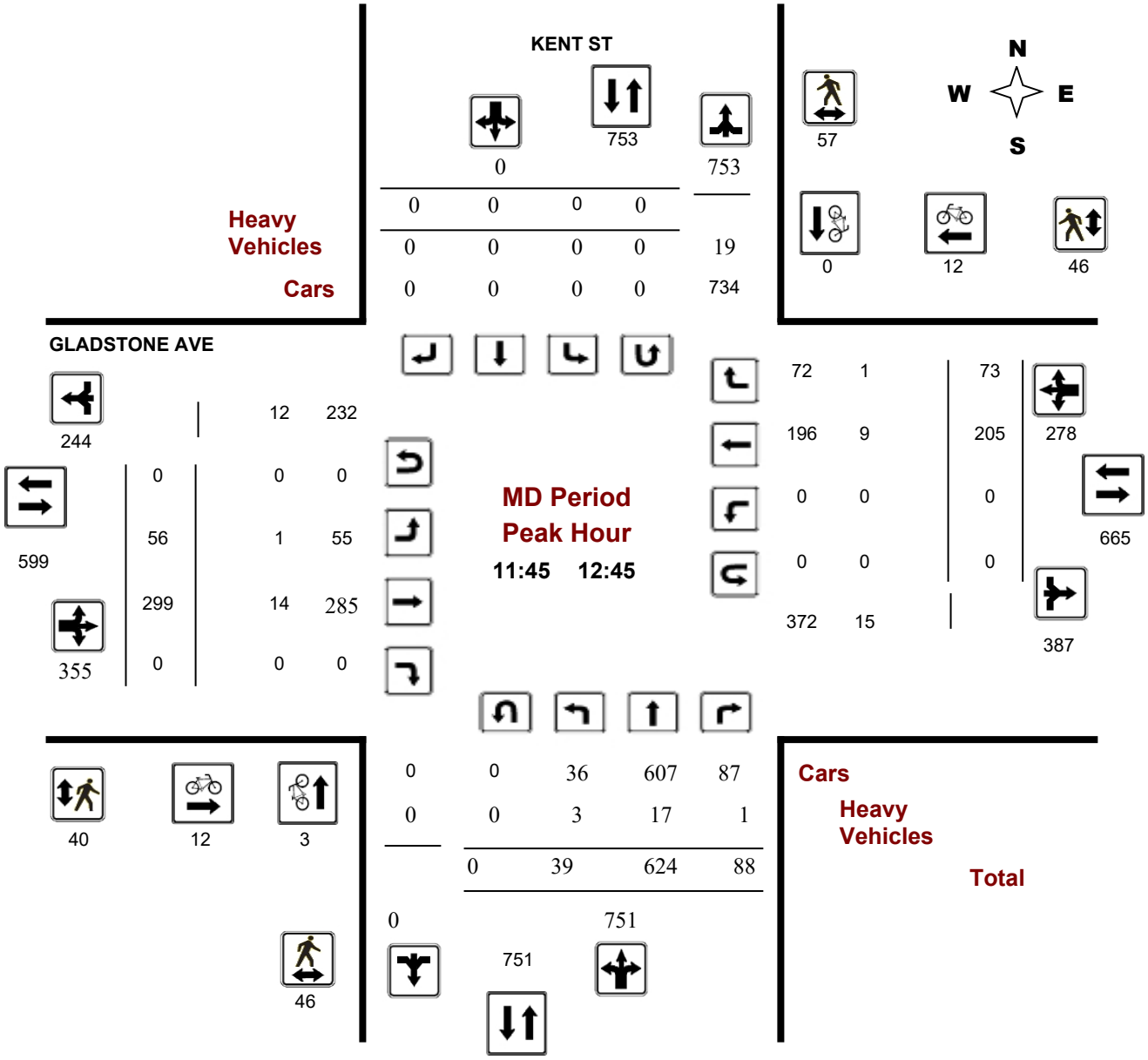
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36848
Device: Miovision



Comments

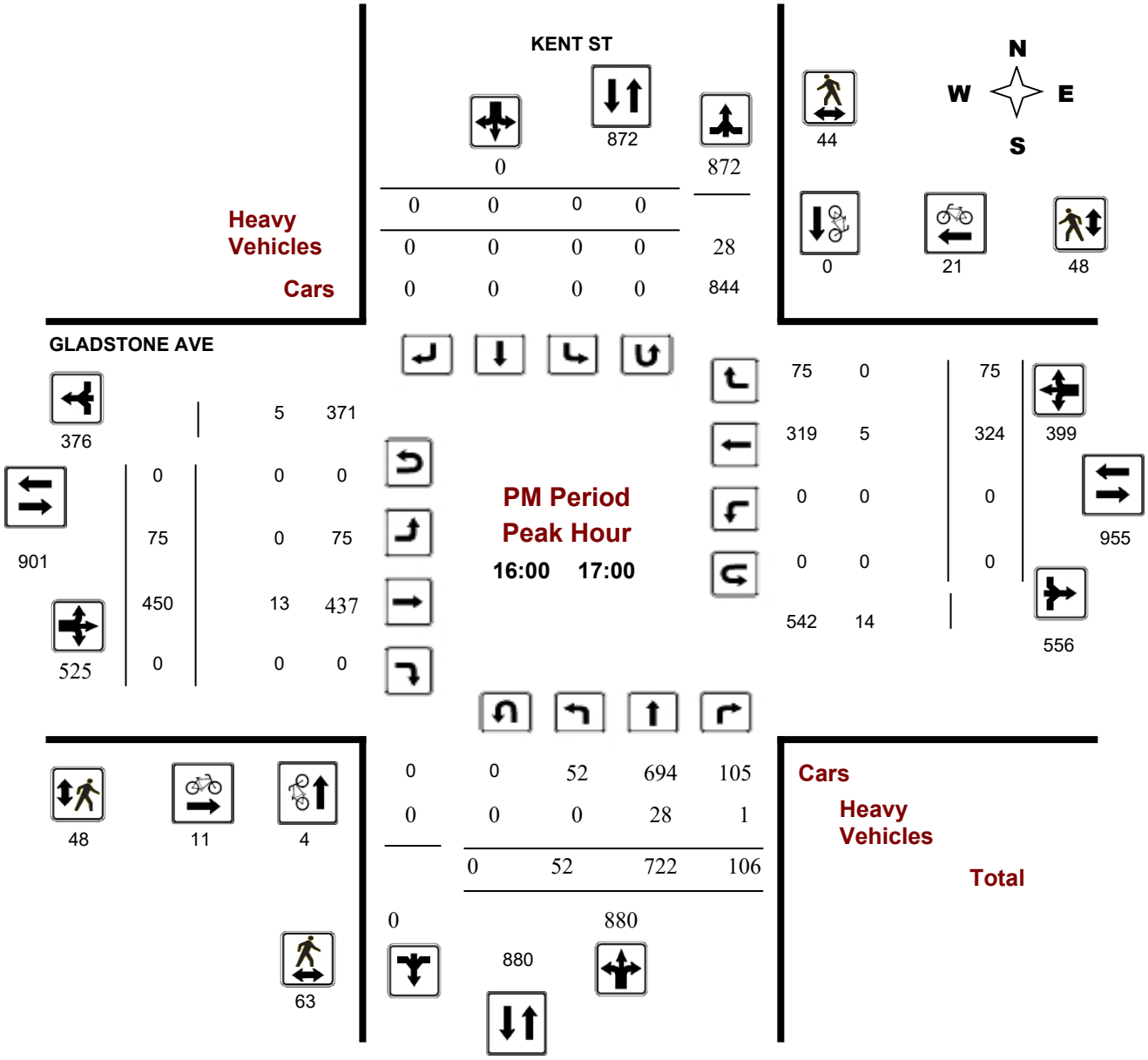
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017
Start Time: 07:00

WO No: 36848
Device: Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36848

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, April 25, 2017

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

.90

	KENT ST								GLADSTONE AVE									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	14	1536	96	**1646**	0	0	0	**0**	**1646**	61	214	0	**275**	0	100	104	**204**	**479**	**2125**
08:00 09:00	42	1679	98	**1819**	0	0	0	**0**	**1819**	82	291	0	**373**	0	172	130	**302**	**675**	**2494**
09:00 10:00	34	943	107	**1084**	0	0	0	**0**	**1084**	76	256	0	**332**	0	173	76	**249**	**581**	**1665**
11:30 12:30	36	633	80	**749**	0	0	0	**0**	**749**	55	288	0	**343**	0	182	77	**259**	**602**	**1351**
12:30 13:30	33	569	97	**699**	0	0	0	**0**	**699**	54	321	0	**375**	0	201	74	**275**	**650**	**1349**
15:00 16:00	47	667	108	**822**	0	0	0	**0**	**822**	66	394	0	**460**	0	237	72	**309**	**769**	**1591**
16:00 17:00	52	722	106	**880**	0	0	0	**0**	**880**	75	450	0	**525**	0	324	75	**399**	**924**	**1804**
17:00 18:00	60	791	101	**952**	0	0	0	**0**	**952**	86	371	0	**457**	0	248	83	**331**	**788**	**1740**
Sub Total	318	7540	793	**8651**	0	0	0	**0**	**8651**	555	2585	0	**3140**	0	1637	691	**2328**	**5468**	**14119**
U Turns	0			**0**	0			**0**	**0**	**0**			**0**	0			**0**	**0**	**0**
Total	318	7540	793	**8651**	0	0	0	**0**	**8651**	555	2585	0	**3140**	0	1637	691	**2328**	**5468**	**14119**
EQ 12Hr	442	10481	1102	**12025**	0	0	0	**0**	**12025**	771	3593	0	**4364**	0	2275	960	**3235**	**7599**	**19624**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	398	9433	992	**10823**	0	0	0	**0**	**10823**	694	3234	0	**3928**	0	2048	864	**2912**	**6840**	**17663**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	521	12357	1300	**14178**	0	0	0	**0**	**14178**	909	4237	0	**5146**	0	2683	1132	**3815**	**8961**	**23139**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36848

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		KENT ST									GLADSTONE AVE									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	1	319	24	344	0	0	0	0	**344**	17	51	0	68	0	20	10	30	**98**	**442**
07:15	07:30	2	382	24	408	0	0	0	0	**408**	13	40	0	53	0	18	21	39	**92**	**500**
07:30	07:45	6	402	25	433	0	0	0	0	**433**	15	64	0	79	0	22	31	53	**132**	**565**
07:45	08:00	5	433	23	461	0	0	0	0	**461**	16	59	0	75	0	40	42	82	**157**	**618**
08:00	08:15	8	428	33	469	0	0	0	0	**469**	22	79	0	101	0	31	42	73	**174**	**643**
08:15	08:30	7	435	19	461	0	0	0	0	**461**	22	70	0	92	0	50	28	78	**170**	**631**
08:30	08:45	16	402	22	440	0	0	0	0	**440**	22	69	0	91	0	44	36	80	**171**	**611**
08:45	09:00	11	414	24	449	0	0	0	0	**449**	16	73	0	89	0	47	24	71	**160**	**609**
09:00	09:15	6	319	28	353	0	0	0	0	**353**	17	66	0	83	0	51	31	82	**165**	**518**
09:15	09:30	14	243	26	283	0	0	0	0	**283**	27	66	0	93	0	33	17	50	**143**	**426**
09:30	09:45	4	177	29	210	0	0	0	0	**210**	15	61	0	76	0	41	15	56	**132**	**342**
09:45	10:00	10	204	24	238	0	0	0	0	**238**	17	63	0	80	0	48	13	61	**141**	**379**
11:30	11:45	6	158	12	176	0	0	0	0	**176**	14	67	0	81	0	33	18	51	**132**	**308**
11:45	12:00	8	167	28	203	0	0	0	0	**203**	17	82	0	99	0	55	25	80	**179**	**382**
12:00	12:15	14	153	25	192	0	0	0	0	**192**	13	65	0	78	0	44	19	63	**141**	**333**
12:15	12:30	8	155	15	178	0	0	0	0	**178**	11	74	0	85	0	50	15	65	**150**	**328**
12:30	12:45	9	149	20	178	0	0	0	0	**178**	15	78	0	93	0	56	14	70	**163**	**341**
12:45	13:00	6	153	19	178	0	0	0	0	**178**	12	66	0	78	0	47	22	69	**147**	**325**
13:00	13:15	15	141	32	188	0	0	0	0	**188**	16	96	0	112	0	48	19	67	**179**	**367**
13:15	13:30	3	126	26	155	0	0	0	0	**155**	11	81	0	92	0	50	19	69	**161**	**316**
15:00	15:15	11	154	15	180	0	0	0	0	**180**	20	85	0	105	0	59	19	78	**183**	**363**
15:15	15:30	14	157	28	199	0	0	0	0	**199**	18	102	0	120	0	56	21	77	**197**	**396**
15:30	15:45	9	167	21	197	0	0	0	0	**197**	16	107	0	123	0	65	14	79	**202**	**399**
15:45	16:00	13	189	44	246	0	0	0	0	**246**	12	100	0	112	0	57	18	75	**187**	**433**
16:00	16:15	14	172	23	209	0	0	0	0	**209**	14	118	0	132	0	86	25	111	**243**	**452**
16:15	16:30	9	195	28	232	0	0	0	0	**232**	24	111	0	135	0	71	19	90	**225**	**457**
16:30	16:45	16	167	18	201	0	0	0	0	**201**	19	116	0	135	0	89	18	107	**242**	**443**
16:45	17:00	13	188	37	238	0	0	0	0	**238**	18	105	0	123	0	78	13	91	**214**	**452**
17:00	17:15	19	176	29	224	0	0	0	0	**224**	20	99	0	119	0	69	17	86	**205**	**429**
17:15	17:30	14	201	27	242	0	0	0	0	**242**	26	109	0	135	0	53	25	78	**213**	**455**
17:30	17:45	15	215	26	256	0	0	0	0	**256**	25	93	0	118	0	69	21	90	**208**	**464**
17:45	18:00	12	199	19	230	0	0	0	0	**230**	15	70	0	85	0	57	20	77	**162**	**392**
Total:		318	7540	793	8651	0	0	0	0	**8651**	555	2585	0	3140	0	1637	691	2328	**8651**	**14,119**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36848

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		KENT ST			GLADSTONE AVE			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	1	0	**1**	2	3	**5**	**6**
07:15	07:30	1	0	**1**	3	2	**5**	**6**
07:30	07:45	0	0	**0**	4	5	**9**	**9**
07:45	08:00	3	0	**3**	6	2	**8**	**11**
08:00	08:15	2	0	**2**	9	3	**12**	**14**
08:15	08:30	4	0	**4**	6	1	**7**	**11**
08:30	08:45	0	0	**0**	7	5	**12**	**12**
08:45	09:00	7	0	**7**	7	4	**11**	**18**
09:00	09:15	0	0	**0**	7	1	**8**	**8**
09:15	09:30	7	0	**7**	1	2	**3**	**10**
09:30	09:45	1	0	**1**	2	1	**3**	**4**
09:45	10:00	0	0	**0**	3	2	**5**	**5**
11:30	11:45	0	0	**0**	3	3	**6**	**6**
11:45	12:00	1	0	**1**	1	4	**5**	**6**
12:00	12:15	0	0	**0**	6	2	**8**	**8**
12:15	12:30	1	0	**1**	2	2	**4**	**5**
12:30	12:45	1	0	**1**	3	4	**7**	**8**
12:45	13:00	3	0	**3**	2	7	**9**	**12**
13:00	13:15	1	0	**1**	3	1	**4**	**5**
13:15	13:30	3	0	**3**	0	1	**1**	**4**
15:00	15:15	0	0	**0**	4	1	**5**	**5**
15:15	15:30	0	1	**1**	1	0	**1**	**2**
15:30	15:45	0	0	**0**	3	2	**5**	**5**
15:45	16:00	0	0	**0**	0	2	**2**	**2**
16:00	16:15	0	0	**0**	4	2	**6**	**6**
16:15	16:30	3	0	**3**	1	7	**8**	**11**
16:30	16:45	0	0	**0**	2	7	**9**	**9**
16:45	17:00	1	0	**1**	4	5	**9**	**10**
17:00	17:15	0	0	**0**	6	5	**11**	**11**
17:15	17:30	1	0	**1**	4	7	**11**	**12**
17:30	17:45	0	0	**0**	3	3	**6**	**6**
17:45	18:00	1	0	**1**	3	1	**4**	**5**
Total		42	1	**43**	112	97	**209**	**252**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36848

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	KENT ST			GLADSTONE AVE			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	2	4	**6**	3	4	**7**	**13**
07:15 07:30	3	9	**12**	9	5	**14**	**26**
07:30 07:45	8	5	**13**	16	5	**21**	**34**
07:45 08:00	9	8	**17**	13	8	**21**	**38**
08:00 08:15	10	11	**21**	18	12	**30**	**51**
08:15 08:30	17	24	**41**	21	17	**38**	**79**
08:30 08:45	17	15	**32**	14	18	**32**	**64**
08:45 09:00	12	10	**22**	13	10	**23**	**45**
09:00 09:15	6	11	**17**	7	14	**21**	**38**
09:15 09:30	6	6	**12**	8	6	**14**	**26**
09:30 09:45	6	13	**19**	4	4	**8**	**27**
09:45 10:00	6	15	**21**	8	7	**15**	**36**
11:30 11:45	9	6	**15**	11	5	**16**	**31**
11:45 12:00	5	13	**18**	4	8	**12**	**30**
12:00 12:15	13	16	**29**	8	12	**20**	**49**
12:15 12:30	12	13	**25**	14	17	**31**	**56**
12:30 12:45	16	15	**31**	14	9	**23**	**54**
12:45 13:00	14	10	**24**	3	9	**12**	**36**
13:00 13:15	15	16	**31**	4	13	**17**	**48**
13:15 13:30	12	16	**28**	6	8	**14**	**42**
15:00 15:15	10	14	**24**	5	12	**17**	**41**
15:15 15:30	12	6	**18**	17	15	**32**	**50**
15:30 15:45	13	11	**24**	2	16	**18**	**42**
15:45 16:00	12	9	**21**	5	11	**16**	**37**
16:00 16:15	12	11	**23**	9	10	**19**	**42**
16:15 16:30	17	12	**29**	17	14	**31**	**60**
16:30 16:45	18	10	**28**	9	12	**21**	**49**
16:45 17:00	16	11	**27**	13	12	**25**	**52**
17:00 17:15	23	13	**36**	13	13	**26**	**62**
17:15 17:30	8	17	**25**	13	14	**27**	**52**
17:30 17:45	20	12	**32**	9	10	**19**	**51**
17:45 18:00	15	13	**28**	12	6	**18**	**46**
Total	374	375	**749**	322	336	**658**	**1407**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36848

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		KENT ST									GLADSTONE AVE									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	5	0	**5**	0	0	0	**0**	**5**	3	2	0	**5**	0	2	0	**2**	**7**	**12**
07:15	07:30	1	3	1	**5**	0	0	0	**0**	**5**	1	2	0	**3**	0	1	1	**2**	**5**	**10**
07:30	07:45	1	4	0	**5**	0	0	0	**0**	**5**	1	5	0	**6**	0	5	0	**5**	**11**	**16**
07:45	08:00	0	5	1	**6**	0	0	0	**0**	**6**	0	3	0	**3**	0	3	0	**3**	**6**	**12**
08:00	08:15	0	7	1	**8**	0	0	0	**0**	**8**	3	4	0	**7**	0	2	2	**4**	**11**	**19**
08:15	08:30	0	10	0	**10**	0	0	0	**0**	**10**	0	3	0	**3**	0	4	0	**4**	**7**	**17**
08:30	08:45	0	7	0	**7**	0	0	0	**0**	**7**	0	6	0	**6**	0	4	0	**4**	**10**	**17**
08:45	09:00	2	7	0	**9**	0	0	0	**0**	**9**	2	3	0	**5**	0	0	0	**0**	**5**	**14**
09:00	09:15	2	5	3	**10**	0	0	0	**0**	**10**	0	5	0	**5**	0	3	2	**5**	**10**	**20**
09:15	09:30	0	4	1	**5**	0	0	0	**0**	**5**	0	2	0	**2**	0	3	0	**3**	**5**	**10**
09:30	09:45	0	9	1	**10**	0	0	0	**0**	**10**	1	2	0	**3**	0	2	0	**2**	**5**	**15**
09:45	10:00	0	6	0	**6**	0	0	0	**0**	**6**	1	3	0	**4**	0	7	0	**7**	**11**	**17**
11:30	11:45	0	5	0	**5**	0	0	0	**0**	**5**	1	2	0	**3**	0	2	0	**2**	**5**	**10**
11:45	12:00	1	7	1	**9**	0	0	0	**0**	**9**	0	2	0	**2**	0	3	0	**3**	**5**	**14**
12:00	12:15	0	4	0	**4**	0	0	0	**0**	**4**	0	4	0	**4**	0	2	1	**3**	**7**	**11**
12:15	12:30	1	4	0	**5**	0	0	0	**0**	**5**	1	4	0	**5**	0	1	0	**1**	**6**	**11**
12:30	12:45	1	2	0	**3**	0	0	0	**0**	**3**	0	4	0	**4**	0	3	0	**3**	**7**	**10**
12:45	13:00	0	3	0	**3**	0	0	0	**0**	**3**	1	3	0	**4**	0	0	0	**0**	**4**	**7**
13:00	13:15	0	3	0	**3**	0	0	0	**0**	**3**	0	2	0	**2**	0	3	0	**3**	**5**	**8**
13:15	13:30	1	4	0	**5**	0	0	0	**0**	**5**	1	7	0	**8**	0	2	0	**2**	**10**	**15**
15:00	15:15	0	13	1	**14**	0	0	0	**0**	**14**	1	4	0	**5**	0	5	1	**6**	**11**	**25**
15:15	15:30	0	11	2	**13**	0	0	0	**0**	**13**	0	1	0	**1**	0	1	1	**2**	**3**	**16**
15:30	15:45	0	12	0	**12**	0	0	0	**0**	**12**	0	6	0	**6**	0	3	0	**3**	**9**	**21**
15:45	16:00	0	9	0	**9**	0	0	0	**0**	**9**	1	2	0	**3**	0	3	1	**4**	**7**	**16**
16:00	16:15	0	8	0	**8**	0	0	0	**0**	**8**	0	4	0	**4**	0	2	0	**2**	**6**	**14**
16:15	16:30	0	9	0	**9**	0	0	0	**0**	**9**	0	5	0	**5**	0	1	0	**1**	**6**	**15**
16:30	16:45	0	7	1	**8**	0	0	0	**0**	**8**	0	1	0	**1**	0	1	0	**1**	**2**	**10**
16:45	17:00	0	4	0	**4**	0	0	0	**0**	**4**	0	3	0	**3**	0	1	0	**1**	**4**	**8**
17:00	17:15	1	6	0	**7**	0	0	0	**0**	**7**	1	4	0	**5**	0	1	0	**1**	**6**	**13**
17:15	17:30	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
17:30	17:45	0	4	0	**4**	0	0	0	**0**	**4**	0	4	0	**4**	0	1	0	**1**	**5**	**9**
17:45	18:00	0	2	0	**2**	0	0	0	**0**	**2**	0	0	0	**0**	0	3	0	**3**	**3**	**5**
Total:	None	11	196	13	**220**	0	0	0	**0**	**220**	19	102	0	**121**	0	74	9	**83**	**204**	**424**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

GLADSTONE AVE @ KENT ST

Survey Date: Tuesday, April 25, 2017 **WO No:** 36848

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		KENT ST Northbound U-Turn Total	KENT ST Southbound U-Turn Total	GLADSTONE AVE Eastbound U-Turn Total	GLADSTONE AVE Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	**0**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	0	0	**0**
09:00	09:15	0	0	0	0	**0**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	0	**0**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	0	0	0	0	**0**
12:15	12:30	0	0	0	0	**0**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	0	0	0	0	**0**
13:15	13:30	0	0	0	0	**0**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	0	**0**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	0	0	**0**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	0	**0**
17:45	18:00	0	0	0	0	**0**
Total		0	0	0	0	**0**

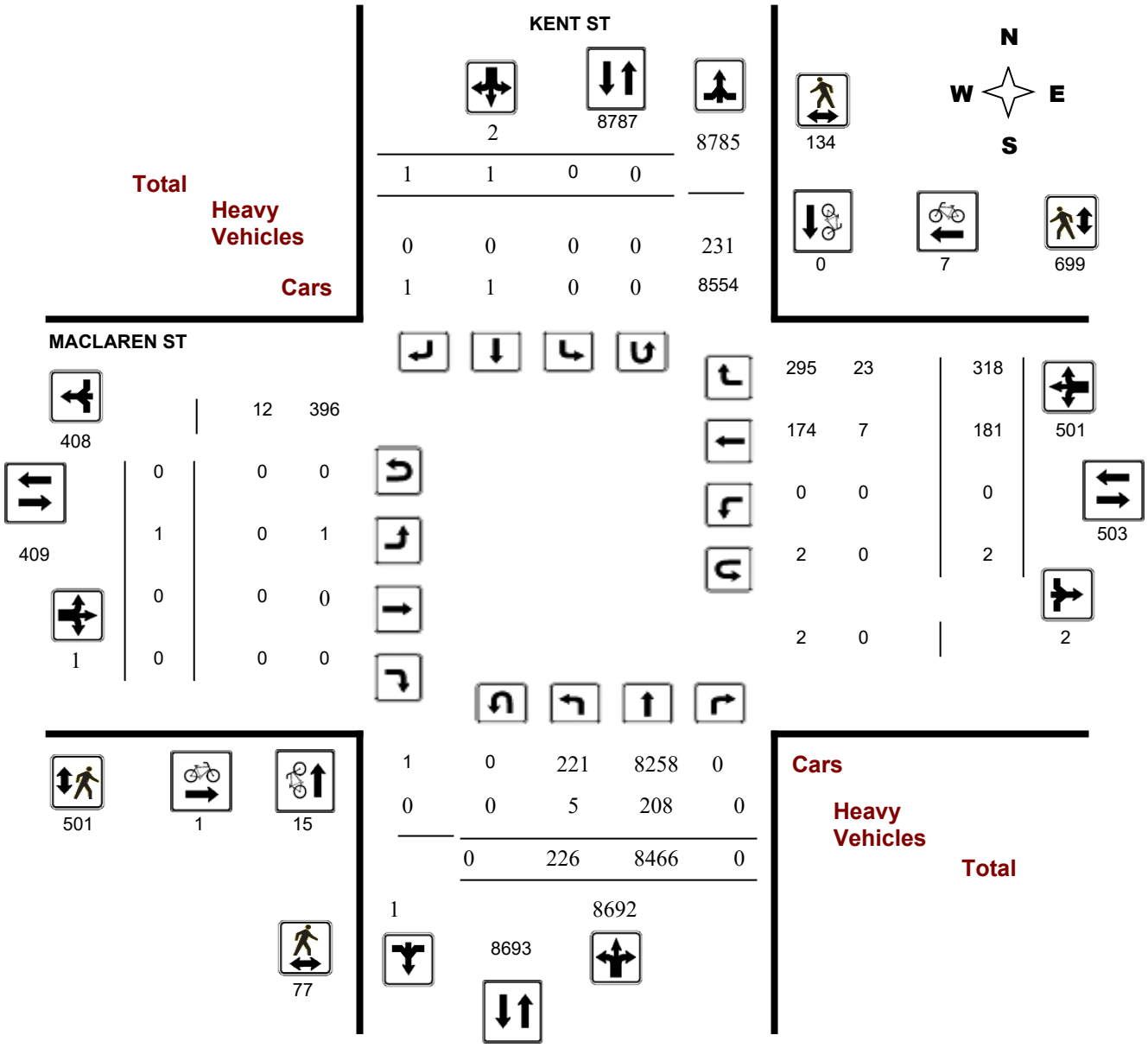
Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019
Start Time: 07:00
WO No: 38413
Device: Miovision

Full Study Diagram



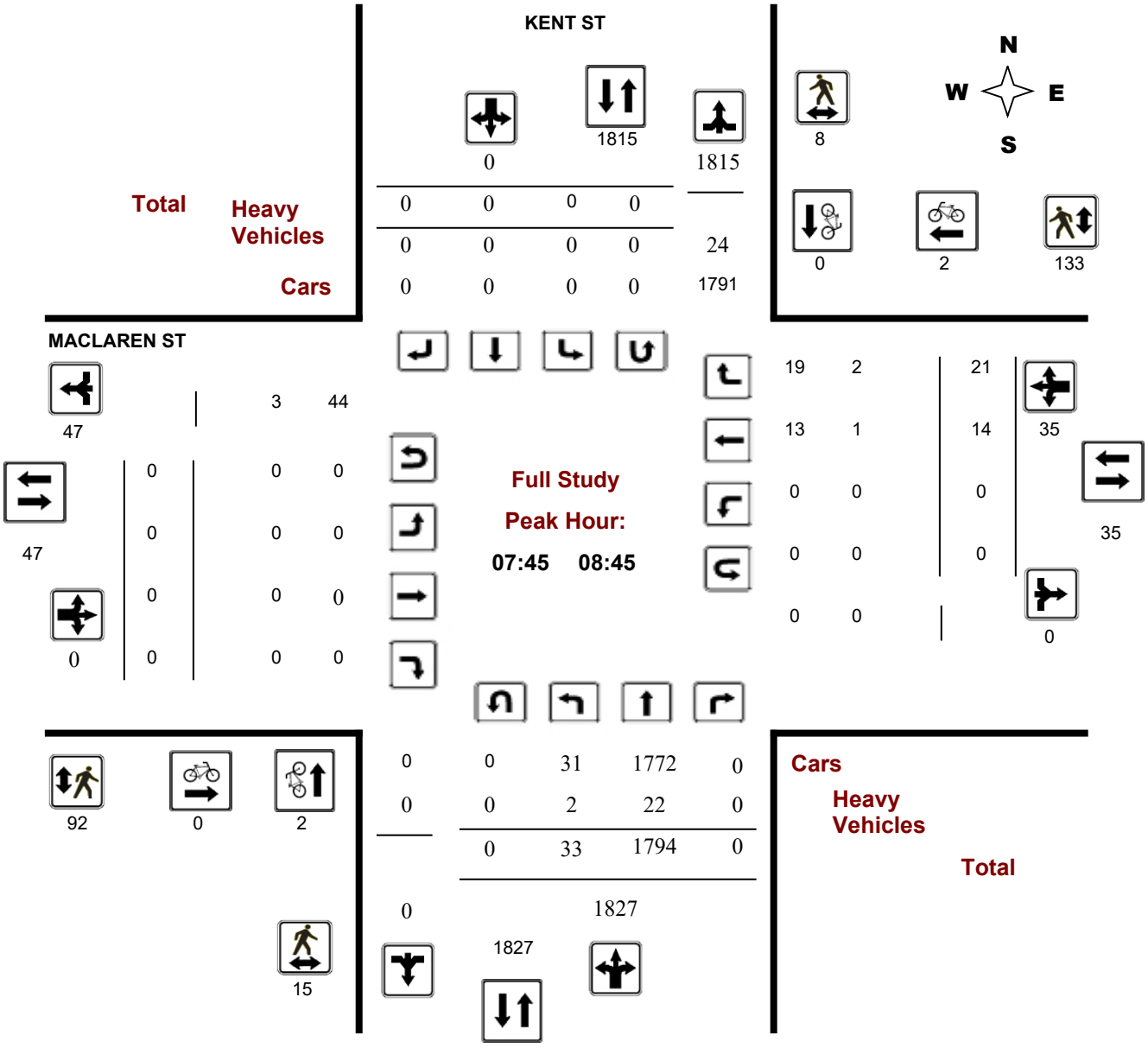
Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019
Start Time: 07:00
WO No: 38413
Device: Miovision

Full Study Peak Hour Diagram



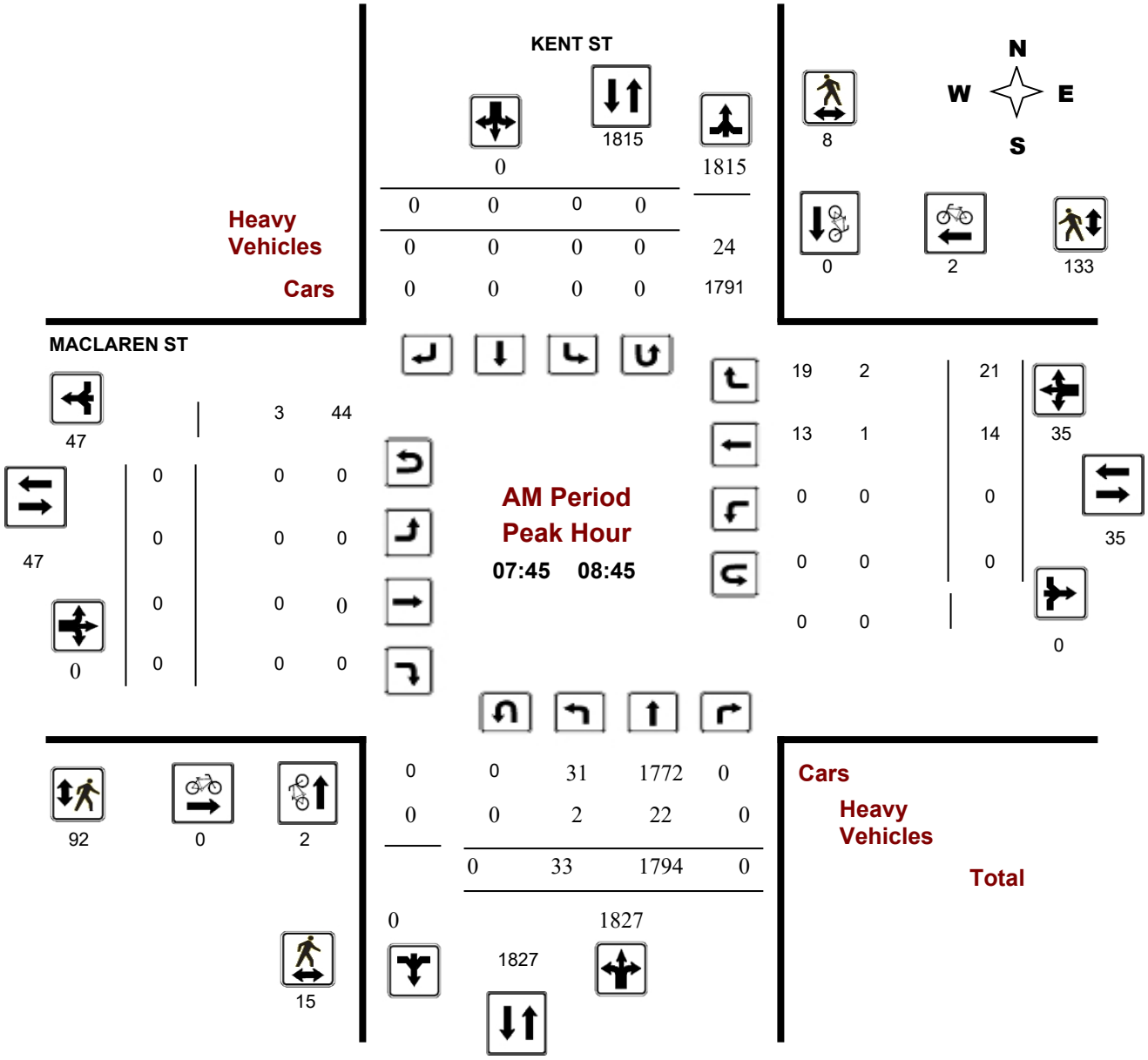
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision



Comments

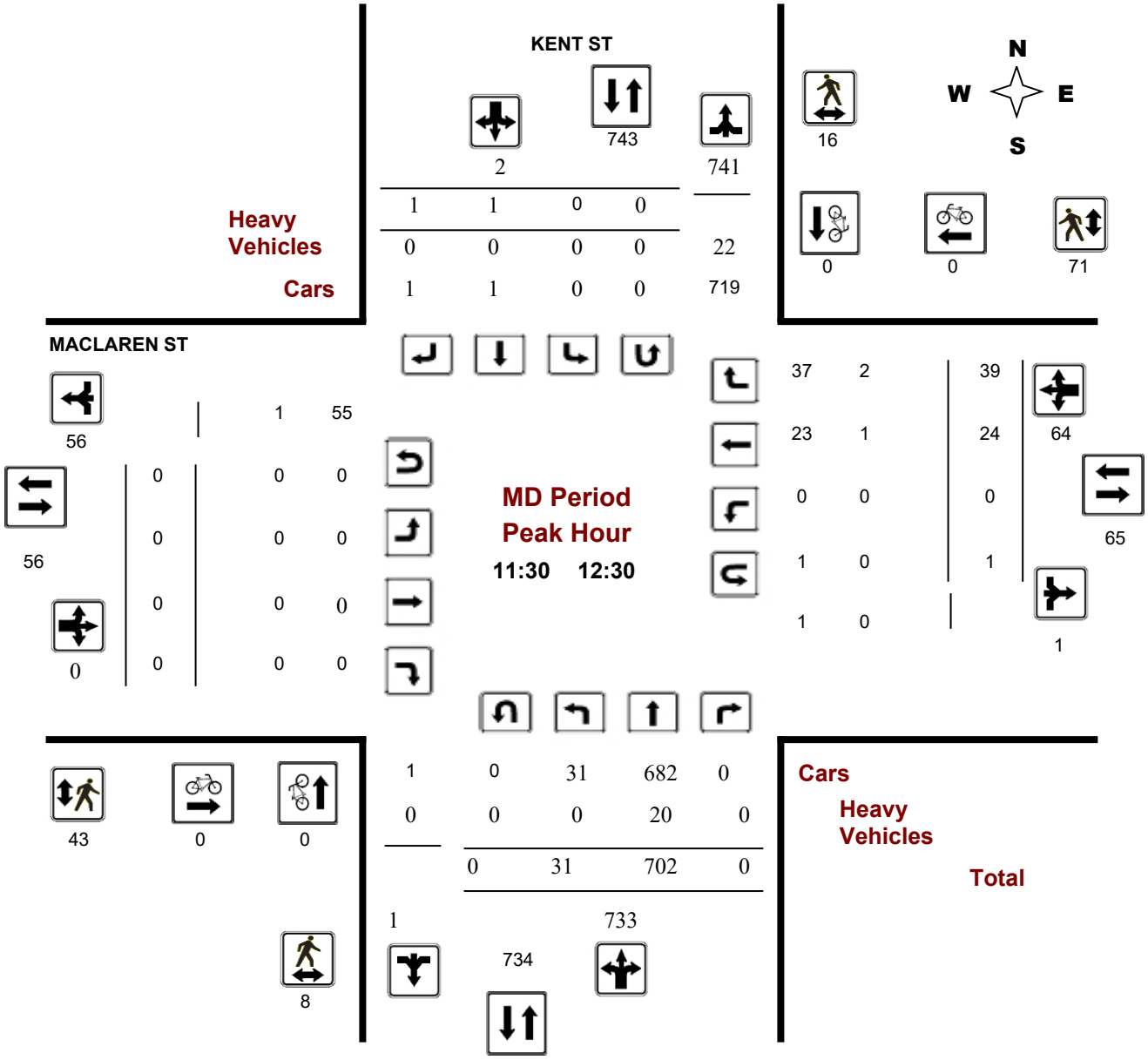
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision



Comments

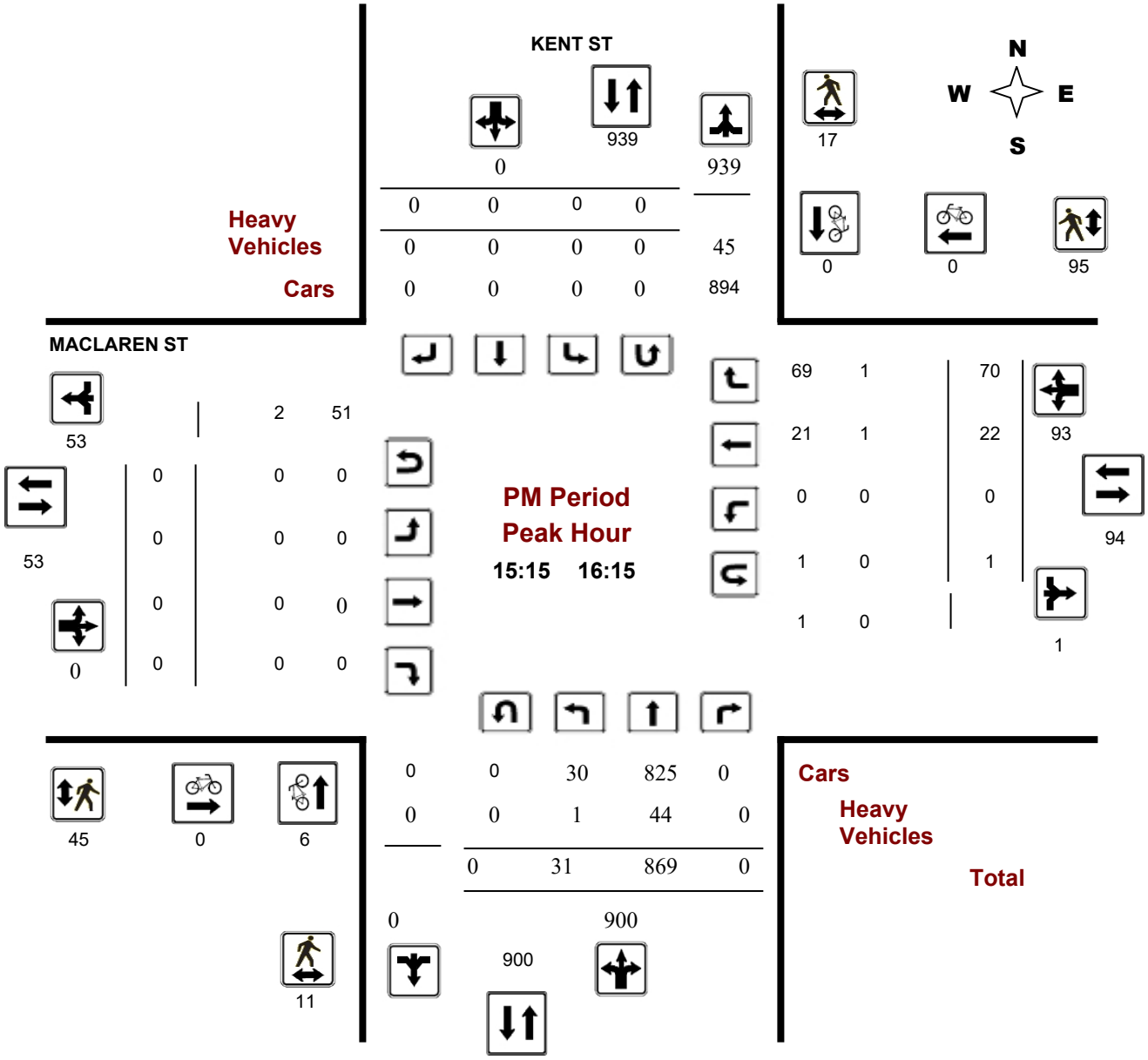
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, March 05, 2019

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 2

AADT Factor

1.00

	KENT ST								MACLAREN ST									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	16	1672	0	**1688**	0	0	0	**0**	**1688**	0	0	0	**0**	0	9	23	**32**	**32**	**1720**
08:00 09:00	38	1780	0	**1818**	0	0	0	**0**	**1818**	0	0	0	**0**	0	16	22	**38**	**38**	**1856**
09:00 10:00	31	1103	0	**1134**	0	0	0	**0**	**1134**	0	0	0	**0**	0	16	29	**45**	**45**	**1179**
11:30 12:30	31	702	0	**733**	0	1	1	**2**	**735**	0	0	0	**0**	0	24	39	**63**	**63**	**798**
12:30 13:30	21	689	0	**710**	0	0	0	**0**	**710**	0	0	0	**0**	0	23	44	**67**	**67**	**777**
15:00 16:00	22	839	0	**861**	0	0	0	**0**	**861**	0	0	0	**0**	0	27	58	**85**	**85**	**946**
16:00 17:00	32	825	0	**857**	0	0	0	**0**	**857**	0	0	0	**0**	0	23	55	**78**	**78**	**935**
17:00 18:00	35	856	0	**891**	0	0	0	**0**	**891**	1	0	0	**1**	0	43	48	**91**	**92**	**983**
Sub Total	226	8466	0	**8692**	0	1	1	**2**	**8694**	1	0	0	**1**	0	181	318	**499**	**500**	**9194**
U Turns				**0**				**0**	**0**				**0**				**2**	**2**	**2**
Total	226	8466	0	**8692**	0	1	1	**2**	**8694**	1	0	0	**1**	0	181	318	**501**	**502**	**9196**
EQ 12Hr	314	11768	0	**12082**	0	1	1	**3**	**12085**	1	0	0	**1**	0	252	442	**696**	**698**	**12782**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	296	11090	0	**11387**	0	1	1	**3**	**12085**	1	0	0	**1**	0	237	417	**656**	**698**	**12782**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	388	14529	0	**14916**	0	2	2	**3**	**14919**	2	0	0	**2**	0	311	546	**860**	**862**	**15781**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		KENT ST									MACLAREN ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	5	362	0	367	0	0	0	0	8	0	0	0	0	0	3	3	6	8	373
07:15	07:30	2	429	0	431	0	0	0	0	8	0	0	0	0	0	0	10	10	8	441
07:30	07:45	5	436	0	441	0	0	0	0	9	0	0	0	0	0	3	5	8	9	449
07:45	08:00	4	445	0	449	0	0	0	0	5	0	0	0	0	0	3	5	8	5	457
08:00	08:15	10	425	0	435	0	0	0	0	5	0	0	0	0	0	2	7	9	5	444
08:15	08:30	8	455	0	463	0	0	0	0	6	0	0	0	0	0	3	5	8	6	471
08:30	08:45	11	469	0	480	0	0	0	0	8	0	0	0	0	0	6	4	10	8	490
08:45	09:00	9	431	0	440	0	0	0	0	7	0	0	0	0	0	5	6	11	7	451
09:00	09:15	8	375	0	383	0	0	0	0	12	0	0	0	0	0	3	7	10	12	393
09:15	09:30	4	247	0	251	0	0	0	0	6	0	0	0	0	0	7	5	12	6	263
09:30	09:45	12	261	0	273	0	0	0	0	7	0	0	0	0	0	4	10	14	7	287
09:45	10:00	7	220	0	227	0	0	0	0	9	0	0	0	0	0	2	7	9	9	236
11:30	11:45	6	188	0	194	0	0	1	1	7	0	0	0	0	0	5	9	14	7	209
11:45	12:00	8	213	0	221	0	0	0	0	3	0	0	0	0	0	5	11	17	3	238
12:00	12:15	13	177	0	190	0	0	0	0	7	0	0	0	0	0	6	10	16	7	206
12:15	12:30	4	124	0	128	0	1	0	1	3	0	0	0	0	0	8	9	17	3	146
12:30	12:45	5	155	0	160	0	0	0	0	5	0	0	0	0	0	5	10	15	5	175
12:45	13:00	4	206	0	210	0	0	0	0	6	0	0	0	0	0	8	10	18	6	228
13:00	13:15	7	161	0	168	0	0	0	0	3	0	0	0	0	0	4	11	15	3	183
13:15	13:30	5	167	0	172	0	0	0	0	7	0	0	0	0	0	6	13	19	7	191
15:00	15:15	2	179	0	181	0	0	0	0	7	0	0	0	0	0	8	13	21	7	202
15:15	15:30	5	216	0	221	0	0	0	0	14	0	0	0	0	0	9	16	25	14	246
15:30	15:45	8	216	0	224	0	0	0	0	12	0	0	0	0	0	6	15	22	12	246
15:45	16:00	7	228	0	235	0	0	0	0	10	0	0	0	0	0	4	14	18	10	253
16:00	16:15	11	209	0	220	0	0	0	0	9	0	0	0	0	0	3	25	28	9	248
16:15	16:30	13	196	0	209	0	0	0	0	5	0	0	0	0	0	5	11	16	5	225
16:30	16:45	5	220	0	225	0	0	0	0	11	0	0	0	0	0	10	11	21	11	246
16:45	17:00	3	200	0	203	0	0	0	0	3	0	0	0	0	0	5	8	13	3	216
17:00	17:15	2	223	0	225	0	0	0	0	3	0	0	0	0	0	10	12	22	3	247
17:15	17:30	12	209	0	221	0	0	0	0	2	1	0	0	1	0	11	17	28	2	250
17:30	17:45	13	201	0	214	0	0	0	0	4	0	0	0	0	0	12	11	23	4	237
17:45	18:00	8	223	0	231	0	0	0	0	2	0	0	0	0	0	10	8	18	2	249
Total:		226	8466	0	8692	0	1	1	2	213	1	0	0	1	0	181	318	501	213	9,196

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		KENT ST			MACLAREN ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	1	0	1	0	1	1	2
08:15	08:30	1	0	1	0	1	1	2
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	1	0	1	0	0	0	1
09:00	09:15	0	0	0	0	1	1	1
09:15	09:30	2	0	2	0	0	0	2
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	1	1	1
12:45	13:00	2	0	2	1	2	3	5
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	5	0	5	0	0	0	5
15:30	15:45	1	0	1	0	0	0	1
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	1	0	1	0	0	0	1
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	1	1	1
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	1	0	1	0	0	0	1
Total		15	0	**15**	1	7	8	23

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	KENT ST			MACLAREN ST			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	0	4	**4**	4	8	**12**	**16**
07:15 07:30	1	4	**5**	11	13	**24**	**29**
07:30 07:45	2	2	**4**	10	21	**31**	**35**
07:45 08:00	9	1	**10**	19	30	**49**	**59**
08:00 08:15	2	2	**4**	23	28	**51**	**55**
08:15 08:30	3	3	**6**	28	37	**65**	**71**
08:30 08:45	1	2	**3**	22	38	**60**	**63**
08:45 09:00	1	3	**4**	30	38	**68**	**72**
09:00 09:15	0	3	**3**	12	18	**30**	**33**
09:15 09:30	0	5	**5**	16	15	**31**	**36**
09:30 09:45	1	4	**5**	8	11	**19**	**24**
09:45 10:00	1	4	**5**	4	10	**14**	**19**
11:30 11:45	2	1	**3**	9	21	**30**	**33**
11:45 12:00	2	6	**8**	11	17	**28**	**36**
12:00 12:15	4	6	**10**	13	16	**29**	**39**
12:15 12:30	0	3	**3**	10	17	**27**	**30**
12:30 12:45	3	0	**3**	11	15	**26**	**29**
12:45 13:00	1	7	**8**	20	24	**44**	**52**
13:00 13:15	3	7	**10**	10	12	**22**	**32**
13:15 13:30	3	6	**9**	11	14	**25**	**34**
15:00 15:15	3	5	**8**	18	17	**35**	**43**
15:15 15:30	3	5	**8**	12	15	**27**	**35**
15:30 15:45	2	4	**6**	9	23	**32**	**38**
15:45 16:00	5	7	**12**	12	19	**31**	**43**
16:00 16:15	1	1	**2**	12	38	**50**	**52**
16:15 16:30	5	7	**12**	19	29	**48**	**60**
16:30 16:45	7	2	**9**	20	27	**47**	**56**
16:45 17:00	7	2	**9**	23	28	**51**	**60**
17:00 17:15	2	2	**4**	27	35	**62**	**66**
17:15 17:30	2	11	**13**	23	32	**55**	**68**
17:30 17:45	1	6	**7**	23	16	**39**	**46**
17:45 18:00	0	9	**9**	21	17	**38**	**47**
Total	77	134	**211**	501	699	**1200**	**1411**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		KENT ST									MACLAREN ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	8	0	**8**	0	0	0	**0**	**8**	0	0	0	**0**	0	1	0	**1**	**1**	**9**
07:15	07:30	0	8	0	**8**	0	0	0	**0**	**8**	0	0	0	**0**	0	0	2	**2**	**2**	**10**
07:30	07:45	0	9	0	**9**	0	0	0	**0**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
07:45	08:00	1	4	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	1	**1**	**1**	**6**
08:00	08:15	0	5	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
08:15	08:30	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	1	1	**2**	**2**	**8**
08:30	08:45	1	7	0	**8**	0	0	0	**0**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
08:45	09:00	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	1	1	**2**	**2**	**9**
09:00	09:15	1	11	0	**12**	0	0	0	**0**	**12**	0	0	0	**0**	0	0	3	**3**	**3**	**15**
09:15	09:30	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	1	**1**	**1**	**7**
09:30	09:45	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	3	**3**	**3**	**10**
09:45	10:00	1	8	0	**9**	0	0	0	**0**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
11:30	11:45	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	1	1	**2**	**2**	**9**
11:45	12:00	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	1	**1**	**1**	**4**
12:00	12:15	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
12:15	12:30	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
12:30	12:45	0	5	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	1	1	**2**	**2**	**7**
12:45	13:00	0	6	0	**6**	0	0	0	**0**	**6**	0	0	0	**0**	0	0	2	**2**	**2**	**8**
13:00	13:15	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	1	1	**2**	**2**	**5**
13:15	13:30	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	1	**1**	**1**	**8**
15:00	15:15	0	7	0	**7**	0	0	0	**0**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
15:15	15:30	0	14	0	**14**	0	0	0	**0**	**14**	0	0	0	**0**	0	0	0	**0**	**0**	**14**
15:30	15:45	0	12	0	**12**	0	0	0	**0**	**12**	0	0	0	**0**	0	1	1	**2**	**2**	**14**
15:45	16:00	0	10	0	**10**	0	0	0	**0**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
16:00	16:15	1	8	0	**9**	0	0	0	**0**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
16:15	16:30	0	5	0	**5**	0	0	0	**0**	**5**	0	0	0	**0**	0	0	1	**1**	**1**	**6**
16:30	16:45	0	11	0	**11**	0	0	0	**0**	**11**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
16:45	17:00	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:00	17:15	0	3	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:15	17:30	0	2	0	**2**	0	0	0	**0**	**2**	0	0	0	**0**	0	0	1	**1**	**1**	**3**
17:30	17:45	0	4	0	**4**	0	0	0	**0**	**4**	0	0	0	**0**	0	0	1	**1**	**1**	**5**
17:45	18:00	0	2	0	**2**	0	0	0	**0**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
Total:	None	5	208	0	**213**	0	0	0	**0**	**213**	0	0	0	**0**	0	7	23	**30**	**30**	**243**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ MACLAREN ST

Survey Date: Tuesday, March 05, 2019 **WO No:** 38413

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		KENT ST Northbound U-Turn Total	KENT ST Southbound U-Turn Total	MACLAREN ST Eastbound U-Turn Total	MACLAREN ST Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	1	1
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	1	1
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	2	2

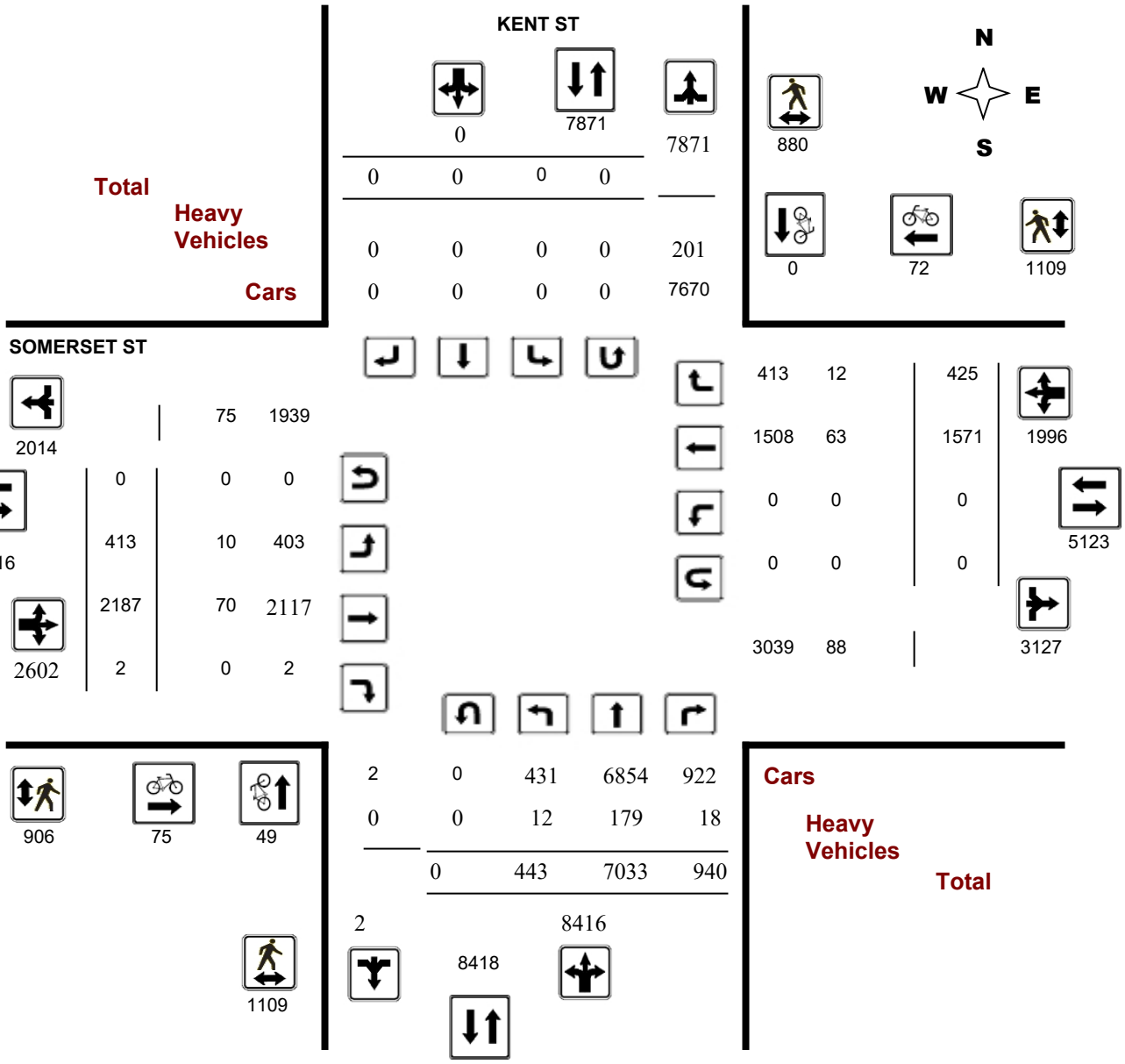
Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017
Start Time: 07:00
WO No: 36850
Device: Miovision

Full Study Diagram



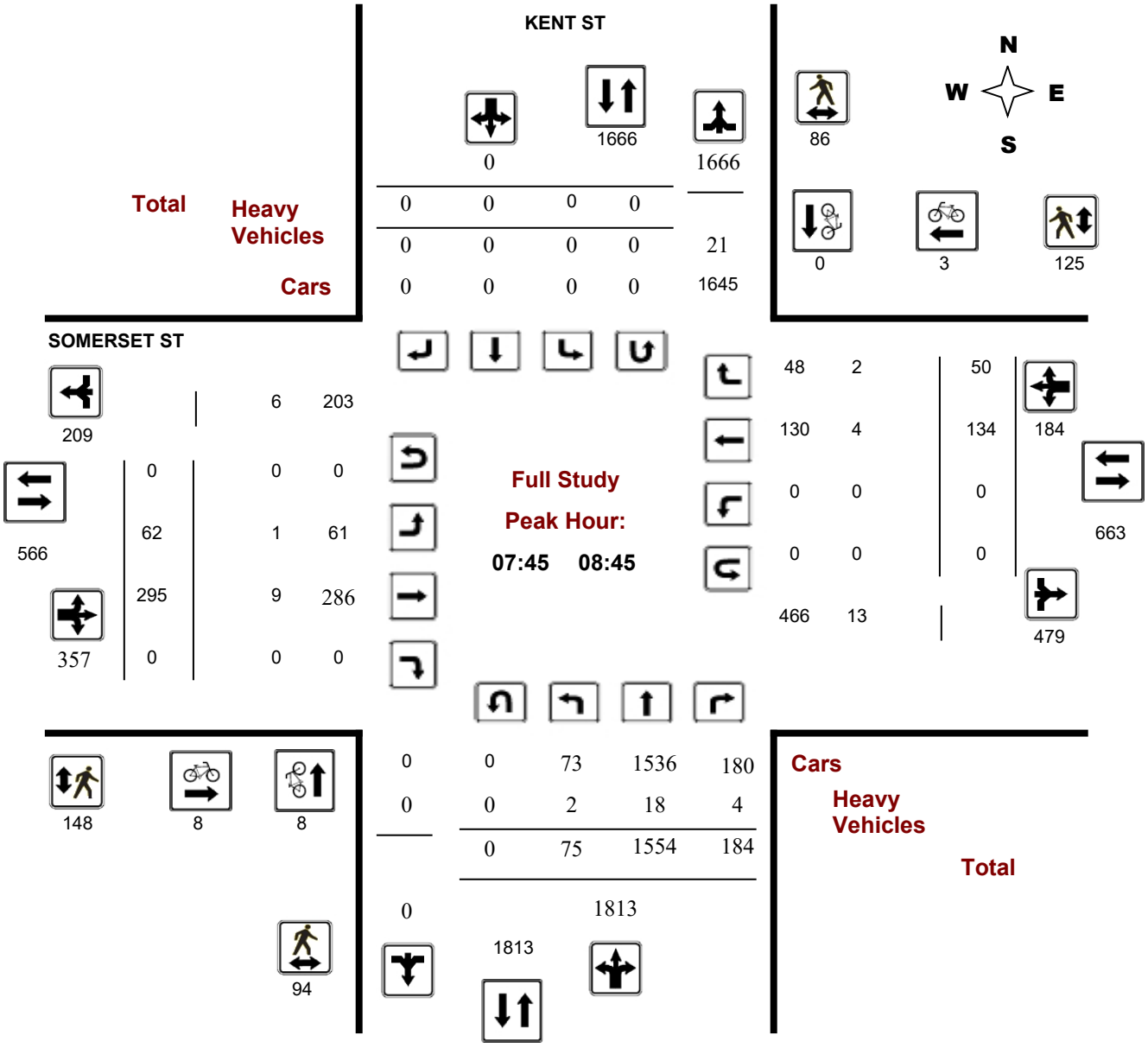
Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017
Start Time: 07:00
WO No: 36850
Device: Miovision

Full Study Peak Hour Diagram



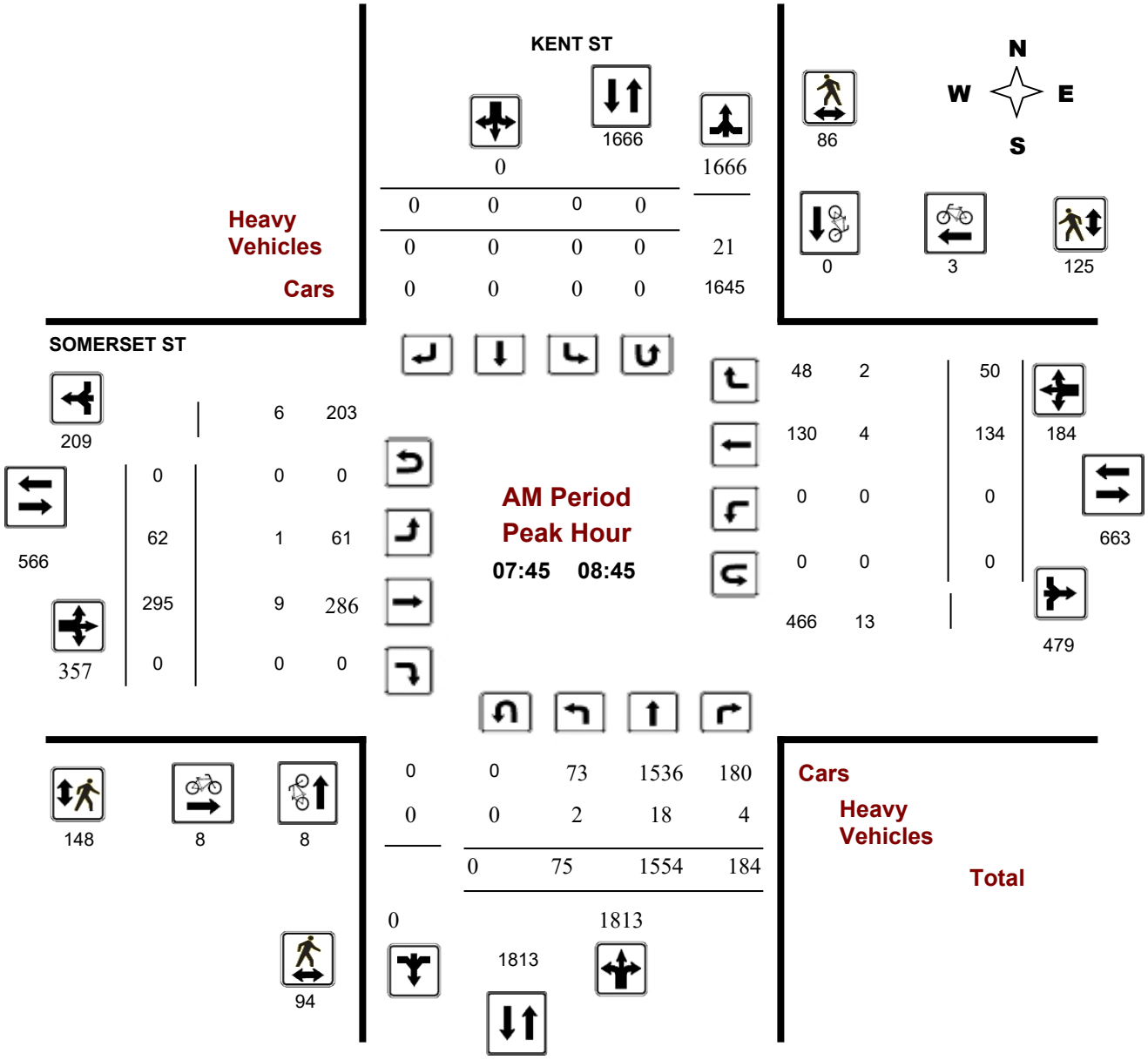
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision



Comments

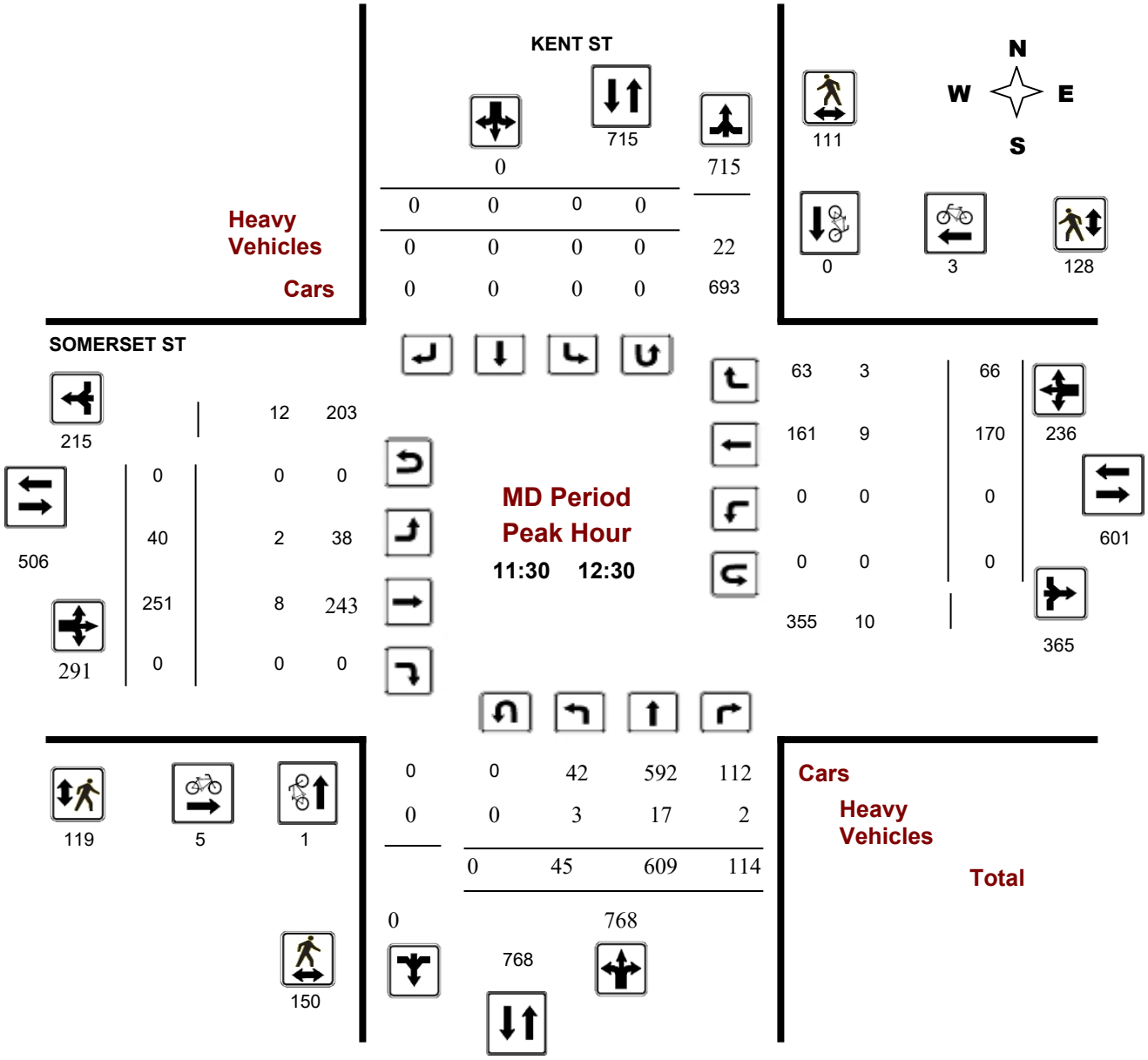
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision



Comments

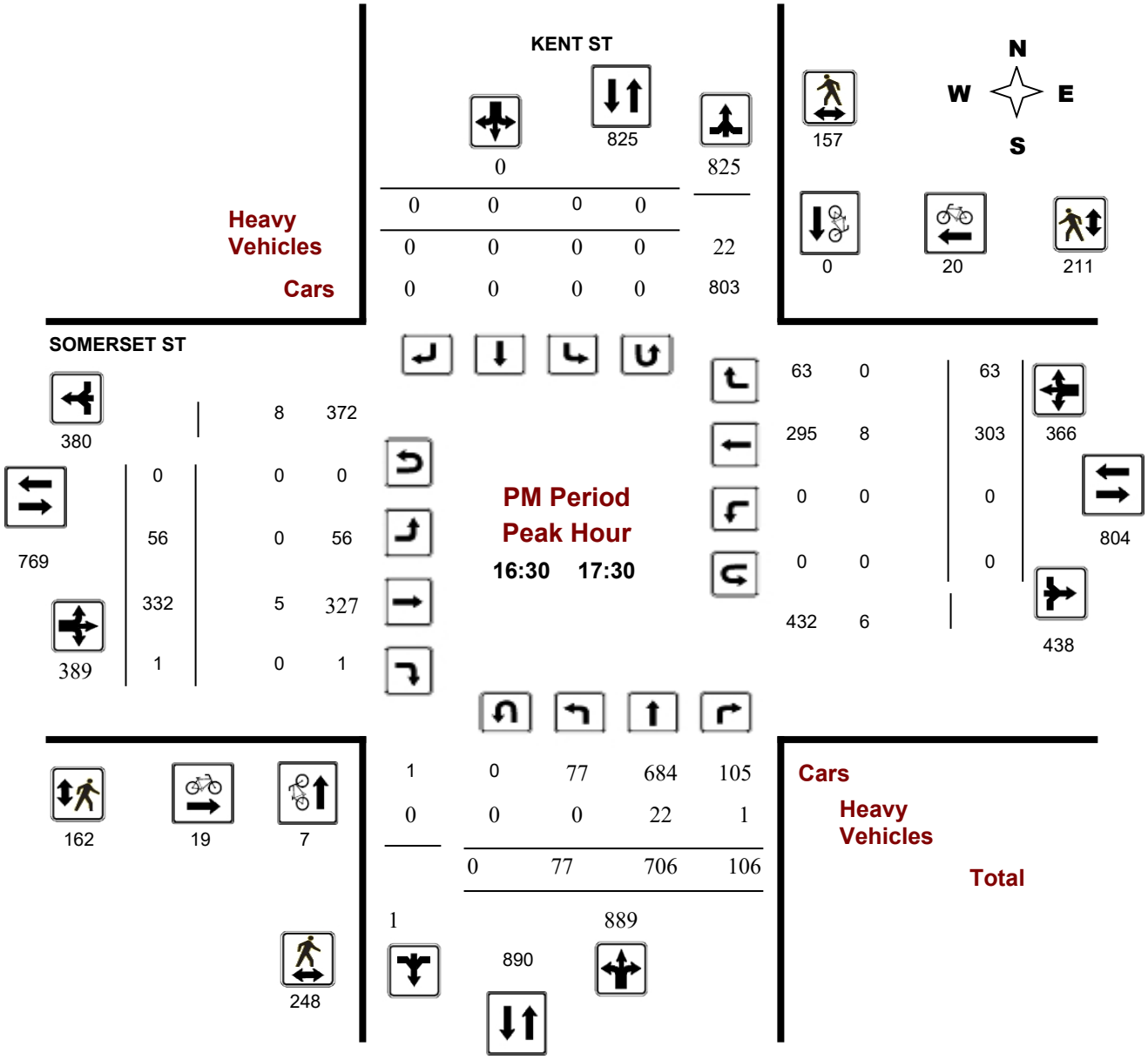
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, April 05, 2017

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

.90

	KENT ST								SOMERSET ST									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	53	1393	126	**1572**	0	0	0	**0**	**1572**	46	245	0	**291**	0	93	44	**137**	**428**	**2000**
08:00 09:00	69	1516	190	**1775**	0	0	0	**0**	**1775**	68	301	0	**369**	0	152	48	**200**	**569**	**2344**
09:00 10:00	48	944	106	**1098**	0	0	0	**0**	**1098**	56	233	0	**289**	0	166	40	**206**	**495**	**1593**
11:30 12:30	45	609	114	**768**	0	0	0	**0**	**768**	40	251	0	**291**	0	170	66	**236**	**527**	**1295**
12:30 13:30	42	530	90	**662**	0	0	0	**0**	**662**	45	242	1	**288**	0	161	41	**202**	**490**	**1152**
15:00 16:00	56	651	113	**820**	0	0	0	**0**	**820**	35	305	0	**340**	0	251	56	**307**	**647**	**1467**
16:00 17:00	64	682	96	**842**	0	0	0	**0**	**842**	61	330	1	**392**	0	318	66	**384**	**776**	**1618**
17:00 18:00	66	708	105	**879**	0	0	0	**0**	**879**	62	280	0	**342**	0	260	64	**324**	**666**	**1545**
Sub Total	443	7033	940	**8416**	0	0	0	**0**	**8416**	413	2187	2	**2602**	0	1571	425	**1996**	**4598**	**13014**
U Turns	0			**0**	0			**0**	**0**	**0**			**0**	0			**0**	**0**	**0**
Total	443	7033	940	**8416**	0	0	0	**0**	**8416**	413	2187	2	**2602**	0	1571	425	**1996**	**4598**	**13014**
EQ 12Hr	616	9776	1307	**11699**	0	0	0	**0**	**11699**	574	3040	3	**3617**	0	2184	591	**2775**	**6392**	**18091**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	554	8798	1176	**10528**	0	0	0	**0**	**10528**	517	2736	3	**3256**	0	1966	532	**2498**	**5754**	**16282**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	726	11525	1541	**13792**	0	0	0	**0**	**13792**	677	3584	4	**4265**	0	2575	697	**3272**	**7537**	**21329**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		KENT ST									SOMERSET ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	8	312	26	346	0	0	0	0	**346**	6	61	0	67	0	14	12	26	**93**	**439**
07:15	07:30	8	335	33	376	0	0	0	0	**376**	7	46	0	53	0	22	9	31	**84**	**460**
07:30	07:45	12	348	30	390	0	0	0	0	**390**	16	65	0	81	0	35	11	46	**127**	**517**
07:45	08:00	25	398	37	460	0	0	0	0	**460**	17	73	0	90	0	22	12	34	**124**	**584**
08:00	08:15	17	373	39	429	0	0	0	0	**429**	14	68	0	82	0	29	12	41	**123**	**552**
08:15	08:30	18	416	46	480	0	0	0	0	**480**	12	67	0	79	0	41	15	56	**135**	**615**
08:30	08:45	15	367	62	444	0	0	0	0	**444**	19	87	0	106	0	42	11	53	**159**	**603**
08:45	09:00	19	360	43	422	0	0	0	0	**422**	23	79	0	102	0	40	10	50	**152**	**574**
09:00	09:15	9	306	34	349	0	0	0	0	**349**	14	59	0	73	0	42	11	53	**126**	**475**
09:15	09:30	16	250	20	286	0	0	0	0	**286**	13	60	0	73	0	42	9	51	**124**	**410**
09:30	09:45	10	202	27	239	0	0	0	0	**239**	13	55	0	68	0	38	13	51	**119**	**358**
09:45	10:00	13	186	25	224	0	0	0	0	**224**	16	59	0	75	0	44	7	51	**126**	**350**
11:30	11:45	12	145	31	188	0	0	0	0	**188**	10	61	0	71	0	40	22	62	**133**	**321**
11:45	12:00	9	197	28	234	0	0	0	0	**234**	12	63	0	75	0	49	12	61	**136**	**370**
12:00	12:15	15	125	27	167	0	0	0	0	**167**	9	66	0	75	0	47	17	64	**139**	**306**
12:15	12:30	9	142	28	179	0	0	0	0	**179**	9	61	0	70	0	34	15	49	**119**	**298**
12:30	12:45	9	139	23	171	0	0	0	0	**171**	13	56	0	69	0	48	9	57	**126**	**297**
12:45	13:00	14	121	24	159	0	0	0	0	**159**	8	64	0	72	0	37	9	46	**118**	**277**
13:00	13:15	8	141	21	170	0	0	0	0	**170**	8	68	0	76	0	44	19	63	**139**	**309**
13:15	13:30	11	129	22	162	0	0	0	0	**162**	16	54	1	71	0	32	4	36	**107**	**269**
15:00	15:15	11	144	30	185	0	0	0	0	**185**	3	80	0	83	0	53	20	73	**156**	**341**
15:15	15:30	16	183	26	225	0	0	0	0	**225**	13	78	0	91	0	60	8	68	**159**	**384**
15:30	15:45	15	175	17	207	0	0	0	0	**207**	9	72	0	81	0	70	13	83	**164**	**371**
15:45	16:00	14	149	40	203	0	0	0	0	**203**	10	75	0	85	0	68	15	83	**168**	**371**
16:00	16:15	18	158	21	197	0	0	0	0	**197**	18	88	0	106	0	73	16	89	**195**	**392**
16:15	16:30	13	172	17	202	0	0	0	0	**202**	15	64	0	79	0	85	22	107	**186**	**388**
16:30	16:45	14	181	26	221	0	0	0	0	**221**	12	85	0	97	0	82	11	93	**190**	**411**
16:45	17:00	19	171	32	222	0	0	0	0	**222**	16	93	1	110	0	78	17	95	**205**	**427**
17:00	17:15	24	167	29	220	0	0	0	0	**220**	9	76	0	85	0	76	12	88	**173**	**393**
17:15	17:30	20	187	19	226	0	0	0	0	**226**	19	78	0	97	0	67	23	90	**187**	**413**
17:30	17:45	7	193	24	224	0	0	0	0	**224**	16	69	0	85	0	68	18	86	**171**	**395**
17:45	18:00	15	161	33	209	0	0	0	0	**209**	18	57	0	75	0	49	11	60	**135**	**344**
Total:		443	7033	940	8416	0	0	0	0	**8416**	413	2187	2	2602	0	1571	425	1996	**8416**	**13,014**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		KENT ST			SOMERSET ST			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	3	0	**3**	3	2	**5**	**8**
07:15	07:30	2	0	**2**	4	0	**4**	**6**
07:30	07:45	0	0	**0**	1	2	**3**	**3**
07:45	08:00	3	0	**3**	4	0	**4**	**7**
08:00	08:15	0	0	**0**	1	1	**2**	**2**
08:15	08:30	3	0	**3**	3	0	**3**	**6**
08:30	08:45	2	0	**2**	0	2	**2**	**4**
08:45	09:00	5	0	**5**	4	2	**6**	**11**
09:00	09:15	1	0	**1**	2	0	**2**	**3**
09:15	09:30	1	0	**1**	3	0	**3**	**4**
09:30	09:45	1	0	**1**	0	4	**4**	**5**
09:45	10:00	4	0	**4**	2	2	**4**	**8**
11:30	11:45	0	0	**0**	3	0	**3**	**3**
11:45	12:00	1	0	**1**	1	2	**3**	**4**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	0	0	**0**	1	1	**2**	**2**
12:30	12:45	0	0	**0**	5	0	**5**	**5**
12:45	13:00	2	0	**2**	4	1	**5**	**7**
13:00	13:15	1	0	**1**	1	5	**6**	**7**
13:15	13:30	1	0	**1**	1	2	**3**	**4**
15:00	15:15	1	0	**1**	1	3	**4**	**5**
15:15	15:30	2	0	**2**	3	1	**4**	**6**
15:30	15:45	1	0	**1**	1	1	**2**	**3**
15:45	16:00	0	0	**0**	3	5	**8**	**8**
16:00	16:15	4	0	**4**	0	8	**8**	**12**
16:15	16:30	0	0	**0**	3	2	**5**	**5**
16:30	16:45	3	0	**3**	5	6	**11**	**14**
16:45	17:00	1	0	**1**	10	4	**14**	**15**
17:00	17:15	0	0	**0**	1	5	**6**	**6**
17:15	17:30	3	0	**3**	3	5	**8**	**11**
17:30	17:45	2	0	**2**	1	1	**2**	**4**
17:45	18:00	2	0	**2**	1	5	**6**	**8**
Total		49	0	**49**	75	72	**147**	**196**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

		KENT ST			SOMERSET ST			
Time Period		NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00	07:15	2	7	**9**	3	12	**15**	**24**
07:15	07:30	11	13	**24**	14	14	**28**	**52**
07:30	07:45	5	15	**20**	10	24	**34**	**54**
07:45	08:00	23	21	**44**	36	27	**63**	**107**
08:00	08:15	22	18	**40**	27	27	**54**	**94**
08:15	08:30	17	22	**39**	32	38	**70**	**109**
08:30	08:45	32	25	**57**	53	33	**86**	**143**
08:45	09:00	26	22	**48**	35	29	**64**	**112**
09:00	09:15	30	17	**47**	33	22	**55**	**102**
09:15	09:30	22	16	**38**	30	30	**60**	**98**
09:30	09:45	20	16	**36**	19	14	**33**	**69**
09:45	10:00	23	16	**39**	18	25	**43**	**82**
11:30	11:45	36	17	**53**	12	22	**34**	**87**
11:45	12:00	42	24	**66**	36	32	**68**	**134**
12:00	12:15	35	33	**68**	43	39	**82**	**150**
12:15	12:30	37	37	**74**	28	35	**63**	**137**
12:30	12:45	27	38	**65**	28	35	**63**	**128**
12:45	13:00	40	33	**73**	33	36	**69**	**142**
13:00	13:15	32	29	**61**	29	37	**66**	**127**
13:15	13:30	23	29	**52**	12	32	**44**	**96**
15:00	15:15	28	32	**60**	30	31	**61**	**121**
15:15	15:30	19	30	**49**	29	27	**56**	**105**
15:30	15:45	55	27	**82**	32	45	**77**	**159**
15:45	16:00	30	40	**70**	18	39	**57**	**127**
16:00	16:15	49	29	**78**	19	56	**75**	**153**
16:15	16:30	60	38	**98**	38	53	**91**	**189**
16:30	16:45	66	45	**111**	51	70	**121**	**232**
16:45	17:00	55	32	**87**	46	54	**100**	**187**
17:00	17:15	71	40	**111**	33	45	**78**	**189**
17:15	17:30	56	40	**96**	32	42	**74**	**170**
17:30	17:45	50	27	**77**	16	44	**60**	**137**
17:45	18:00	65	52	**117**	31	40	**71**	**188**
Total	.....	1109	880	**1989**	906	1109	**2015**	**4004**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		KENT ST									SOMERSET ST									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	2	1	**3**	0	0	0	**0**	**3**	0	2	0	**2**	0	2	1	**3**	**5**	**8**
07:15	07:30	1	5	0	**6**	0	0	0	**0**	**6**	1	4	0	**5**	0	3	0	**3**	**8**	**14**
07:30	07:45	1	6	0	**7**	0	0	0	**0**	**7**	1	2	0	**3**	0	1	1	**2**	**5**	**12**
07:45	08:00	0	5	0	**5**	0	0	0	**0**	**5**	0	2	0	**2**	0	1	0	**1**	**3**	**8**
08:00	08:15	1	4	2	**7**	0	0	0	**0**	**7**	1	5	0	**6**	0	1	2	**3**	**9**	**16**
08:15	08:30	0	3	1	**4**	0	0	0	**0**	**4**	0	0	0	**0**	0	1	0	**1**	**1**	**5**
08:30	08:45	1	6	1	**8**	0	0	0	**0**	**8**	0	2	0	**2**	0	1	0	**1**	**3**	**11**
08:45	09:00	1	7	1	**9**	0	0	0	**0**	**9**	1	6	0	**7**	0	3	0	**3**	**10**	**19**
09:00	09:15	0	8	1	**9**	0	0	0	**0**	**9**	1	2	0	**3**	0	2	0	**2**	**5**	**14**
09:15	09:30	1	6	0	**7**	0	0	0	**0**	**7**	0	3	0	**3**	0	6	1	**7**	**10**	**17**
09:30	09:45	1	9	1	**11**	0	0	0	**0**	**11**	0	6	0	**6**	0	1	0	**1**	**7**	**18**
09:45	10:00	0	7	1	**8**	0	0	0	**0**	**8**	0	4	0	**4**	0	4	0	**4**	**8**	**16**
11:30	11:45	1	8	0	**9**	0	0	0	**0**	**9**	0	1	0	**1**	0	3	1	**4**	**5**	**14**
11:45	12:00	1	4	1	**6**	0	0	0	**0**	**6**	0	5	0	**5**	0	1	2	**3**	**8**	**14**
12:00	12:15	0	4	1	**5**	0	0	0	**0**	**5**	1	1	0	**2**	0	4	0	**4**	**6**	**11**
12:15	12:30	1	1	0	**2**	0	0	0	**0**	**2**	1	1	0	**2**	0	1	0	**1**	**3**	**5**
12:30	12:45	0	2	0	**2**	0	0	0	**0**	**2**	0	0	0	**0**	0	2	0	**2**	**2**	**4**
12:45	13:00	0	3	0	**3**	0	0	0	**0**	**3**	0	2	0	**2**	0	1	0	**1**	**3**	**6**
13:00	13:15	0	5	0	**5**	0	0	0	**0**	**5**	0	2	0	**2**	0	2	1	**3**	**5**	**10**
13:15	13:30	1	4	0	**5**	0	0	0	**0**	**5**	2	1	0	**3**	0	1	1	**2**	**5**	**10**
15:00	15:15	0	7	3	**10**	0	0	0	**0**	**10**	0	2	0	**2**	0	3	0	**3**	**5**	**15**
15:15	15:30	0	12	0	**12**	0	0	0	**0**	**12**	0	1	0	**1**	0	1	0	**1**	**2**	**14**
15:30	15:45	0	12	2	**14**	0	0	0	**0**	**14**	0	2	0	**2**	0	3	0	**3**	**5**	**19**
15:45	16:00	0	3	0	**3**	0	0	0	**0**	**3**	0	2	0	**2**	0	1	0	**1**	**3**	**6**
16:00	16:15	0	5	0	**5**	0	0	0	**0**	**5**	1	3	0	**4**	0	3	1	**4**	**8**	**13**
16:15	16:30	1	11	0	**12**	0	0	0	**0**	**12**	0	1	0	**1**	0	1	0	**1**	**2**	**14**
16:30	16:45	0	5	1	**6**	0	0	0	**0**	**6**	0	2	0	**2**	0	2	0	**2**	**4**	**10**
16:45	17:00	0	6	0	**6**	0	0	0	**0**	**6**	0	1	0	**1**	0	1	0	**1**	**2**	**8**
17:00	17:15	0	7	0	**7**	0	0	0	**0**	**7**	0	1	0	**1**	0	2	0	**2**	**3**	**10**
17:15	17:30	0	4	0	**4**	0	0	0	**0**	**4**	0	1	0	**1**	0	3	0	**3**	**4**	**8**
17:30	17:45	0	6	0	**6**	0	0	0	**0**	**6**	0	2	0	**2**	0	1	1	**2**	**4**	**10**
17:45	18:00	0	2	1	**3**	0	0	0	**0**	**3**	0	1	0	**1**	0	1	0	**1**	**2**	**5**
Total:	None	12	179	18	**209**	0	0	0	**0**	**209**	10	70	0	**80**	0	63	12	**75**	**155**	**364**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KENT ST @ SOMERSET ST

Survey Date: Wednesday, April 05, 2017 **WO No:** 36850

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		KENT ST Northbound U-Turn Total	KENT ST Southbound U-Turn Total	SOMERSET ST Eastbound U-Turn Total	SOMERSET ST Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	**0**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	0	0	**0**
09:00	09:15	0	0	0	0	**0**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	0	**0**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	0	0	0	0	**0**
12:15	12:30	0	0	0	0	**0**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	0	0	0	0	**0**
13:15	13:30	0	0	0	0	**0**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	0	**0**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	0	0	**0**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	0	0	0	0	**0**
17:30	17:45	0	0	0	0	**0**
17:45	18:00	0	0	0	0	**0**
Total		0	0	0	0	**0**

APPENDIX C

COLLISION DATA

Total Area

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	SMV Other	SMV Unattended Vehicle	Other	Total	
P.D. only	15	12	24	17	1	1	17	3	90	80%
Non-fatal injury	4	5	0	3	0	8	1	0	21	19%
Non-reportable	0	0	0	0	0	0	1	0	1	1%
Total	**19**	**17**	**24**	**20**	**1**	**9**	**19**	**3**	**112**	100%
	#3 or 17%	#5 or 15%	#1 or 21%	#2 or 18%	#8 or 1%	#6 or 8%	#3 or 17%	#7 or 3%		

Bank St/Gilmour St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	11	10,338	1825	**0.58**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	4	0	3	0	0	0	0	1	8	73%
Non-fatal injury	1	2	0	0	0	0	0	0	3	27%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**5**	**2**	**3**	**0**	**0**	**0**	**0**	**1**	**11**	100%
	45%	18%	27%	0%	0%	0%	0%	9%		

Bank St/MacLaren St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	1	11,040	1825	**0.05**

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

Bank St, MacLaren St to Gilmour St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	4	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	0	1	0	0	0	3	0	4	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**4**	100%
	0%	0%	25%	0%	0%	0%	75%	0%		

Gilmour St/Kent St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	5	15,811	1825	**0.17**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	1	2	0	0	0	0	1	4	80%
Non-fatal injury	0	0	0	0	0	1	0	0	1	20%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**1**	**5**	100%
	0%	20%	40%	0%	0%	20%	0%	20%		

Gladstone Ave/Kent St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	29	23,139	1825	**0.69**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	7	3	4	12	0	0	0	0	26	90%
Non-fatal injury	0	0	0	2	0	1	0	0	3	10%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**7**	**3**	**4**	**14**	**0**	**1**	**0**	**0**	**29**	100%
	24%	10%	14%	48%	0%	3%	0%	0%		

Kent St/MacLaren st

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	11	15,781	1825	**0.38**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	4	4	1	0	0	0	0	10	91%
Non-fatal injury	0	0	0	1	0	0	0	0	1	9%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**4**	**4**	**2**	**0**	**0**	**0**	**0**	**11**	100%
	9%	36%	36%	18%	0%	0%	0%	0%		

Kent St/Somerset St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	23	21,329	1825	**0.59**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	4	4	3	0	0	1	0	13	57%
Non-fatal injury	1	3	0	0	0	6	0	0	10	43%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**2**	**7**	**4**	**3**	**0**	**6**	**1**	**0**	**23**	100%
	9%	30%	17%	13%	0%	26%	4%	0%		

Kent St, Florence St to Gladstone Ave

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	1	n/a	1825	**n/a**

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

Kent St, Gilmour St to James St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	3	n/a	1825	**n/a**

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

Kent St, James St to Florence St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	5	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	0	1	0	0	0	3	0	4	80%
Non-fatal injury	1	0	0	0	0	0	0	0	1	20%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**5**	100%
	20%	0%	20%	0%	0%	0%	60%	0%		

Kent St, MacLaren St to Gilmour St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	5	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	2	0	1	0	1	0	1	0	5	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**5**	100%
	40%	0%	20%	0%	20%	0%	20%	0%		

Kent St, Somerset St to MacLaren St

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2015-2019	3	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total

P.D. only	0	0	2	0	0	0	1	0	3	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	100%
	0%	0%	67%	0%	0%	0%	33%	0%		

MacLaren St, Kent St to Bank St

Years	*Total # Collisions*	*24 Hr AADT Veh Volume*	*Days*	*Collisions/MEV*
2015-2019	10	n/a	1825	**n/a**

Classification of Accident	*Rear End*	*Turning Movement*	*Sideswipe*	*Angle*	*Approaching*	*Single Vehicle (other)*	*Single vehicle (Unattended vehicle)*	*Other*	*Total*	
P.D. only	0	0	0	1	0	0	8	1	10	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**0**	**0**	**0**	**1**	**0**	**0**	**8**	**1**	**10**	100%
	0%	0%	0%	10%	0%	0%	80%	10%		

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: BANK ST @ GILMOUR ST

Traffic Control: Traffic signal **Total Collisions:** 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jul-17, Fri,14:13	Clear	Rear end	Non-fatal injury	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2015-Nov-27, Fri,00:50	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Dec-02, Wed,03:00	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-03, Fri,18:00	Clear	Turning movement	Non-fatal injury	Dry	North	Turning right	Unknown	Cyclist	0
					North	Stopped	Bicycle	Other motor vehicle	
2018-Jan-29, Mon,13:54	Clear	Sideswipe	P.D. only	Wet	East	Stopped	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-08, Fri,15:16	Clear	Turning movement	Non-fatal injury	Dry	South	Overtaking	Motorcycle	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Jul-13, Fri,20:47	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-06, Mon,23:18	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-10, Wed,20:37	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Unknown	Other motor vehicle	
2019-Mar-24, Sun,20:24	Clear	Other	P.D. only	Dry	North	Reversing	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-26, Wed,16:40	Clear	Sideswipe	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: BANK ST @ MACLAREN ST

Traffic Control: Traffic signal **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Sep-25, Mon,11:10	Clear	SMV unattended vehicle	Non-reportable	Dry	North	Turning left	Truck - tractor	Unattended vehicle	0
2017-Oct-17, Tue,16:39	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Location: BANK ST btwn MACLAREN ST & GILMOUR ST

Traffic Control: No control **Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-May-16, Sat,08:10	Clear	SMV unattended vehicle	P.D. only	Dry	East	Reversing	Delivery van	Unattended vehicle	0
2016-Sep-12, Mon,00:35	Clear	SMV unattended vehicle	P.D. only	Dry	South	Going ahead	Pick-up truck	Unattended vehicle	0
2017-Mar-26, Sun,03:04	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-May-05, Fri,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0

Location: GILMOUR ST @ KENT ST

Traffic Control: Traffic signal **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-23, Fri,06:35	Clear	Turning movement	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Oct-04, Sun,16:27	Clear	Other	P.D. only	Dry	South	Reversing	Police vehicle	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Aug-21, Sun,16:33	Rain	SMV other	Non-fatal injury	Wet	East	Going ahead	Unknown	Pedestrian	1
2018-Sep-08, Sat,16:03	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: GILMOUR ST @ KENT ST

Traffic Control: Traffic signal **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Nov-17, Sun,09:07	Clear	Sideswipe	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: GLADSTONE AVE @ KENT ST

Traffic Control: Traffic signal **Total Collisions:** 29

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-31, Sat,17:33	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2015-Feb-20, Fri,18:19	Clear	Angle	P.D. only	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Mar-29, Sun,21:53	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Apr-11, Sat,15:41	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Changing lanes	Automobile, station wagon	Other motor vehicle	
2015-Jul-20, Mon,21:47	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Aug-07, Fri,23:30	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Delivery van	Other motor vehicle	
2016-Jan-28, Thu,11:45	Snow	Rear end	P.D. only	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Feb-26, Fri,12:19	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Apr-08, Fri,12:30	Clear	Angle	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: GLADSTONE AVE @ KENT ST

Traffic Control: Traffic signal **Total Collisions:** 29

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-23, Mon,19:34	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-09, Thu,12:11	Clear	Angle	P.D. only	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-20, Mon,16:40	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Apr-25, Tue,13:36	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jul-04, Tue,10:35	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Pick-up truck	Other motor vehicle	
2017-Jul-06, Thu,20:04	Clear	Rear end	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Sep-09, Sat,09:42	Clear	Angle	P.D. only	Dry	East	Going ahead	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Sep-30, Sat,21:13	Clear	Turning movement	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Nov-10, Fri,08:27	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-24, Sun,01:24	Clear	Angle	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2018-Apr-04, Wed,11:31	Freezing Rain	Rear end	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2018-Dec-04, Tue,19:00	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: GLADSTONE AVE @ KENT ST

Traffic Control: Traffic signal **Total Collisions:** 29

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Jan-10, Thu,18:05	Clear	Angle	P.D. only	Wet	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-26, Tue,08:40	Clear	Turning movement	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-May-23, Thu,16:35	Rain	Sideswipe	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jun-27, Thu,17:07	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-19, Fri,17:45	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Oct-09, Wed,07:19	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2019-Oct-20, Sun,18:07	Clear	Angle	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	
2019-Dec-09, Mon,20:27	Rain	SMV other	Non-fatal injury	Wet	North	Turning left	Automobile, station wagon	Pedestrian	1

Location: KENT ST @ MACLAREN ST

Traffic Control: Stop sign **Total Collisions:** 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jun-19, Fri,18:50	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Jul-20, Mon,16:00	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: KENT ST @ MACLAREN ST

Traffic Control: Stop sign **Total Collisions:** 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Oct-08, Thu,12:08	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-09, Fri,09:29	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Truck-other	Other motor vehicle	
2017-Apr-14, Fri,12:39	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2017-May-03, Wed,14:32	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-27, Wed,13:45	Clear	Sideswipe	P.D. only	Dry	North	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2018-Jul-18, Wed,15:30	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-23, Wed,10:05	Snow	Turning movement	P.D. only	Loose snow	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Delivery van	Other motor vehicle	
2019-May-14, Tue,09:52	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-05, Thu,11:16	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: KENT ST @ SOMERSET ST

Traffic Control: Traffic signal **Total Collisions:** 23

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Mar-24, Tue,13:54	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: KENT ST @ SOMERSET ST

Traffic Control: Traffic signal **Total Collisions:** 23

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jun-25, Thu,10:33	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Dec-10, Thu,16:30	Clear	SMV other	Non-fatal injury	Wet	North	Turning left	Pick-up truck	Pedestrian	1
2016-Jan-09, Sat,15:55	Rain	SMV other	Non-fatal injury	Wet	West	Turning right	Automobile, station wagon	Pedestrian	2
2016-Feb-03, Wed,17:37	Clear	SMV other	Non-fatal injury	Wet	North	Turning left	Automobile, station wagon	Pedestrian	1
2016-Apr-27, Wed,14:11	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2016-Jul-10, Sun,18:52	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2017-Mar-28, Tue,12:05	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Delivery van	Other motor vehicle	
2017-Jun-24, Sat,15:13	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jul-06, Thu,22:12	Clear	SMV other	Non-fatal injury	Dry	North	Turning left	Pick-up truck	Pedestrian	1
2017-Oct-09, Mon,14:17	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-05, Tue,12:04	Rain	Rear end	Non-fatal injury	Wet	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-21, Thu,17:15	Clear	SMV other	Non-fatal injury	Slush	North	Turning left	Automobile, station wagon	Pedestrian	1
2018-Jan-19, Fri,21:06	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-03, Thu,09:24	Rain	Angle	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: KENT ST @ SOMERSET ST

Traffic Control: Traffic signal **Total Collisions:** 23

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-May-05, Sat,15:13	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-12, Sun,21:31	Clear	Turning movement	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Cyclist	0
					West	Going ahead	Bicycle	Other motor vehicle	
2018-Aug-24, Fri,18:18	Clear	SMV unattended vehicle	P.D. only	Dry	East	Going ahead	Municipal transit bus	Unattended vehicle	0
2018-Dec-12, Wed,17:50	Clear	SMV other	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Pedestrian	1
2019-Mar-21, Thu,08:40	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-02, Sun,18:30	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-13, Sun,12:53	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-19, Thu,20:59	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: KENT ST btwn FLORENCE ST & GLADSTONE AVE

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Sep-03, Thu,23:30	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Unknown	Automobile, station wagon	Other motor vehicle	

Location: KENT ST btwn GILMOUR ST & JAMES ST

Traffic Control: No control **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: KENT ST btwn GILMOUR ST & JAMES ST

Traffic Control: No control **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Mar-05, Thu,10:03	Clear	SMV unattended vehicle	Non-fatal injury	Dry	North	Changing lanes	Pick-up truck	Unattended vehicle	0
2017-Mar-24, Fri,16:55	Clear	SMV other	P.D. only	Loose snow	North	Overtaking	Automobile, station wagon	Pole (sign, parking meter)	0
2019-Dec-20, Fri,12:30	Clear	Sideswipe	P.D. only	Dry	North	Pulling away from shoulder or curb	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: KENT ST btwn JAMES ST & FLORENCE ST

Traffic Control: No control **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Nov-03, Tue,07:53	Clear	SMV unattended vehicle	P.D. only	Dry	South	Reversing	Truck - open	Unattended vehicle	0
2016-Jul-13, Wed,16:42	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
					West	Slowing or stopping	Passenger van	Other motor vehicle	
2017-Jun-14, Wed,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	North	Unknown	Unknown	Unattended vehicle	0
2017-Oct-28, Sat,05:03	Clear	Sideswipe	P.D. only	Dry	North	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2018-Jun-30, Sat,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0

Location: KENT ST btwn MACLAREN ST & GILMOUR ST

Traffic Control: No control **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jun-17, Fri,14:04	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: KENT ST btwn MACLAREN ST & GILMOUR ST

Traffic Control: No control **Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-May-31, Wed,21:12	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-02, Sat,14:01	Clear	SMV unattended vehicle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Unattended vehicle	0
2019-Jul-26, Fri,16:17	Clear	Approaching	P.D. only	Dry	South	Unknown	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-01, Fri,06:55	Rain	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

Location: KENT ST btwn SOMERSET ST W & MACLAREN ST

Traffic Control: No control **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Dec-15, Sat,13:45	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-11, Wed,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0
2019-Nov-10, Sun,00:35	Clear	Sideswipe	P.D. only	Dry	North	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: MACLAREN ST btwn KENT ST & BANK ST

Traffic Control: No control **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-May-14, Thu,11:47	Clear	SMV unattended vehicle	P.D. only	Dry	West	Pulling onto shoulder or toward curb	Pick-up truck	Unattended vehicle	0
2015-Sep-09, Wed,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2015 **To:** December 31, 2019

Location: MACLAREN ST btwn KENT ST & BANK ST

Traffic Control: No control **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Mar-08, Tue,00:00	Rain	SMV unattended vehicle	P.D. only	Wet	Unknown	Unknown	Unknown	Unattended vehicle	0
2016-Apr-22, Fri,13:50	Clear	SMV unattended vehicle	P.D. only	Dry	South	Reversing	Unknown	Unattended vehicle	0
2016-May-16, Mon,18:46	Clear	SMV unattended vehicle	P.D. only	Dry	East	Reversing	Automobile, station wagon	Unattended vehicle	0
2017-Aug-23, Wed,18:05	Clear	Other	P.D. only	Dry	East	Reversing	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Feb-08, Thu,00:00	Clear	SMV unattended vehicle	P.D. only	Wet	Unknown	Unknown	Unknown	Unattended vehicle	0
2018-Apr-08, Sun,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	East	Unknown	Unknown	Unattended vehicle	0
2019-Jan-23, Wed,14:30	Snow	Angle	P.D. only	Packed snow	South	Reversing	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-18, Mon,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0

APPENDIX D

TDM CHECKLISTS

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

Legend

REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☑
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☑
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☑
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)*	☑

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3	Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.4	Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.5	Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)*	☑
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☑
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☑
BASIC	1.2.8	Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☐
	1.3	**Amenities for walking & cycling**	
BASIC	1.3.1	Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☑
BASIC	1.3.2	Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☐

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐
	2.3	**Bicycle repair station**	
BETTER	2.3.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐ No stop near development.
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☐ Currently providing a parking ratio of 0.7 residents and 0.1 visitor.
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☐

TDM-Supportive Development Design and Infrastructure Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☑
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☑
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☑
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)*	☑

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3	Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.4	Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.5	Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)*	☑
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☑
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☑ Will provide secure and lighted within property limits.
BASIC	1.2.8	Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☐
	1.3	**Amenities for walking & cycling**	
BASIC	1.3.1	Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☑
BASIC	1.3.2	Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☐

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	☐
BETTER	2.1.5	Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	☐
	2.3	**Shower & change facilities**	
BASIC	2.3.1	Provide shower and change facilities for the use of active commuters	☐
BETTER	2.3.2	In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	☐
	2.4	**Bicycle repair station**	
BETTER	2.4.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐ Not applicable.
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐ Not applicable.
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐ Not applicable.
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
	4.2	**Carpool parking**	
BASIC	4.2.1	Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	☐
BETTER	4.2.2	At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces *(see Zoning By-law Section 94)*	☐ Will be considered in site plan phase.
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	☐
	7.	**OTHER**	
	7.1	**On-site amenities to minimize off-site trips**	
BETTER	7.1.1	Provide on-site amenities to minimize mid-day or mid-commute errands	☐

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☐
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
	2.	**WALKING AND CYCLING**	
	2.1	**Information on walking/cycling routes & destinations**	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)*	☑
	2.2	**Bicycle skills training**	
BETTER	2.2.1	Offer on-site cycling courses for residents, or subsidize off-site courses	☐

		TDM measures: *Residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances *(multi-family, condominium)*	☑
BETTER	3.1.2	Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐
		3.2 Transit fare incentives	
BASIC ★	3.2.1	Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	☐
BETTER	3.2.2	Offer at least one year of free monthly transit passes on residence purchase/move-in	☐
		3.3 Enhanced public transit service	
BETTER ★	3.3.1	Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)*	☐
		3.4 Private transit service	
BETTER	3.4.1	Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	☐
		4. CARSHARING & BIKESHARING	
		4.1 Bikeshare stations & memberships	
BETTER	4.1.1	Contract with provider to install on-site bikeshare station (*multi-family)*	☐
BETTER	4.1.2	Provide residents with bikeshare memberships, either free or subsidized *(multi-family)*	☐
		4.2 Carshare vehicles & memberships	
BETTER	4.2.1	Contract with provider to install on-site carshare vehicles and promote their use by residents	☑ Will investigate at site plan phase.
BETTER	4.2.2	Provide residents with carshare memberships, either free or subsidized	☐
		5. PARKING	
		5.1 Priced parking	
BASIC ★	5.1.1	Unbundle parking cost from purchase price *(condominium)*	☐
BASIC ★	5.1.2	Unbundle parking cost from monthly rent *(multi-family)*	☑

			TDM measures: *Residential developments*	Check if proposed & add descriptions
		6.	**TDM MARKETING & COMMUNICATIONS**	
		6.1	**Multimodal travel information**	
BASIC	★	6.1.1	Provide a multimodal travel option information package to new residents	☑
		6.2	**Personalized trip planning**	
BETTER	★	6.2.1	Offer personalized trip planning to new residents	☐

TDM Measures Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		1. TDM PROGRAM MANAGEMENT	
		1.1 Program coordinator	
BASIC	★	1.1.1 Designate an internal coordinator, or contract with an external coordinator	☐
		1.2 Travel surveys	
BETTER		1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
		2. WALKING AND CYCLING	
		2.1 Information on walking/cycling routes & destinations	
BASIC		2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances	☑
		2.2 Bicycle skills training	
		Commuter travel	
BETTER	★	2.2.1 Offer on-site cycling courses for commuters, or subsidize off-site courses	☐
		2.3 Valet bike parking	
		Visitor travel	
BETTER		2.3.1 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances	☑
BASIC	3.1.2	Provide online links to OC Transpo and STO information	☑
BETTER	3.1.3	Provide real-time arrival information display at entrances	☐
		3.2 Transit fare incentives	
		Commuter travel	
BETTER	3.2.1	Offer preloaded PRESTO cards to encourage commuters to use transit	☐
BETTER ★	3.2.2	Subsidize or reimburse monthly transit pass purchases by employees	☐
		Visitor travel	
BETTER	3.2.3	Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐
		3.3 Enhanced public transit service	
		Commuter travel	
BETTER	3.3.1	Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.3.2	Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐
		3.4 Private transit service	
		Commuter travel	
BETTER	3.4.1	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.4.2	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		4. RIDESHARING	
		4.1 Ridematching service	
		Commuter travel	
BASIC	★ 4.1.1	Provide a dedicated ridematching portal at OttawaRideMatch.com	☐
		4.2 Carpool parking price incentives	
		Commuter travel	
BETTER	4.2.1	Provide discounts on parking costs for registered carpools	☐
		4.3 Vanpool service	
		Commuter travel	
BETTER	4.3.1	Provide a vanpooling service for long-distance commuters	☐
		5. CARSHARING & BIKESHARING	
		5.1 Bikeshare stations & memberships	
BETTER	5.1.1	Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐
		Commuter travel	
BETTER	5.1.2	Provide employees with bikeshare memberships for local business travel	☐
		5.2 Carshare vehicles & memberships	
		Commuter travel	
BETTER	5.2.1	Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐
BETTER	5.2.2	Provide employees with carshare memberships for local business travel	☐
		6. PARKING	
		6.1 Priced parking	
		Commuter travel	
BASIC	★ 6.1.1	Charge for long-term parking (daily, weekly, monthly)	☐
BASIC	6.1.2	Unbundle parking cost from lease rates at multi-tenant sites	☑
		Visitor travel	
BETTER	6.1.3	Charge for short-term parking (hourly)	☑

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		7. TDM MARKETING & COMMUNICATIONS	
		7.1 Multimodal travel information	
		Commuter travel	
BASIC	★	7.1.1 Provide a multimodal travel option information package to new/relocating employees and students	☐
		Visitor travel	
BETTER	★	7.1.2 Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	☐
		7.2 Personalized trip planning	
		Commuter travel	
BETTER	★	7.2.1 Offer personalized trip planning to new/relocating employees	☐
		7.3 Promotions	
		Commuter travel	
BETTER		7.3.1 Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐
		8. OTHER INCENTIVES & AMENITIES	
		8.1 Emergency ride home	
		Commuter travel	
BETTER	★	8.1.1 Provide emergency ride home service to non-driving commuters	☐
		8.2 Alternative work arrangements	
		Commuter travel	
BASIC	★	8.2.1 Encourage flexible work hours	☐
BETTER		8.2.2 Encourage compressed workweeks	☐
BETTER	★	8.2.3 Encourage telework	☐
		8.3 Local business travel options	
		Commuter travel	
BASIC	★	8.3.1 Provide local business travel options that minimize the need for employees to bring a personal car to work	☐
		8.4 Commuter incentives	
		Commuter travel	
BETTER		8.4.1 Offer employees a taxable, mode-neutral commuting allowance	☐
		8.5 On-site amenities	
		Commuter travel	
BETTER		8.5.1 Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐

APPENDIX E

SYNCHRO ANALYSIS REPORTS

Existing Conditions

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	62	295	134	75	1554
Future Volume (vph)	62	295	134	75	1554
Lane Group Flow (vph)	69	328	205	83	1931
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	27.0	27.0	27.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	64.0%	64.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	21.5	21.5	21.5	42.6	42.6
Actuated g/C Ratio	0.29	0.29	0.29	0.57	0.57
v/c Ratio	0.26	0.64	0.43	0.13	0.73
Control Delay	23.9	30.2	25.3	13.7	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	30.2	25.3	13.7	17.3
LOS	C	C	C	B	B
Approach Delay		29.1	25.3		17.1
Approach LOS		C	C		B
Queue Length 50th (m)	7.5	40.4	23.5	6.9	57.9
Queue Length 95th (m)	17.7	66.1	41.5	m11.0	75.4
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	264	511	474	628	2652
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.64	0.43	0.13	0.73

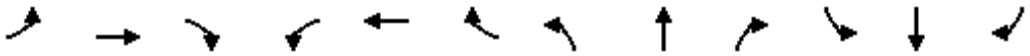
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 66 (88%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Kent St & Somerset St W

Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	14	1794
Future Volume (vph)	14	1794
Lane Group Flow (vph)	39	2030
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	51.9%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	14	21	33	1794	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	14	21	33	1794	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	16	23	37	1993	0	0	0	0
Pedestrians		92			133			15			8	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			12			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.70	0.70		0.70	0.70	0.70				0.70		
vC, conflicting volume	869	2292	107	2215	2292	805	92			2126		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1330	107	1219	1330	0	92			1091		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	82	97	98			100		
cM capacity (veh/h)	530	91	913	73	91	661	1501			387		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	39	436	797	797
Volume Left	0	37	0	0
Volume Right	23	0	0	0
cSH	186	1501	1700	1700
Volume to Capacity	0.21	0.02	0.47	0.47
Queue Length 95th (m)	5.8	0.6	0.0	0.0
Control Delay (s)	29.5	0.9	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	29.5	0.2		
Approach LOS	D			

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	51.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	85	1812
Future Volume (vph)	85	1812
Lane Group Flow (vph)	113	2184
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.28	0.72
Control Delay	20.1	23.1
Queue Delay	0.0	0.0
Total Delay	20.1	23.1
LOS	C	C
Approach Delay	20.1	23.1
Approach LOS	C	C
Queue Length 50th (m)	9.6	118.7
Queue Length 95th (m)	22.3	132.1
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	410	3025
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.28	0.72

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 5 (7%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 22.9	Intersection LOS: C
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	82	277	165	36	1698
Future Volume (vph)	82	277	165	36	1698
Lane Group Flow (vph)	91	308	347	40	1995
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	30.0	30.0	30.0	45.0	45.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	24.6	24.6	24.6	39.6	39.6
Actuated g/C Ratio	0.33	0.33	0.33	0.53	0.53
v/c Ratio	0.42	0.53	0.66	0.05	0.79
Control Delay	27.0	24.4	28.4	8.9	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	24.4	28.4	8.9	17.0
LOS	C	C	C	A	B
Approach Delay		25.0	28.4		16.8
Approach LOS		C	C		B
Queue Length 50th (m)	9.9	35.0	40.8	2.6	76.8
Queue Length 95th (m)	23.2	57.7	68.0	6.7	95.9
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	217	585	526	747	2537
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.53	0.66	0.05	0.79

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 36 (48%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	4	36	495	326
Future Volume (vph)	4	36	495	326
Lane Group Flow (vph)	30	0	590	391
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.08		0.59	0.38
Control Delay	15.5		3.2	8.4
Queue Delay	0.0		0.2	0.0
Total Delay	15.5		3.3	8.4
LOS	B		A	A
Approach Delay	15.5		3.3	8.4
Approach LOS	B		A	A
Queue Length 50th (m)	1.7		4.9	24.0
Queue Length 95th (m)	7.7		6.9	39.2
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	383		1004	1037
Starvation Cap Reductn	0		51	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.08		0.62	0.38

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 5.6	Intersection LOS: A
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	48	540	15	214
Future Volume (vph)	48	540	15	214
Lane Group Flow (vph)	123	638	0	255
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.28	0.61		0.25
Control Delay	21.9	12.6		4.8
Queue Delay	0.0	0.0		0.3
Total Delay	21.9	12.6		5.1
LOS	C	B		A
Approach Delay	21.9	12.6		5.1
Approach LOS	C	B		A
Queue Length 50th (m)	11.4	50.6		7.2
Queue Length 95th (m)	m21.1	80.5		11.4
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	439	1043		1012
Starvation Cap Reductn	0	0		347
Spillback Cap Reductn	0	3		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.28	0.61		0.38

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 37 (49%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 11.8	Intersection LOS: B
Intersection Capacity Utilization 56.1%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	61	622	
Future Volume (vph)	61	622	
Lane Group Flow (vph)	122	745	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.32	0.38	
Control Delay	14.5	8.2	
Queue Delay	0.0	0.0	
Total Delay	14.5	8.2	
LOS	B	A	
Approach Delay	14.5	8.2	
Approach LOS	B	A	
Queue Length 50th (m)	6.8	24.1	
Queue Length 95th (m)	m15.6	34.2	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	386	1976	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.32	0.38	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 46 (61%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 44.0%	ICU Level of Service A
Analysis Period (min) 15	

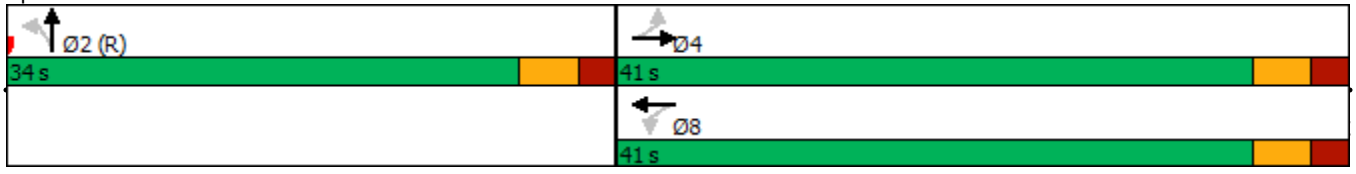
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: O'Connor St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	56	332	303	77	706
Future Volume (vph)	56	332	303	77	706
Lane Group Flow (vph)	62	369	407	86	902
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	41.0	41.0	41.0	34.0	34.0
Total Split (%)	54.7%	54.7%	54.7%	45.3%	45.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	35.5	35.5	35.5	28.6	28.6
Actuated g/C Ratio	0.47	0.47	0.47	0.38	0.38
v/c Ratio	0.20	0.44	0.51	0.26	0.51
Control Delay	13.8	15.2	16.6	23.5	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	15.2	16.6	23.5	22.5
LOS	B	B	B	C	C
Approach Delay		15.0	16.6		22.6
Approach LOS		B	B		C
Queue Length 50th (m)	4.9	33.0	38.0	8.1	30.2
Queue Length 95th (m)	12.3	53.2	61.6	21.4	60.2
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	305	844	791	326	1752
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.44	0.51	0.26	0.51

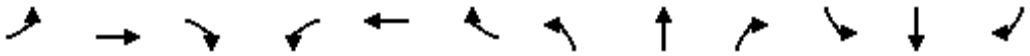
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 50 (67%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 72.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Kent St & Somerset St W



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	22	869
Future Volume (vph)	22	869
Lane Group Flow (vph)	102	1000
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 37.0%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	22	70	31	869	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	22	70	31	869	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	24	78	34	966	0	0	0	0
Pedestrians		45			95			11			17	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			9			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	542	1174	56	1140	1174	434	45			1061		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	186	875	56	838	875	68	45			752		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	90	90	98			100		
cM capacity (veh/h)	532	234	988	197	234	820	1561			714		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	102	227	386	386
Volume Left	0	34	0	0
Volume Right	78	0	0	0
cSH	516	1561	1700	1700
Volume to Capacity	0.20	0.02	0.23	0.23
Queue Length 95th (m)	5.5	0.5	0.0	0.0
Control Delay (s)	13.7	1.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.7	0.3		
Approach LOS	B			

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	37.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	77	846
Future Volume (vph)	77	846
Lane Group Flow (vph)	107	1027
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.26	0.34
Control Delay	19.8	9.5
Queue Delay	0.0	0.0
Total Delay	19.8	9.5
LOS	B	A
Approach Delay	19.8	9.5
Approach LOS	B	A
Queue Length 50th (m)	8.8	23.6
Queue Length 95th (m)	21.2	37.7
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	405	3012
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.26	0.34

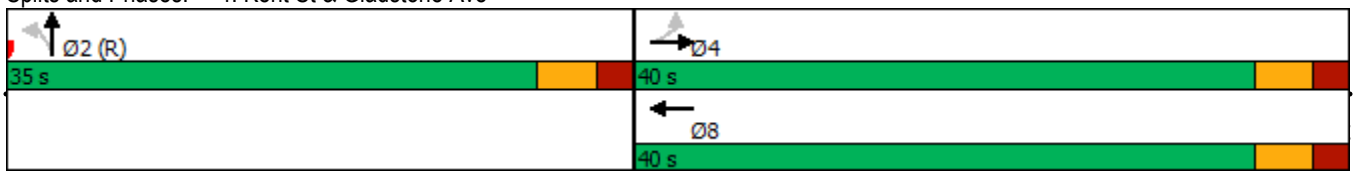
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 41.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	75	450	324	52	722
Future Volume (vph)	75	450	324	52	722
Lane Group Flow (vph)	83	500	443	58	920
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	40.0	40.0	40.0	35.0	35.0
Total Split (%)	53.3%	53.3%	53.3%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	34.6	34.6	34.6	29.6	29.6
Actuated g/C Ratio	0.46	0.46	0.46	0.39	0.39
v/c Ratio	0.27	0.61	0.55	0.10	0.49
Control Delay	15.4	19.1	17.1	15.0	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	19.1	17.1	15.0	17.3
LOS	B	B	B	B	B
Approach Delay		18.5	17.1		17.1
Approach LOS		B	B		B
Queue Length 50th (m)	6.9	50.5	41.0	5.0	33.0
Queue Length 95th (m)	16.3	79.9	67.0	11.9	43.8
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	311	823	801	588	1877
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.61	0.55	0.10	0.49

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 23 (31%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave



Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	11	25	275	620
Future Volume (vph)	11	25	275	620
Lane Group Flow (vph)	62	0	334	718
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.17		0.34	0.68
Control Delay	20.3		2.7	13.6
Queue Delay	0.0		0.2	0.0
Total Delay	20.3		2.9	13.6
LOS	C		A	B
Approach Delay	20.3		2.9	13.6
Approach LOS	C		A	B
Queue Length 50th (m)	5.6		4.3	59.4
Queue Length 95th (m)	14.7		6.1	95.7
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	366		980	1058
Starvation Cap Reductn	0		201	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.17		0.43	0.68

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 7 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 61.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	116	410	19	343
Future Volume (vph)	116	410	19	343
Lane Group Flow (vph)	213	487	0	402
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.48	0.47		0.39
Control Delay	19.6	10.1		4.3
Queue Delay	0.0	0.0		0.6
Total Delay	19.6	10.1		5.0
LOS	B	B		A
Approach Delay	19.6	10.1		5.0
Approach LOS	B	B		A
Queue Length 50th (m)	14.5	33.9		9.3
Queue Length 95th (m)	28.4	54.3		13.5
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	444	1037		1026
Starvation Cap Reductn	0	0		312
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.48	0.47		0.56

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 6 (8%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	84	1190	
Future Volume (vph)	84	1190	
Lane Group Flow (vph)	192	1375	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.50	0.69	
Control Delay	32.1	12.6	
Queue Delay	0.0	0.0	
Total Delay	32.1	12.6	
LOS	C	B	
Approach Delay	32.1	12.6	
Approach LOS	C	B	
Queue Length 50th (m)	19.8	61.7	
Queue Length 95th (m)	38.6	83.4	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	386	1985	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.50	0.69	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 71 (95%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: O'Connor St & Gilmour St

Future Background 2024

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	62	304	138	75	1601
Future Volume (vph)	62	304	138	75	1601
Lane Group Flow (vph)	62	304	188	75	1785
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	27.0	27.0	27.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	64.0%	64.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	21.5	21.5	21.5	42.6	42.6
Actuated g/C Ratio	0.29	0.29	0.29	0.57	0.57
v/c Ratio	0.22	0.59	0.40	0.12	0.67
Control Delay	22.9	28.7	24.6	13.3	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	28.7	24.6	13.3	15.9
LOS	C	C	C	B	B
Approach Delay		27.7	24.6		15.8
Approach LOS		C	C		B
Queue Length 50th (m)	6.6	36.7	21.3	5.8	49.4
Queue Length 95th (m)	15.9	61.0	38.3	m10.1	66.7
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	286	511	475	628	2656
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.59	0.40	0.12	0.67

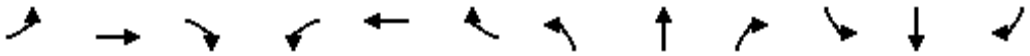
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 66 (88%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 81.5%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Kent St & Somerset St W

Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	14	1848
Future Volume (vph)	14	1848
Lane Group Flow (vph)	35	1881
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	53.0%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	14	21	33	1848	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	14	21	33	1848	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	14	21	33	1848	0	0	0	0
Pedestrians		92			133			15			8	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			12			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.74	0.74		0.74	0.74	0.74				0.74		
vC, conflicting volume	810	2139	107	2062	2139	757	92			1981		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1308	107	1204	1308	0	92			1095		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	86	97	98			100		
cM capacity (veh/h)	585	100	913	79	100	702	1501			410		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	35	403	739	739
Volume Left	0	33	0	0
Volume Right	21	0	0	0
cSH	206	1501	1700	1700
Volume to Capacity	0.17	0.02	0.43	0.43
Queue Length 95th (m)	4.5	0.5	0.0	0.0
Control Delay (s)	26.0	0.8	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	26.0	0.2		
Approach LOS	D			

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	53.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	85	1866
Future Volume (vph)	85	1866
Lane Group Flow (vph)	102	2020
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.25	0.67
Control Delay	19.4	22.4
Queue Delay	0.0	0.0
Total Delay	19.4	22.4
LOS	B	C
Approach Delay	19.4	22.4
Approach LOS	B	C
Queue Length 50th (m)	8.2	107.5
Queue Length 95th (m)	20.1	122.0
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	410	3029
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.25	0.67

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 5 (7%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	82	285	170	36	1749
Future Volume (vph)	82	285	170	36	1749
Lane Group Flow (vph)	82	285	318	36	1846
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	30.0	30.0	30.0	45.0	45.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	24.6	24.6	24.6	39.6	39.6
Actuated g/C Ratio	0.33	0.33	0.33	0.53	0.53
v/c Ratio	0.33	0.49	0.60	0.05	0.73
Control Delay	23.7	23.6	26.2	8.9	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	23.6	26.2	8.9	15.5
LOS	C	C	C	A	B
Approach Delay		23.6	26.2		15.4
Approach LOS		C	C		B
Queue Length 50th (m)	8.6	31.8	36.0	2.3	67.5
Queue Length 95th (m)	20.1	53.0	60.9	6.3	84.4
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	247	585	529	747	2538
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.49	0.60	0.05	0.73

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 36 (48%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 17.9	Intersection LOS: B
Intersection Capacity Utilization 81.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	4	36	510	336
Future Volume (vph)	4	36	510	336
Lane Group Flow (vph)	28	0	546	362
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.07		0.53	0.35
Control Delay	15.5		2.7	8.1
Queue Delay	0.0		0.1	0.0
Total Delay	15.5		2.8	8.1
LOS	B		A	A
Approach Delay	15.5		2.8	8.1
Approach LOS	B		A	A
Queue Length 50th (m)	1.6		4.3	21.6
Queue Length 95th (m)	7.3		6.1	35.6
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	383		1027	1039
Starvation Cap Reductn	0		66	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.07		0.57	0.35

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 5.2	Intersection LOS: A
Intersection Capacity Utilization 79.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	48	556	15	220
Future Volume (vph)	48	556	15	220
Lane Group Flow (vph)	111	590	0	235
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.25	0.57		0.23
Control Delay	21.2	11.7		4.8
Queue Delay	0.0	0.0		0.3
Total Delay	21.2	11.7		5.1
LOS	C	B		A
Approach Delay	21.2	11.7		5.1
Approach LOS	C	B		A
Queue Length 50th (m)	9.7	44.8		6.7
Queue Length 95th (m)	m19.4	71.3		10.7
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	439	1043		1020
Starvation Cap Reductn	0	0		379
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.25	0.57		0.37

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 37 (49%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 11.1	Intersection LOS: B
Intersection Capacity Utilization 57.0%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	61	641	
Future Volume (vph)	61	641	
Lane Group Flow (vph)	110	690	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.28	0.35	
Control Delay	13.9	7.9	
Queue Delay	0.0	0.0	
Total Delay	13.9	7.9	
LOS	B	A	
Approach Delay	13.9	7.9	
Approach LOS	B	A	
Queue Length 50th (m)	5.7	21.6	
Queue Length 95th (m)	m14.2	31.0	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	387	1977	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.28	0.35	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 46 (61%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 44.5%	ICU Level of Service A
Analysis Period (min) 15	

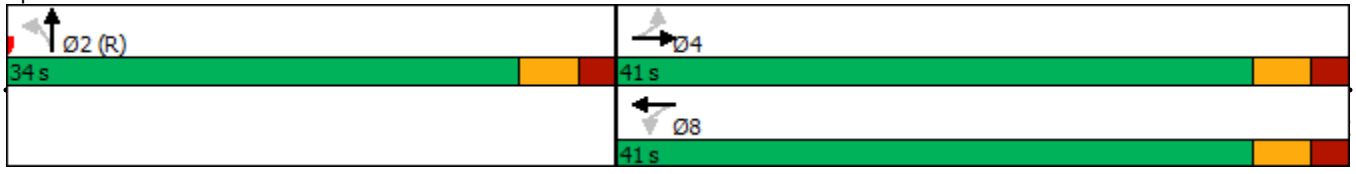
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: O'Connor St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	56	342	312	77	727
Future Volume (vph)	56	342	312	77	727
Lane Group Flow (vph)	56	342	375	77	833
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	41.0	41.0	41.0	34.0	34.0
Total Split (%)	54.7%	54.7%	54.7%	45.3%	45.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	35.5	35.5	35.5	28.6	28.6
Actuated g/C Ratio	0.47	0.47	0.47	0.38	0.38
v/c Ratio	0.16	0.41	0.47	0.24	0.47
Control Delay	12.8	14.7	15.9	22.4	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	14.7	15.9	22.4	21.1
LOS	B	B	B	C	C
Approach Delay		14.4	15.9		21.2
Approach LOS		B	B		C
Queue Length 50th (m)	4.3	29.9	34.2	6.8	26.4
Queue Length 95th (m)	10.9	48.9	55.7	16.9	54.6
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	348	844	792	326	1755
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.41	0.47	0.24	0.47

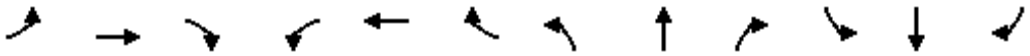
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 50 (67%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Kent St & Somerset St W



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	22	895
Future Volume (vph)	22	895
Lane Group Flow (vph)	92	926
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 37.6%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	22	70	31	895	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	22	70	31	895	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	22	70	31	895	0	0	0	0
Pedestrians		45			95			11			17	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			9			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	503	1097	56	1063	1097	410	45			990		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	191	831	56	794	831	91	45			716		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	91	91	98			100		
cM capacity (veh/h)	546	252	988	214	252	802	1561			744		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	92	210	358	358
Volume Left	0	31	0	0
Volume Right	70	0	0	0
cSH	527	1561	1700	1700
Volume to Capacity	0.17	0.02	0.21	0.21
Queue Length 95th (m)	4.8	0.5	0.0	0.0
Control Delay (s)	13.3	1.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.3	0.3		
Approach LOS	B			

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	37.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	77	871
Future Volume (vph)	77	871
Lane Group Flow (vph)	96	949
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.24	0.31
Control Delay	19.0	8.8
Queue Delay	0.0	0.0
Total Delay	19.0	8.8
LOS	B	A
Approach Delay	19.0	8.8
Approach LOS	B	A
Queue Length 50th (m)	7.5	20.1
Queue Length 95th (m)	19.0	33.2
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	405	3017
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.24	0.31

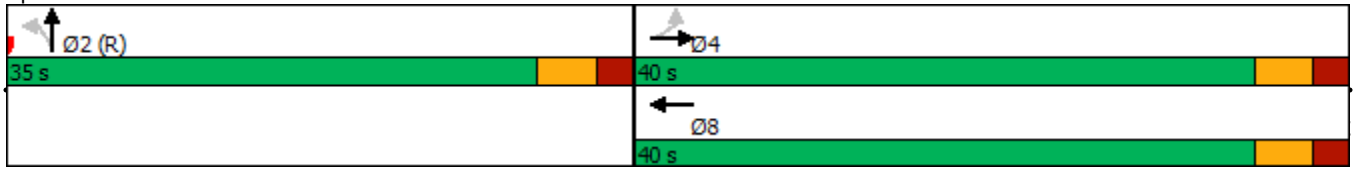
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.31	
Intersection Signal Delay: 9.8	Intersection LOS: A
Intersection Capacity Utilization 42.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	75	464	334	52	744
Future Volume (vph)	75	464	334	52	744
Lane Group Flow (vph)	75	464	409	52	850
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	40.0	40.0	40.0	35.0	35.0
Total Split (%)	53.3%	53.3%	53.3%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	34.6	34.6	34.6	29.6	29.6
Actuated g/C Ratio	0.46	0.46	0.46	0.39	0.39
v/c Ratio	0.22	0.56	0.51	0.09	0.45
Control Delay	14.4	18.0	16.3	14.9	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	18.0	16.3	14.9	16.8
LOS	B	B	B	B	B
Approach Delay		17.5	16.3		16.7
Approach LOS		B	B		B
Queue Length 50th (m)	6.1	45.6	36.8	4.5	29.8
Queue Length 95th (m)	14.5	72.1	60.3	11.0	40.0
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	339	823	801	588	1877
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.56	0.51	0.09	0.45

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 23 (31%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 64.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave



Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	11	25	283	639
Future Volume (vph)	11	25	283	639
Lane Group Flow (vph)	56	0	308	665
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.15		0.31	0.63
Control Delay	20.1		2.5	12.4
Queue Delay	0.0		0.3	0.0
Total Delay	20.1		2.8	12.4
LOS	C		A	B
Approach Delay	20.1		2.8	12.4
Approach LOS	C		A	B
Queue Length 50th (m)	5.0		3.9	52.1
Queue Length 95th (m)	13.5		5.7	83.4
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	366		1009	1059
Starvation Cap Reductn	0		257	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.15		0.41	0.63

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 7 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 61.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	116	422	19	353
Future Volume (vph)	116	422	19	353
Lane Group Flow (vph)	191	450	0	372
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.43	0.43		0.36
Control Delay	18.2	9.6		4.2
Queue Delay	0.0	0.0		0.5
Total Delay	18.2	9.6		4.8
LOS	B	A		A
Approach Delay	18.2	9.6		4.8
Approach LOS	B	A		A
Queue Length 50th (m)	12.4	30.2		8.6
Queue Length 95th (m)	24.5	48.9		12.5
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	444	1038		1029
Starvation Cap Reductn	0	0		313
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.43	0.43		0.52

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 6 (8%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	84	1226	
Future Volume (vph)	84	1226	
Lane Group Flow (vph)	173	1274	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.45	0.64	
Control Delay	30.3	11.6	
Queue Delay	0.0	0.0	
Total Delay	30.3	11.6	
LOS	C	B	
Approach Delay	30.3	11.6	
Approach LOS	C	B	
Queue Length 50th (m)	17.1	54.0	
Queue Length 95th (m)	34.8	73.1	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	386	1986	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.45	0.64	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 71 (95%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 13.9	Intersection LOS: B
Intersection Capacity Utilization 61.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: O'Connor St & Gilmour St

Future Background 2029

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	62	319	145	75	1678
Future Volume (vph)	62	319	145	75	1678
Lane Group Flow (vph)	62	319	195	75	1862
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	27.0	27.0	27.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	64.0%	64.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	21.5	21.5	21.5	42.6	42.6
Actuated g/C Ratio	0.29	0.29	0.29	0.57	0.57
v/c Ratio	0.22	0.62	0.41	0.12	0.70
Control Delay	23.0	29.6	24.8	13.4	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	29.6	24.8	13.4	16.7
LOS	C	C	C	B	B
Approach Delay		28.5	24.8		16.6
Approach LOS		C	C		B
Queue Length 50th (m)	6.6	39.0	22.2	6.0	54.0
Queue Length 95th (m)	16.0	64.2	39.6	m10.1	71.5
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	281	511	476	628	2659
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.62	0.41	0.12	0.70

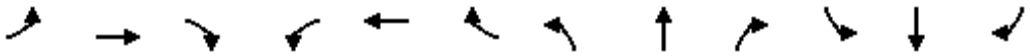
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 66 (88%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 83.9%	ICU Level of Service E
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Kent St & Somerset St W

Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	14	1938
Future Volume (vph)	14	1938
Lane Group Flow (vph)	35	1971
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	54.8%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	14	21	33	1938	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	14	21	33	1938	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	14	21	33	1938	0	0	0	0
Pedestrians		92			133			15			8	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			12			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.72	0.72		0.72	0.72	0.72				0.72		
vC, conflicting volume	840	2229	107	2152	2229	787	92			2071		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1331	107	1223	1331	0	92			1110		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	85	97	98			100		
cM capacity (veh/h)	562	94	913	74	94	680	1501			392		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	35	421	775	775
Volume Left	0	33	0	0
Volume Right	21	0	0	0
cSH	195	1501	1700	1700
Volume to Capacity	0.18	0.02	0.46	0.46
Queue Length 95th (m)	4.8	0.5	0.0	0.0
Control Delay (s)	27.5	0.8	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	27.5	0.2		
Approach LOS	D			

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	54.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	85	1957
Future Volume (vph)	85	1957
Lane Group Flow (vph)	102	2111
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.25	0.70
Control Delay	19.4	23.0
Queue Delay	0.0	0.0
Total Delay	19.4	23.0
LOS	B	C
Approach Delay	19.4	23.0
Approach LOS	B	C
Queue Length 50th (m)	8.2	114.7
Queue Length 95th (m)	20.1	128.7
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	410	3031
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.25	0.70

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 5 (7%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	82	299	178	36	1834
Future Volume (vph)	82	299	178	36	1834
Lane Group Flow (vph)	82	299	326	36	1931
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	30.0	30.0	30.0	45.0	45.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	24.6	24.6	24.6	39.6	39.6
Actuated g/C Ratio	0.33	0.33	0.33	0.53	0.53
v/c Ratio	0.34	0.51	0.62	0.05	0.76
Control Delay	24.0	24.1	26.8	8.9	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	24.1	26.8	8.9	16.3
LOS	C	C	C	A	B
Approach Delay		24.1	26.8		16.2
Approach LOS		C	C		B
Queue Length 50th (m)	8.7	33.7	37.5	2.3	72.8
Queue Length 95th (m)	20.3	55.7	63.1	6.3	90.8
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	241	585	529	747	2538
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.51	0.62	0.05	0.76

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 36 (48%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 83.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	4	36	535	352
Future Volume (vph)	4	36	535	352
Lane Group Flow (vph)	28	0	571	378
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.07		0.55	0.36
Control Delay	15.5		2.7	8.2
Queue Delay	0.0		0.2	0.0
Total Delay	15.5		2.9	8.2
LOS	B		A	A
Approach Delay	15.5		2.9	8.2
Approach LOS	B		A	A
Queue Length 50th (m)	1.6		4.3	23.0
Queue Length 95th (m)	7.3		6.1	37.7
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	383		1030	1041
Starvation Cap Reductn	0		66	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.07		0.59	0.36

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 5.3	Intersection LOS: A
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	48	583	15	231
Future Volume (vph)	48	583	15	231
Lane Group Flow (vph)	111	617	0	246
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.25	0.59		0.24
Control Delay	21.3	12.1		4.8
Queue Delay	0.0	0.0		0.3
Total Delay	21.3	12.1		5.1
LOS	C	B		A
Approach Delay	21.3	12.1		5.1
Approach LOS	C	B		A
Queue Length 50th (m)	9.8	48.1		6.9
Queue Length 95th (m)	m19.1	76.3		11.0
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	439	1045		1020
Starvation Cap Reductn	0	0		365
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.25	0.59		0.38

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 37 (49%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 11.4	Intersection LOS: B
Intersection Capacity Utilization 58.5%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	61	672	
Future Volume (vph)	61	672	
Lane Group Flow (vph)	110	721	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.28	0.36	
Control Delay	13.7	8.1	
Queue Delay	0.0	0.0	
Total Delay	13.7	8.1	
LOS	B	A	
Approach Delay	13.7	8.1	
Approach LOS	B	A	
Queue Length 50th (m)	5.6	23.0	
Queue Length 95th (m)	m14.0	32.7	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	387	1980	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.28	0.36	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 46 (61%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 8.8	Intersection LOS: A
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

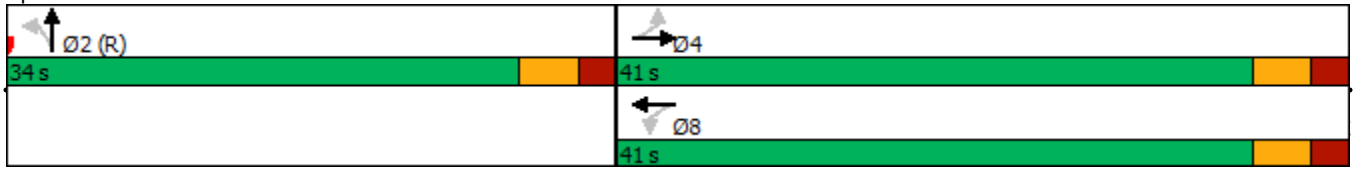
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: O'Connor St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	56	359	327	77	762
Future Volume (vph)	56	359	327	77	762
Lane Group Flow (vph)	56	359	390	77	868
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	41.0	41.0	41.0	34.0	34.0
Total Split (%)	54.7%	54.7%	54.7%	45.3%	45.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	35.5	35.5	35.5	28.6	28.6
Actuated g/C Ratio	0.47	0.47	0.47	0.38	0.38
v/c Ratio	0.17	0.43	0.49	0.24	0.49
Control Delay	12.9	15.0	16.2	22.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	15.0	16.2	22.7	21.8
LOS	B	B	B	C	C
Approach Delay		14.7	16.2		21.9
Approach LOS		B	B		C
Queue Length 50th (m)	4.3	31.8	35.9	7.0	28.3
Queue Length 95th (m)	10.9	51.7	58.5	17.4	58.6
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	337	844	794	326	1759
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.43	0.49	0.24	0.49

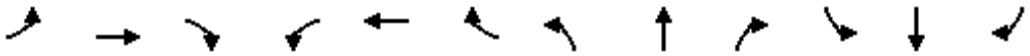
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 50 (67%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 75.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Kent St & Somerset St W



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	22	939
Future Volume (vph)	22	939
Lane Group Flow (vph)	92	970
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 38.5%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	22	70	31	939	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	22	70	31	939	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	22	70	31	939	0	0	0	0
Pedestrians		45			95			11			17	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			9			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	518	1141	56	1107	1141	425	45			1034		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	179	855	56	818	855	78	45			739		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	91	91	98			100		
cM capacity (veh/h)	552	242	988	204	242	812	1561			725		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	92	219	376	376
Volume Left	0	31	0	0
Volume Right	70	0	0	0
cSH	519	1561	1700	1700
Volume to Capacity	0.18	0.02	0.22	0.22
Queue Length 95th (m)	4.9	0.5	0.0	0.0
Control Delay (s)	13.4	1.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.4	0.3		
Approach LOS	B			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	38.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	77	914
Future Volume (vph)	77	914
Lane Group Flow (vph)	96	992
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.24	0.33
Control Delay	19.0	9.4
Queue Delay	0.0	0.0
Total Delay	19.0	9.4
LOS	B	A
Approach Delay	19.0	9.4
Approach LOS	B	A
Queue Length 50th (m)	7.5	22.2
Queue Length 95th (m)	19.0	36.1
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	405	3019
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.24	0.33

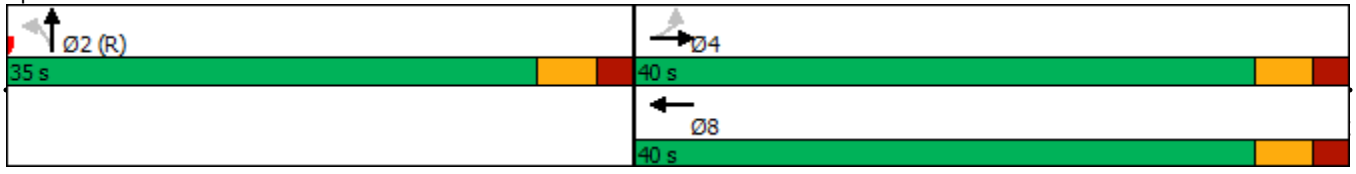
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.33	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 43.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	75	486	350	52	780
Future Volume (vph)	75	486	350	52	780
Lane Group Flow (vph)	75	486	425	52	886
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	40.0	40.0	40.0	35.0	35.0
Total Split (%)	53.3%	53.3%	53.3%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	34.6	34.6	34.6	29.6	29.6
Actuated g/C Ratio	0.46	0.46	0.46	0.39	0.39
v/c Ratio	0.23	0.59	0.53	0.09	0.47
Control Delay	14.6	18.6	16.7	14.9	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	18.6	16.7	14.9	17.1
LOS	B	B	B	B	B
Approach Delay		18.1	16.7		17.0
Approach LOS		B	B		B
Queue Length 50th (m)	6.1	48.6	38.9	4.5	31.5
Queue Length 95th (m)	14.6	76.6	63.7	11.0	42.1
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	327	823	801	588	1879
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.59	0.53	0.09	0.47

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 23 (31%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 65.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave



Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	11	25	297	670
Future Volume (vph)	11	25	297	670
Lane Group Flow (vph)	56	0	322	696
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.15		0.32	0.66
Control Delay	20.1		2.6	13.0
Queue Delay	0.0		0.3	0.0
Total Delay	20.1		2.8	13.0
LOS	C		A	B
Approach Delay	20.1		2.8	13.0
Approach LOS	C		A	B
Queue Length 50th (m)	5.0		4.0	56.2
Queue Length 95th (m)	13.5		5.8	90.1
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	366		1010	1061
Starvation Cap Reductn	0		239	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.15		0.42	0.66

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 7 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	116	443	19	370
Future Volume (vph)	116	443	19	370
Lane Group Flow (vph)	191	471	0	389
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.43	0.45		0.38
Control Delay	18.3	9.9		4.2
Queue Delay	0.0	0.0		0.6
Total Delay	18.3	9.9		4.8
LOS	B	A		A
Approach Delay	18.3	9.9		4.8
Approach LOS	B	A		A
Queue Length 50th (m)	12.6	32.3		8.8
Queue Length 95th (m)	24.6	51.7		12.8
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	444	1040		1030
Starvation Cap Reductn	0	0		314
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.43	0.45		0.54

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 6 (8%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 64.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	84	1285	
Future Volume (vph)	84	1285	
Lane Group Flow (vph)	173	1333	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.45	0.67	
Control Delay	30.3	12.2	
Queue Delay	0.0	0.0	
Total Delay	30.3	12.2	
LOS	C	B	
Approach Delay	30.3	12.2	
Approach LOS	C	B	
Queue Length 50th (m)	17.0	58.3	
Queue Length 95th (m)	34.7	79.0	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	386	1987	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.45	0.67	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 71 (95%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 63.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: O'Connor St & Gilmour St

Total Projected 2024

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	62	304	138	75	1601
Future Volume (vph)	62	304	138	75	1601
Lane Group Flow (vph)	62	304	188	75	1785
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	27.0	27.0	27.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	64.0%	64.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	21.5	21.5	21.5	42.6	42.6
Actuated g/C Ratio	0.29	0.29	0.29	0.57	0.57
v/c Ratio	0.22	0.59	0.40	0.12	0.67
Control Delay	22.9	28.7	24.6	13.3	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	28.7	24.6	13.3	15.9
LOS	C	C	C	B	B
Approach Delay		27.7	24.6		15.8
Approach LOS		C	C		B
Queue Length 50th (m)	6.6	36.7	21.3	5.8	49.5
Queue Length 95th (m)	15.9	61.0	38.3	m10.1	66.8
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	286	511	475	628	2656
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.59	0.40	0.12	0.67

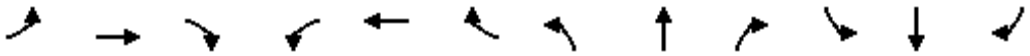
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 66 (88%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 81.5%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Kent St & Somerset St W

Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	14	1848
Future Volume (vph)	14	1848
Lane Group Flow (vph)	35	1881
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	53.0%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	14	21	33	1848	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	14	21	33	1848	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	14	21	33	1848	0	0	0	0
Pedestrians		92			133			15			8	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			12			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.74	0.74		0.74	0.74	0.74				0.74		
vC, conflicting volume	810	2139	107	2062	2139	757	92			1981		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1306	107	1201	1306	0	92			1092		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	86	97	98			100		
cM capacity (veh/h)	584	101	913	80	101	702	1501			411		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	35	403	739	739
Volume Left	0	33	0	0
Volume Right	21	0	0	0
cSH	207	1501	1700	1700
Volume to Capacity	0.17	0.02	0.43	0.43
Queue Length 95th (m)	4.5	0.5	0.0	0.0
Control Delay (s)	25.9	0.8	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	25.9	0.2		
Approach LOS	D			

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	53.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	85	1866
Future Volume (vph)	85	1866
Lane Group Flow (vph)	102	2021
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.25	0.67
Control Delay	19.4	22.5
Queue Delay	0.0	0.0
Total Delay	19.4	22.5
LOS	B	C
Approach Delay	19.4	22.5
Approach LOS	B	C
Queue Length 50th (m)	8.2	107.6
Queue Length 95th (m)	20.1	122.1
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	410	3026
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.25	0.67

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 5 (7%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	82	285	170	36	1749
Future Volume (vph)	82	285	170	36	1749
Lane Group Flow (vph)	82	285	318	36	1846
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	30.0	30.0	30.0	45.0	45.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	24.6	24.6	24.6	39.6	39.6
Actuated g/C Ratio	0.33	0.33	0.33	0.53	0.53
v/c Ratio	0.33	0.49	0.60	0.05	0.73
Control Delay	23.7	23.6	26.2	8.9	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	23.6	26.2	8.9	15.5
LOS	C	C	C	A	B
Approach Delay		23.6	26.2		15.4
Approach LOS		C	C		B
Queue Length 50th (m)	8.6	31.8	36.0	2.3	67.5
Queue Length 95th (m)	20.1	53.0	60.9	6.3	84.4
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	247	585	529	747	2538
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.49	0.60	0.05	0.73

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 36 (48%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 17.9	Intersection LOS: B
Intersection Capacity Utilization 81.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	4	36	515	336
Future Volume (vph)	4	36	515	336
Lane Group Flow (vph)	28	0	551	362
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.07		0.54	0.35
Control Delay	15.5		2.9	8.1
Queue Delay	0.0		0.1	0.0
Total Delay	15.5		3.0	8.1
LOS	B		A	A
Approach Delay	15.5		3.0	8.1
Approach LOS	B		A	A
Queue Length 50th (m)	1.6		5.1	21.6
Queue Length 95th (m)	7.3		7.1	35.6
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	383		1029	1039
Starvation Cap Reductn	0		66	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.07		0.57	0.35

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 5.3	Intersection LOS: A
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	60	556	15	220
Future Volume (vph)	60	556	15	220
Lane Group Flow (vph)	133	590	0	235
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.30	0.57		0.23
Control Delay	22.4	11.7		4.8
Queue Delay	0.0	0.0		0.3
Total Delay	22.4	11.7		5.1
LOS	C	B		A
Approach Delay	22.4	11.7		5.1
Approach LOS	C	B		A
Queue Length 50th (m)	12.4	44.8		6.7
Queue Length 95th (m)	m24.0	71.3		10.7
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	440	1043		1020
Starvation Cap Reductn	0	0		379
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.30	0.57		0.37

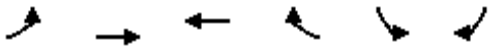
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 37 (49%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 11.5	Intersection LOS: B
Intersection Capacity Utilization 57.2%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank St & Gilmour St

Lane Group	EBT	SBL
Lane Configurations		
Traffic Volume (vph)	202	37
Future Volume (vph)	202	37
Lane Group Flow (vph)	240	37
Sign Control	Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	23.4%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	202	0	0	37	0
Future Volume (Veh/h)	38	202	0	0	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	38	202	0	0	37	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		67	140			
pX, platoon unblocked					0.97	
vC, conflicting volume	0				278	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				245	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	100
cM capacity (veh/h)	1623				707	1085

Direction, Lane #	EB 1	SB 1
Volume Total	240	37
Volume Left	38	37
Volume Right	0	0
cSH	1623	707
Volume to Capacity	0.02	0.05
Queue Length 95th (m)	0.5	1.3
Control Delay (s)	1.3	10.4
Lane LOS	A	B
Approach Delay (s)	1.3	10.4
Approach LOS		B

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	61	641	
Future Volume (vph)	61	641	
Lane Group Flow (vph)	122	690	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.31	0.35	
Control Delay	11.6	7.9	
Queue Delay	0.0	0.0	
Total Delay	11.6	7.9	
LOS	B	A	
Approach Delay	11.6	7.9	
Approach LOS	B	A	
Queue Length 50th (m)	4.6	21.6	
Queue Length 95th (m)	m13.0	31.0	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	392	1977	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.31	0.35	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 46 (61%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 8.5	Intersection LOS: A
Intersection Capacity Utilization 44.5%	ICU Level of Service A
Analysis Period (min) 15	

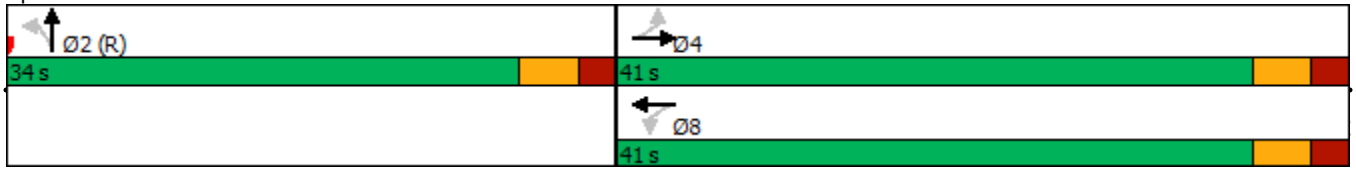
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: O'Connor St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	56	342	312	77	727
Future Volume (vph)	56	342	312	77	727
Lane Group Flow (vph)	56	342	375	77	833
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	41.0	41.0	41.0	34.0	34.0
Total Split (%)	54.7%	54.7%	54.7%	45.3%	45.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	35.5	35.5	35.5	28.6	28.6
Actuated g/C Ratio	0.47	0.47	0.47	0.38	0.38
v/c Ratio	0.16	0.41	0.47	0.24	0.47
Control Delay	12.8	14.7	15.9	22.4	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	14.7	15.9	22.4	21.1
LOS	B	B	B	C	C
Approach Delay		14.4	15.9		21.2
Approach LOS		B	B		C
Queue Length 50th (m)	4.3	29.9	34.2	6.8	26.5
Queue Length 95th (m)	10.9	48.9	55.7	17.2	54.5
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	348	844	792	326	1755
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.41	0.47	0.24	0.47

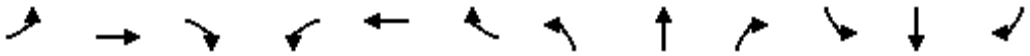
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 50 (67%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Kent St & Somerset St W



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	22	895
Future Volume (vph)	22	895
Lane Group Flow (vph)	92	926
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 37.6%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	22	70	31	895	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	22	70	31	895	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	22	70	31	895	0	0	0	0
Pedestrians		45			95			11			17	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			9			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	503	1097	56	1063	1097	410	45			990		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	187	827	56	791	827	86	45			712		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	91	91	98			100		
cM capacity (veh/h)	550	253	988	215	253	807	1561			746		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	92	210	358	358
Volume Left	0	31	0	0
Volume Right	70	0	0	0
cSH	529	1561	1700	1700
Volume to Capacity	0.17	0.02	0.21	0.21
Queue Length 95th (m)	4.7	0.5	0.0	0.0
Control Delay (s)	13.2	1.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.2	0.3		
Approach LOS	B			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	37.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	79	871
Future Volume (vph)	79	871
Lane Group Flow (vph)	98	972
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.24	0.32
Control Delay	19.2	8.9
Queue Delay	0.0	0.0
Total Delay	19.2	8.9
LOS	B	A
Approach Delay	19.2	8.9
Approach LOS	B	A
Queue Length 50th (m)	7.7	20.7
Queue Length 95th (m)	19.4	34.1
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	405	2992
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.24	0.32

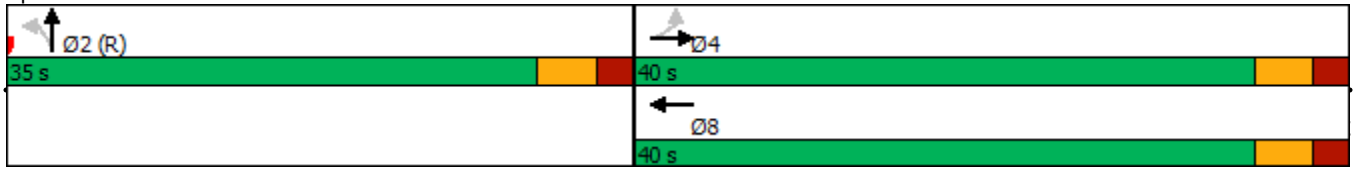
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 43.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	75	464	334	52	757
Future Volume (vph)	75	464	334	52	757
Lane Group Flow (vph)	75	464	409	52	863
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	40.0	40.0	40.0	35.0	35.0
Total Split (%)	53.3%	53.3%	53.3%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	34.6	34.6	34.6	29.6	29.6
Actuated g/C Ratio	0.46	0.46	0.46	0.39	0.39
v/c Ratio	0.22	0.56	0.51	0.09	0.46
Control Delay	14.4	18.0	16.3	14.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	18.0	16.3	14.9	16.9
LOS	B	B	B	B	B
Approach Delay		17.5	16.3		16.8
Approach LOS		B	B		B
Queue Length 50th (m)	6.1	45.6	36.8	4.5	30.5
Queue Length 95th (m)	14.5	72.1	60.3	11.0	40.8
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	339	823	801	588	1879
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.56	0.51	0.09	0.46

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 23 (31%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave



Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	11	25	275	643
Future Volume (vph)	11	25	275	643
Lane Group Flow (vph)	56	0	300	669
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.15		0.30	0.63
Control Delay	20.1		2.3	12.5
Queue Delay	0.0		0.3	0.0
Total Delay	20.1		2.6	12.5
LOS	C		A	B
Approach Delay	20.1		2.6	12.5
Approach LOS	C		A	B
Queue Length 50th (m)	5.0		3.1	52.6
Queue Length 95th (m)	13.5		4.5	84.4
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	366		1007	1059
Starvation Cap Reductn	0		259	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.15		0.40	0.63

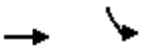
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 7 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 10.0	Intersection LOS: A
Intersection Capacity Utilization 62.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	102	422	19	357
Future Volume (vph)	102	422	19	357
Lane Group Flow (vph)	161	450	0	376
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.36	0.43		0.37
Control Delay	16.3	9.6		4.2
Queue Delay	0.0	0.0		0.5
Total Delay	16.3	9.6		4.8
LOS	B	A		A
Approach Delay	16.3	9.6		4.8
Approach LOS	B	A		A
Queue Length 50th (m)	9.4	30.2		8.6
Queue Length 95th (m)	19.4	48.9		12.6
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	450	1038		1030
Starvation Cap Reductn	0	0		313
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.36	0.43		0.52

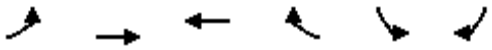
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 6 (8%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Bank St & Gilmour St



Lane Group	EBT	SBL
Lane Configurations		
Traffic Volume (vph)	149	37
Future Volume (vph)	149	37
Lane Group Flow (vph)	180	37
Sign Control	Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 20.1%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	149	0	0	37	0
Future Volume (Veh/h)	31	149	0	0	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	31	149	0	0	37	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		67	140			
pX, platoon unblocked					0.98	
vC, conflicting volume	0				211	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				183	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	100
cM capacity (veh/h)	1623				774	1085

Direction, Lane #	EB 1	SB 1
Volume Total	180	37
Volume Left	31	37
Volume Right	0	0
cSH	1623	774
Volume to Capacity	0.02	0.05
Queue Length 95th (m)	0.4	1.1
Control Delay (s)	1.4	9.9
Lane LOS	A	A
Approach Delay (s)	1.4	9.9
Approach LOS		A

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	20.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	84	1226	
Future Volume (vph)	84	1226	
Lane Group Flow (vph)	159	1274	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.42	0.64	
Control Delay	29.4	11.6	
Queue Delay	0.0	0.0	
Total Delay	29.4	11.6	
LOS	C	B	
Approach Delay	29.4	11.6	
Approach LOS	C	B	
Queue Length 50th (m)	15.8	54.0	
Queue Length 95th (m)	33.2	73.1	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	381	1986	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.42	0.64	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 71 (95%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 13.6	Intersection LOS: B
Intersection Capacity Utilization 61.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: O'Connor St & Gilmour St

Total Projected 2029

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	62	319	145	75	1678
Future Volume (vph)	62	319	145	75	1678
Lane Group Flow (vph)	62	319	195	75	1862
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	27.0	27.0	27.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	64.0%	64.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	21.5	21.5	21.5	42.6	42.6
Actuated g/C Ratio	0.29	0.29	0.29	0.57	0.57
v/c Ratio	0.22	0.62	0.41	0.12	0.70
Control Delay	23.0	29.6	24.8	13.4	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	29.6	24.8	13.4	16.7
LOS	C	C	C	B	B
Approach Delay		28.5	24.8		16.6
Approach LOS		C	C		B
Queue Length 50th (m)	6.6	39.0	22.2	6.0	54.0
Queue Length 95th (m)	16.0	64.2	39.6	m10.1	71.5
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	282	511	476	628	2659
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.62	0.41	0.12	0.70

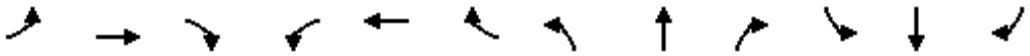
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 66 (88%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 83.9%	ICU Level of Service E
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Kent St & Somerset St W

Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	14	1938
Future Volume (vph)	14	1938
Lane Group Flow (vph)	35	1971
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	54.8%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	14	21	33	1938	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	14	21	33	1938	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	14	21	33	1938	0	0	0	0
Pedestrians		92			133			15			8	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			12			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.72	0.72		0.72	0.72	0.72				0.72		
vC, conflicting volume	840	2229	107	2152	2229	787	92			2071		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1330	107	1222	1330	0	92			1109		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	85	97	98			100		
cM capacity (veh/h)	561	94	913	75	94	680	1501			392		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	35	421	775	775
Volume Left	0	33	0	0
Volume Right	21	0	0	0
cSH	195	1501	1700	1700
Volume to Capacity	0.18	0.02	0.46	0.46
Queue Length 95th (m)	4.8	0.5	0.0	0.0
Control Delay (s)	27.5	0.8	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	27.5	0.2		
Approach LOS	D			

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	54.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	85	1957
Future Volume (vph)	85	1957
Lane Group Flow (vph)	102	2112
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.25	0.70
Control Delay	19.4	23.0
Queue Delay	0.0	0.0
Total Delay	19.4	23.0
LOS	B	C
Approach Delay	19.4	23.0
Approach LOS	B	C
Queue Length 50th (m)	8.2	114.7
Queue Length 95th (m)	20.1	128.8
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	410	3030
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.25	0.70

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 5 (7%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 66.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	82	299	178	36	1834
Future Volume (vph)	82	299	178	36	1834
Lane Group Flow (vph)	82	299	326	36	1931
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	30.0	30.0	30.0	45.0	45.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	24.6	24.6	24.6	39.6	39.6
Actuated g/C Ratio	0.33	0.33	0.33	0.53	0.53
v/c Ratio	0.34	0.51	0.62	0.05	0.76
Control Delay	24.0	24.1	26.8	8.9	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	24.1	26.8	8.9	16.3
LOS	C	C	C	A	B
Approach Delay		24.1	26.8		16.2
Approach LOS		C	C		B
Queue Length 50th (m)	8.7	33.7	37.5	2.3	72.8
Queue Length 95th (m)	20.3	55.7	63.1	6.3	90.8
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	242	585	529	747	2538
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.51	0.62	0.05	0.76

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 36 (48%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 83.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	4	36	540	352
Future Volume (vph)	4	36	540	352
Lane Group Flow (vph)	28	0	576	378
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.07		0.56	0.36
Control Delay	15.5		3.0	8.2
Queue Delay	0.0		0.2	0.0
Total Delay	15.5		3.1	8.2
LOS	B		A	A
Approach Delay	15.5		3.1	8.2
Approach LOS	B		A	A
Queue Length 50th (m)	1.6		5.1	23.0
Queue Length 95th (m)	7.3		7.1	37.7
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	383		1031	1041
Starvation Cap Reductn	0		66	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.07		0.60	0.36

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 42 (56%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 5.5	Intersection LOS: A
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

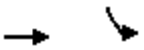
Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	60	583	15	231
Future Volume (vph)	60	583	15	231
Lane Group Flow (vph)	133	617	0	246
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.30	0.59		0.24
Control Delay	22.5	12.1		4.8
Queue Delay	0.0	0.0		0.3
Total Delay	22.5	12.1		5.1
LOS	C	B		A
Approach Delay	22.5	12.1		5.1
Approach LOS	C	B		A
Queue Length 50th (m)	12.5	48.1		6.9
Queue Length 95th (m)	m23.4	76.3		11.0
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	440	1045		1020
Starvation Cap Reductn	0	0		365
Spillback Cap Reductn	0	1		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.30	0.59		0.38

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 37 (49%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 11.8	Intersection LOS: B
Intersection Capacity Utilization 58.6%	ICU Level of Service B
Analysis Period (min) 15	

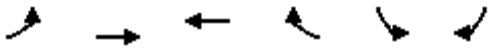
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bank St & Gilmour St



Lane Group	EBT	SBL
Lane Configurations		
Traffic Volume (vph)	202	37
Future Volume (vph)	202	37
Lane Group Flow (vph)	240	37
Sign Control	Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	23.4%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	202	0	0	37	0
Future Volume (Veh/h)	38	202	0	0	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	38	202	0	0	37	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		67	140			
pX, platoon unblocked					0.97	
vC, conflicting volume	0				278	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				245	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	100
cM capacity (veh/h)	1623				707	1085

Direction, Lane #	EB 1	SB 1
Volume Total	240	37
Volume Left	38	37
Volume Right	0	0
cSH	1623	707
Volume to Capacity	0.02	0.05
Queue Length 95th (m)	0.5	1.3
Control Delay (s)	1.3	10.4
Lane LOS	A	B
Approach Delay (s)	1.3	10.4
Approach LOS		B

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	61	672	
Future Volume (vph)	61	672	
Lane Group Flow (vph)	122	721	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.31	0.36	
Control Delay	11.4	8.1	
Queue Delay	0.0	0.0	
Total Delay	11.4	8.1	
LOS	B	A	
Approach Delay	11.4	8.1	
Approach LOS	B	A	
Queue Length 50th (m)	4.5	23.0	
Queue Length 95th (m)	m12.6	32.7	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	392	1980	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.31	0.36	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 46 (61%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 8.5	Intersection LOS: A
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

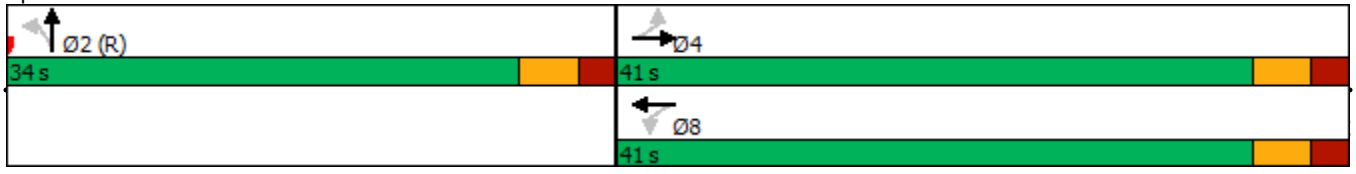
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: O'Connor St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	56	359	327	77	762
Future Volume (vph)	56	359	327	77	762
Lane Group Flow (vph)	56	359	390	77	868
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.5	23.5	23.5	23.4	23.4
Total Split (s)	41.0	41.0	41.0	34.0	34.0
Total Split (%)	54.7%	54.7%	54.7%	45.3%	45.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	35.5	35.5	35.5	28.6	28.6
Actuated g/C Ratio	0.47	0.47	0.47	0.38	0.38
v/c Ratio	0.17	0.43	0.49	0.24	0.49
Control Delay	12.9	15.0	16.2	22.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	15.0	16.2	22.7	21.8
LOS	B	B	B	C	C
Approach Delay		14.7	16.2		21.9
Approach LOS		B	B		C
Queue Length 50th (m)	4.3	31.8	35.9	7.0	28.5
Queue Length 95th (m)	10.9	51.7	58.5	17.3	58.4
Internal Link Dist (m)		97.2	154.7		68.5
Turn Bay Length (m)	20.0			20.0	
Base Capacity (vph)	339	844	794	326	1759
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.43	0.49	0.24	0.49

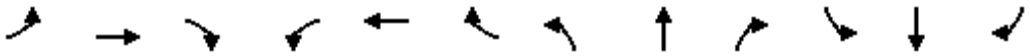
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 50 (67%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 75.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Kent St & Somerset St W



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	22	939
Future Volume (vph)	22	939
Lane Group Flow (vph)	92	970
Sign Control	Stop	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	38.5%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	22	70	31	939	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	22	70	31	939	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	22	70	31	939	0	0	0	0
Pedestrians		45			95			11			17	
Lane Width (m)		0.0			3.7			3.7			0.0	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			9			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								78			92	
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	518	1141	56	1107	1141	425	45			1034		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	174	851	56	814	851	73	45			734		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	91	91	98			100		
cM capacity (veh/h)	556	243	988	206	243	817	1561			727		

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	92	219	376	376
Volume Left	0	31	0	0
Volume Right	70	0	0	0
cSH	522	1561	1700	1700
Volume to Capacity	0.18	0.02	0.22	0.22
Queue Length 95th (m)	4.8	0.5	0.0	0.0
Control Delay (s)	13.4	1.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.4	0.3		
Approach LOS	B			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	38.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	NBT
Lane Configurations		
Traffic Volume (vph)	79	914
Future Volume (vph)	79	914
Lane Group Flow (vph)	98	1015
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Minimum Split (s)	21.5	21.1
Total Split (s)	22.0	53.0
Total Split (%)	29.3%	70.7%
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.2	1.8
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	5.5	5.1
Lead/Lag		
Lead-Lag Optimize?		
Act Effct Green (s)	16.5	47.9
Actuated g/C Ratio	0.22	0.64
v/c Ratio	0.24	0.34
Control Delay	19.2	9.5
Queue Delay	0.0	0.0
Total Delay	19.2	9.5
LOS	B	A
Approach Delay	19.2	9.5
Approach LOS	B	A
Queue Length 50th (m)	7.7	22.9
Queue Length 95th (m)	19.4	37.1
Internal Link Dist (m)	157.9	224.2
Turn Bay Length (m)		
Base Capacity (vph)	405	2998
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.24	0.34

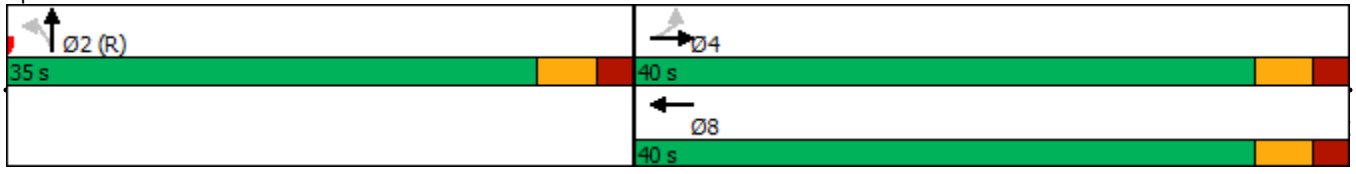
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 43.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Kent St & Gilmour St

Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Configurations					
Traffic Volume (vph)	75	486	350	52	793
Future Volume (vph)	75	486	350	52	793
Lane Group Flow (vph)	75	486	425	52	899
Turn Type	Perm	NA	NA	Perm	NA
Protected Phases		4	8		2
Permitted Phases	4			2	
Minimum Split (s)	23.4	23.4	23.4	23.4	23.4
Total Split (s)	40.0	40.0	40.0	35.0	35.0
Total Split (%)	53.3%	53.3%	53.3%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag					
Lead-Lag Optimize?					
Act Effct Green (s)	34.6	34.6	34.6	29.6	29.6
Actuated g/C Ratio	0.46	0.46	0.46	0.39	0.39
v/c Ratio	0.23	0.59	0.53	0.09	0.48
Control Delay	14.6	18.6	16.7	14.9	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	18.6	16.7	14.9	17.2
LOS	B	B	B	B	B
Approach Delay		18.1	16.7		17.1
Approach LOS		B	B		B
Queue Length 50th (m)	6.1	48.6	38.9	4.5	32.1
Queue Length 95th (m)	14.6	76.6	63.7	11.0	42.9
Internal Link Dist (m)		152.2	162.6		69.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	327	823	801	588	1879
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.59	0.53	0.09	0.48

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 23 (31%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 65.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Kent St & Gladstone Ave



Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	11	25	289	674
Future Volume (vph)	11	25	289	674
Lane Group Flow (vph)	56	0	314	700
Turn Type	NA	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		2		
Minimum Split (s)	24.2	23.0	23.0	23.0
Total Split (s)	24.0	51.0	51.0	51.0
Total Split (%)	32.0%	68.0%	68.0%	68.0%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.7	1.7	1.7
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.2		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	18.8		46.0	46.0
Actuated g/C Ratio	0.25		0.61	0.61
v/c Ratio	0.15		0.31	0.66
Control Delay	20.1		2.3	13.1
Queue Delay	0.0		0.2	0.0
Total Delay	20.1		2.6	13.1
LOS	C		A	B
Approach Delay	20.1		2.6	13.1
Approach LOS	C		A	B
Queue Length 50th (m)	5.0		3.2	56.7
Queue Length 95th (m)	13.5		4.7	91.2
Internal Link Dist (m)	126.3		56.4	50.2
Turn Bay Length (m)				
Base Capacity (vph)	366		1019	1061
Starvation Cap Reductn	0		249	0
Spillback Cap Reductn	0		0	0
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.15		0.41	0.66

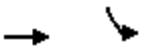
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 7 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Bank St & MacLaren St

Lane Group	EBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	102	443	19	374
Future Volume (vph)	102	443	19	374
Lane Group Flow (vph)	161	471	0	393
Turn Type	NA	NA	Perm	NA
Protected Phases	4	2		6
Permitted Phases			6	
Minimum Split (s)	23.2	26.1	26.1	26.1
Total Split (s)	25.0	50.0	50.0	50.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3
All-Red Time (s)	1.9	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	5.2	5.1		5.1
Lead/Lag				
Lead-Lag Optimize?				
Act Effct Green (s)	19.8	44.9		44.9
Actuated g/C Ratio	0.26	0.60		0.60
v/c Ratio	0.36	0.45		0.38
Control Delay	16.4	9.9		4.3
Queue Delay	0.0	0.0		0.6
Total Delay	16.4	9.9		4.8
LOS	B	A		A
Approach Delay	16.4	9.9		4.8
Approach LOS	B	A		A
Queue Length 50th (m)	9.5	32.3		8.9
Queue Length 95th (m)	19.6	51.7		12.9
Internal Link Dist (m)	115.9	89.4		56.4
Turn Bay Length (m)				
Base Capacity (vph)	450	1040		1030
Starvation Cap Reductn	0	0		312
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.36	0.45		0.55

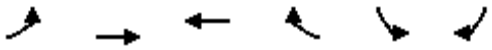
Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 6 (8%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.0	Intersection LOS: A
Intersection Capacity Utilization 61.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Bank St & Gilmour St



Lane Group	EBT	SBL
Lane Configurations		
Traffic Volume (vph)	149	37
Future Volume (vph)	149	37
Lane Group Flow (vph)	180	37
Sign Control	Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	20.1%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	149	0	0	37	0
Future Volume (Veh/h)	31	149	0	0	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	31	149	0	0	37	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		67	140			
pX, platoon unblocked					0.98	
vC, conflicting volume	0				211	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				183	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	100
cM capacity (veh/h)	1623				774	1085

Direction, Lane #	EB 1	SB 1
Volume Total	180	37
Volume Left	31	37
Volume Right	0	0
cSH	1623	774
Volume to Capacity	0.02	0.05
Queue Length 95th (m)	0.4	1.1
Control Delay (s)	1.4	9.9
Lane LOS	A	A
Approach Delay (s)	1.4	9.9
Approach LOS		A

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	20.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBT	SBT	Ø9
Lane Configurations			
Traffic Volume (vph)	84	1285	
Future Volume (vph)	84	1285	
Lane Group Flow (vph)	159	1333	
Turn Type	NA	NA	
Protected Phases	4	6	9
Permitted Phases			
Minimum Split (s)	20.1	26.1	5.0
Total Split (s)	21.0	49.0	5.0
Total Split (%)	28.0%	65.3%	7%
Yellow Time (s)	3.3	3.3	2.0
All-Red Time (s)	1.8	1.8	0.0
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	5.1	5.1	
Lead/Lag			
Lead-Lag Optimize?			
Act Effct Green (s)	15.9	43.9	
Actuated g/C Ratio	0.21	0.59	
v/c Ratio	0.42	0.67	
Control Delay	29.3	12.2	
Queue Delay	0.0	0.0	
Total Delay	29.3	12.2	
LOS	C	B	
Approach Delay	29.3	12.2	
Approach LOS	C	B	
Queue Length 50th (m)	15.8	58.3	
Queue Length 95th (m)	33.0	79.0	
Internal Link Dist (m)	159.1	135.3	
Turn Bay Length (m)			
Base Capacity (vph)	381	1987	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.42	0.67	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 71 (95%), Referenced to phase 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 14.0	Intersection LOS: B
Intersection Capacity Utilization 63.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: O'Connor St & Gilmour St