December
2017

398 – 406 Roosevelt Avenue

TIA Strategy Report

Prepared for:

domicile

Prepared by:

PARSONS

398 – 406 Roosevelt Avenue

TIA Strategy Report

prepared for:
Domicile
1-371A Richmond Road
Ottawa, ON K2A 0E7

prepared by:
PARSONS
1223 Michael Street North
Suite 100
Ottawa, ON K1J 7T2

December 22, 2017

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PARSONS

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Strategy Report

1. SCREENING FORM

The screening form was submitted for the subject development on December 1st, 2017 to City of Ottawa staff for review and confirmation of the need for a Transportation Impact Assessment (TIA). The Location and Safety triggers were met based on the proximity to the Richmond Road corridor and adjacent intersection of Roosevelt Avenue and Richmond Road. City staff provided confirmation to proceed with Step 2 – Scoping Report on December 4th, 2017.

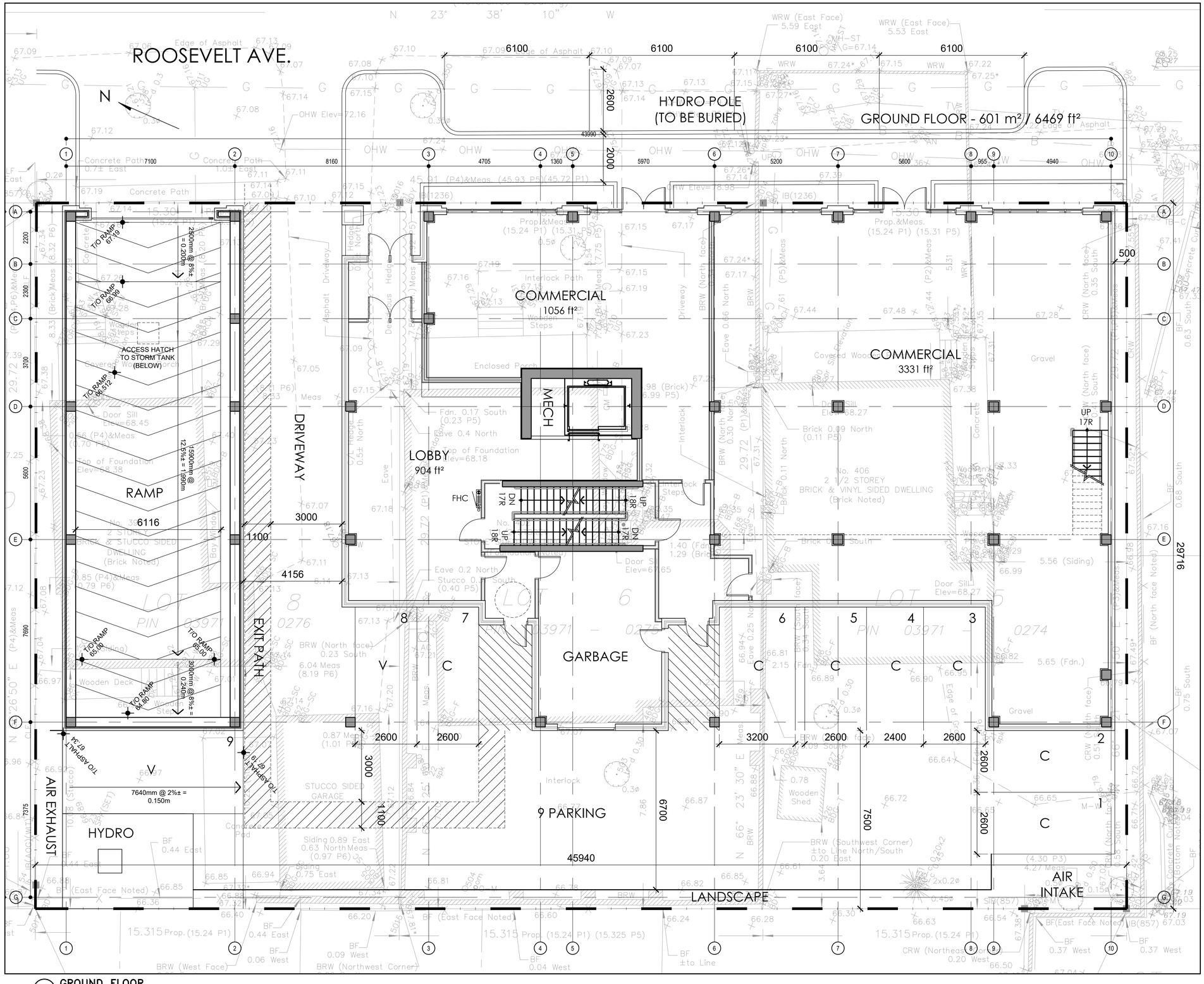
The Screening and Scoping Report was submitted on December 8th, 2017 to City of Ottawa staff for review and confirmation of the study area scope, trip generation requirements, and exemptions review for the future steps of the TIA process. It was recommended that Module 3.1 Elements 3.1.2 Trip Distribution and 3.1.3 Trip Assignment be excluded from the forecasting report. City staff provided confirmation on December 15th to exclude Step 3 – Forecasting and proceed with Step 4 – Analysis, excluding Module 4.1 Element 4.1.3 New Street Networks, Module 4.2 Element 4.2.2 Spillover Parking, Module 4.4 Elements 4.4.2 Intersection Control and 4.4.3 Intersection Design, and the Network Impact Components, Modules 4.5 through 4.9

The Screening Form, Exemptions Review, and City Responses are provided in Appendix A.

2. DESCRIPTION OF PROPOSED DEVELOPMENT

From the information provided, it is our understanding that the proponent is proposing to construct a multi-use development located at 398-406 Roosevelt Avenue. The development will consist of 33 residential apartment units and approximately 555m^2 of ground floor retail. The site is currently occupied by three residential houses. Surface and underground parking is proposed for the site. The local context of the site is provided as Figure 1 and the proposed Site Plan is provided as Figure 2. The site is currently zoned for a townhouse development and a Zoning By-Law Amendment will need to be completed.

Figure 1: Local Context



1 GROUND FLOOR
SCALE 1:75

FEBRUARY 14, 2017

It is the responsibility of the appropriate Contractor to check and verify all dimensions on site and report all errors and/or omissions to the Architect.
All Contractors must comply with all pertinent codes and by-laws.
All dimensions are measured from face of stud to face of stud unless indicated otherwise.
Do not scale drawings.
This drawing may not be used for construction until signed.

01 NOV 29 2017 ISSUED FOR REVIEW

no	date	revision

project north

professional stamp

ALCAIDE WEBSTER ARCHITECTS INC
202-1320 Carling Avenue
Ottawa, ON K1Z 7K8 www.awa-arch.ca
ARCHITECTURE, PLANNING
DESIGN BUILD - PROJECT MANAGEMENT

consultant
ANNIS O'SULLIVAN VOLLEBEKK LTD. - SURVEYOR

project
406 ROOSEVELT
DOMICILE DEVELOPMENTS
406 ROOSEVELT STREET.
OTTAWA, ON

drawn	checked
MH	VA
date	**project no.**
NOV 08 2017	17-10

drawing title
GROUND
FLOOR PLAN

revision	drawing no.
01	**A110**

3. EXISTING CONDITIONS

3.1. AREA ROAD NETWORK

Roosevelt Avenue is a north-south local roadway that extends from the Transitway in the north to Cole Avenue in the south. The roadway has a two-lane cross section of approximately 8.5-9m and a sidewalk located on the east side. The west side of the road does not have a curb. On-street parking is permitted on the east side of the roadway, north of the subject site. The unposted speed limit is assumed to be 50 km/h.

Richmond Road is an east-west arterial roadway, which extends from Baseline Road in the west to Island Park Road in the east, where it continues as Wellington Street. Within the study area, its cross-section consists of a single travel lane and on-street parking in each direction. The unposted speed limit assumed to be 50 km/h.

3.2. PEDESTRIAN/CYCLING NETWORK

With respect to pedestrians, sidewalk facilities in the vicinity of the site are provided along both sides of Richmond Road and the east side of Roosevelt Avenue. A multi-use pathway is located along the south side of the Transitway and a pedestrian overpass allows crossing to Workman Avenue on the northside of the transit corridor.

With respect to cyclists, according to the Ottawa Cycling Plan, Richmond Road is classified as a “spine” cycling route and Roosevelt Avenue is classified as a “local” cycling route. Within the study area, no formal cycling facilities are currently provided and cyclists operate in mixed traffic.

3.3. TRANSIT NETWORK

Transit service within the vicinity of the site is currently provided by OC Transpo Route #11. Bus stops for this route is located along Richmond Road approximately 100m walking distance from the site. Route #11 provides frequent all-day service.

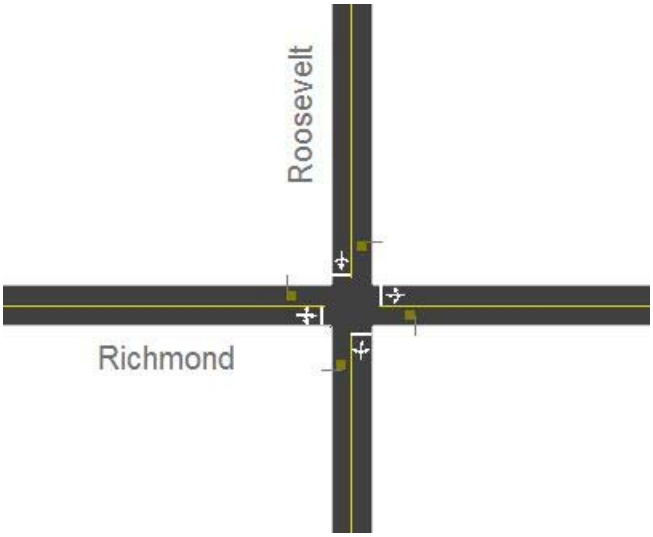
Access to the Transitway is provided by the Dominion Station located north of Roosevelt Avenue, approximately 475m walking distance to the north of the site. As the site is located within 600m radius of Dominion Station, the development is considered a Transit-Oriented Development (TOD).

Figure 3: Area Transit Network

3.4. EXISTING STUDY AREA INTERSECTION

Richmond/Roosevelt

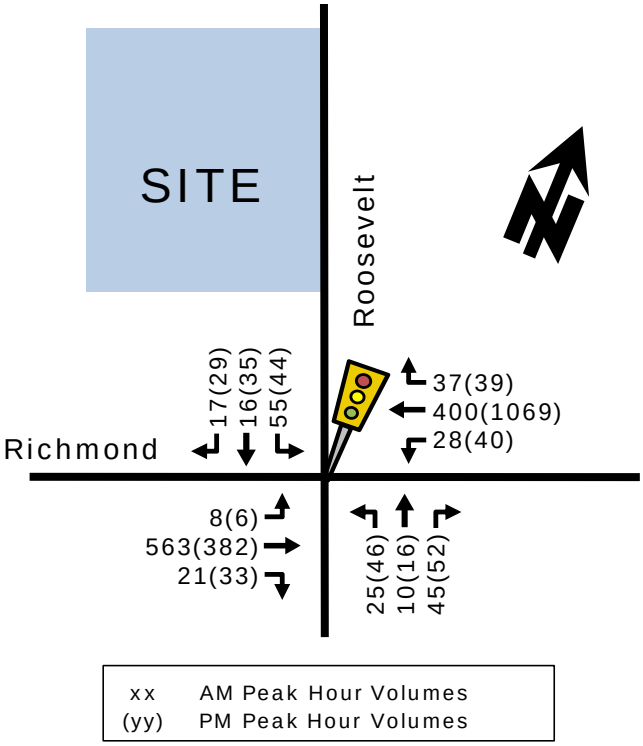
The Richmond/Roosevelt intersection is a signalized four-legged intersection. The north, south, east and westbound approaches consist of a single shared through-right-left lane each. All movements are permitted at this location.



3.5. EXISTING INTERSECTION OPERATIONS

Illustrated as Figure 4, are the most recent weekday morning and afternoon peak hour traffic volumes obtained from the City of Ottawa at the study area intersections. The full traffic counts are provided in Appendix B.

Figure 4: Existing Peak Hour Traffic Volumes



3.6. EXISTING ROAD SAFETY CONDITIONS

Collision history for the Richmond/Roosevelt intersection and mid-block on Roosevelt Avenue between Richmond Road and the end of Roosevelt Avenue (2012 to 2016, inclusive) was obtained from the City of Ottawa. Most collisions (67% or 4 vehicles) involved only property damage, indicating low impact speeds, and 33% involved personal injuries. The primary causes of collisions cited by police include; turning movement (33% or 2 vehicles), single vehicle/other (17% or 1 vehicle), sideswipe (17%), angle (17%), and rear end (17%) type collisions.

A standard unit of measure for assessing collisions at an intersection is based on the number collisions per million entering vehicles (MEV). At the Richmond/Roosevelt intersection, there were a total of 5 collisions in a 5-year period, which equates to a rate of 0.18/MEV. Only 1 collision in a 5-year period was noted along Roosevelt north of Richmond, which equates to a rate of 0.34/MEV.

It is noteworthy that within the 5-years of recorded collision data there was one collision that involved a pedestrian (non-fatal injury) and none involving cyclists. The source collision data as provided by the City of Ottawa and related analysis is provided as Appendix C.

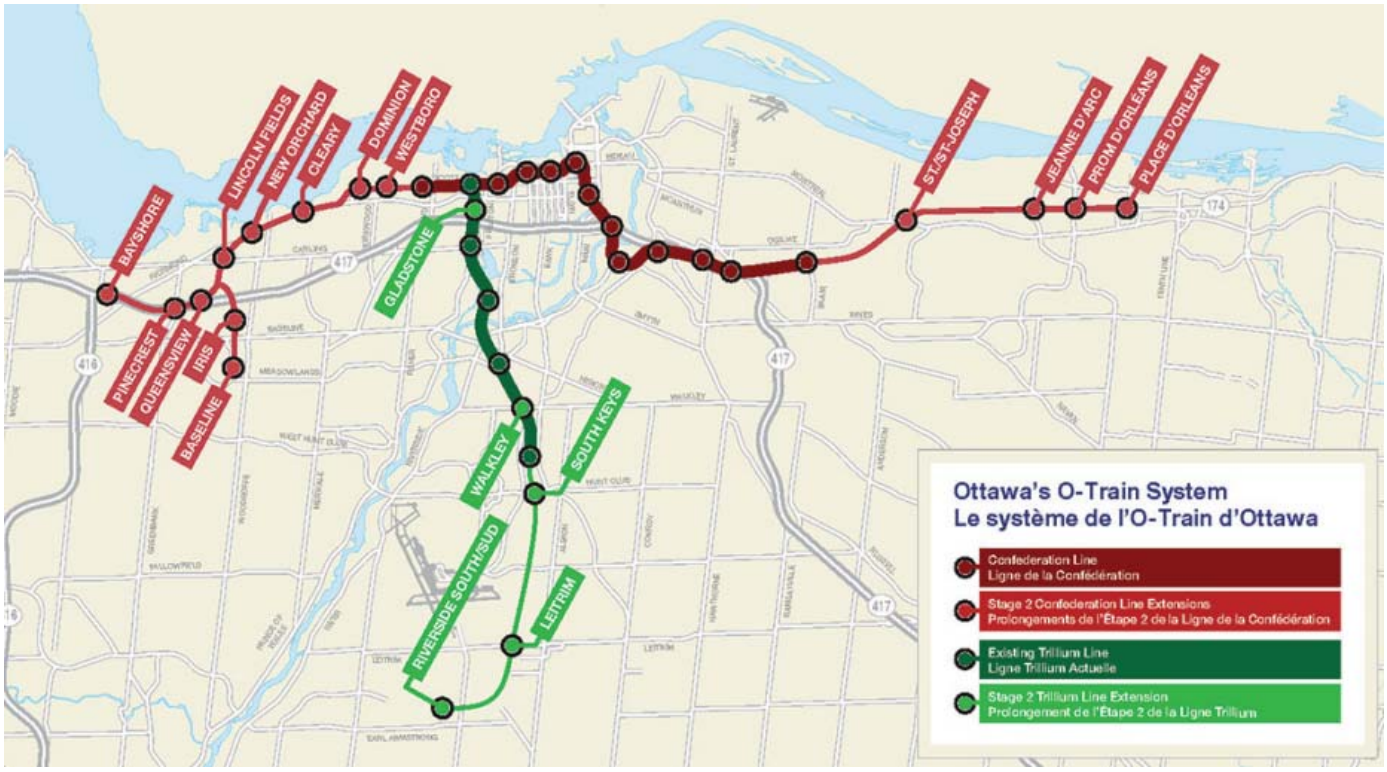
4. PLANNED CONDITIONS

4.1. PLANNED STUDY AREA TRANSPORTATION NETWORK CHANGES

A notable transportation network change within the study area is the Phase I construction of the east-west LRT, which is the conversion of the City's existing BRT corridor to LRT between the current Blair transit station and the Tunney's Pasture station which includes a tunnel through the City's Downtown. Currently, this phase of construction is underway and is expected to be completed by 2019.

Phase II of the LRT construction, which will extend the City's LRT further east, west and south (further improving transit within the vicinity of the site), is expected to begin by 2019 and be completed by 2024. The following Figure 5 illustrates the planned Phases I and II of the future Confederation/Trillium Lines. As mentioned previously, the subject development is located within an approximate walking distance of 475m from the future Dominion LRT Station.

Figure 5: Planned LRT Phase II



4.2. OTHER AREA DEVELOPMENT

According to the City's development application search tool, the following developments are planned within the vicinity of the subject site.

335 Roosevelt Avenue
Uniform Urban Developments is proposing the construction of two high-rise condominium apartment buildings approximately 325m north of the subject development. A Transportation Impact Study has not been completed to date.

348 Whitby Avenue
The Westboro Animal Hospital at 364 Churchill Ave is proposing to demolish the existing dwelling at 348 Whitby Avenue to construct parking accessory to the Animal hospital

371 Richmond Road
Domicile is proposing the construction of a condominium development at the above-noted address, which is located approximately 125m east of the subject development. The Transportation Brief (prepared by Parsons) projected approximately 30 veh/h during the peak hours.

386 Richmond Road
Nrml Group Inc. is proposing the construction of a mixed-use development at the above-noted address, which is located approximately 125m east of the subject development. The Transportation Impact Assessment (prepared by Parsons) projected negligible vehicle traffic during the peak hours.

485 Richmond Road
Minto Communities is proposing the construction of a condominium development at the above-noted address, which is located approximately 300m west of the subject development. The Transportation Brief (prepared by Delcan) projected approximately 60 veh/h during the peak hours.

404 Eden Avenue
A 13-unit low-rise apartment building is being proposed at the above address approximately 320m northeast of the site. The Transportation Brief (prepared by Parsons) projected negligible vehicle traffic during the peak hours.

450 Churchill Avenue
Springcress Properties Inc. is proposing the construction of a mixed-used development at the above-noted address, which is located approximately 350m southeast of the subject development. The Transportation Brief (prepared by Delcan) projected fewer than 25 veh/h during the peak hours, however, a parking review was undertaken.

5. STUDY AREA

5.1. Transit

As mentioned previously, transit is served within the area with bus stops for Route #11 located approximately 100m from the site. In addition, access to the Transitway is provided by Dominion Station located north of the Roosevelt, an approximate walking distance of 475m to the north of the site. The trip generation will need to consider the TOD targets during the Forecasting Report and associated demand rationalization analysis.

5.2. NETWORK CONCEPT

The nearest Screenline is SL24 (Western Parkway). Given the proposed land use is mixed-use, including residential and ground floor retail, the development is understood to fit into the zoning for this area and is not projected to generate 200 person-per-hour trips more than permitted by the established zoning.

5.3. INTERSECTION DESIGN

The study area consists of the proposed private approach to the site and the existing signalized Richmond/Roosevelt intersection, reducing the requirements for analysis and design of study area intersections in the Forecasting Report and Strategy Report.

6. TIME PERIODS

Given the majority of trips expected to be generated by this development will be residential trips, the time periods to be assessed are the weekday morning and afternoon commuter peak hours.

7. HORIZON YEARS

The expected build-out date for the proposed development is assumed to be 2019. Depending on the growth rate of the study area, the horizon year 2024 will be assessed for 5-years beyond site build out.

8. EXEMPTION REVIEW

Based on the City's TIA guidelines and the subject site, the following modules/elements of the TIA process, summarized in Table 1, are recommended to be exempt in the subsequent steps of the TIA process:

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 Development Design	4.1.3 New Street Networks	Not required for applications involving site plans.
4.2 Parking	4.2.2 Spillover Parking	The site's residential parking rate is noted to meet the City's minimum By-Law for residential parking (13 stalls) and commercial parking (7 stalls). As such, parking is not expected to spill out of the site.
4.5 Transportation Demand Management	All elements	Residential development with less than 60 students/employees.
4.8 Review of Network Concept	All elements	This development is not expected to generate 200-person trips more than the permitted zoning for the site.

In addition to the above recommendations of the Exemptions Review, the following exemptions are also proposed for both Step 3 – Forecasting and Step 4 – Analysis, and are summarized in Table 2.

Table 2: Additional Recommended Exemptions Summary

Module	Element	Exemption Consideration
3.1 Development-generated Travel Demand	3.1.2 Trip Distribution	Minimal auto share anticipated given only 33 residential units on site, and negligible impact anticipated on road network.
	3.1.3 Trip Assignment	Minimal auto share anticipated given only 33 residential units on site, and negligible impact anticipated on road network.
4..4 Access Intersection Design	4.4.2 Intersection Control	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.
	4.4.3 Intersection Design	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.
4.7 Transit	4.7.2 Transit Priority	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.
4.9 Intersection Design	All Elements	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.

9. DEVELOPMENT GENERATED TRAVEL DEMAND

9.1. TRIP GENERATION

Appropriate trip generation rates for the proposed development consisting of approximately 33 residential units and approximately 555m^2 of ground floor retail were obtained from the City's 2009 TRANS Trip Generation – Residential Trip Rates and the ITE Trip Generation Manual (9th Edition). These rates are summarized in Table 3.

Table 3: 2009 TRANS and ITE Trip Generation Rates

Land Use	ITE Land Use Code	Trip Rates	
		AM Peak	PM Peak
Mid-Rise Apartments	ITE 223	T = 0.17(du)	T = 0.16(du)
Specialty Retail	ITE 826	T = 1.36(X) T = 1.20(X) + 10.74	T = 2.71(X) T = 2.40(X) + 21.48

Notes: T = Average Vehicle Trip Ends
du = Dwelling units
X = 1000 ft² Gross Floor Area
Specialty Retail AM Peak is assumed to be 50% of the PM Peak

9.1.1. RESIDENTIAL TRIPS

Using the TRANS Trip Generation rates for the residential component of the site, the total amount of vehicle trips generated by the proposed 33 residential units was projected. The results are summarized in Table 4.

Table 4: Projected Vehicle Trip Generation – TRANS Model

Land Use	Area	AM Peak (Veh/h)			PM Peak (Veh/h)		
		In	Out	Total	In	Out	Total
Mid-Rise Apartments	33 units	1	5	6	3	2	5

As shown in Table 4, a total of 6 and 5 veh/h are projected to travel to/from the proposed development during the weekday morning and afternoon commuter peak hours. Using the TRANS Auto Trips projected in Table 4 and the mode share percentages outline in Table 3.13 of the TRANS Trip Generation Study, the modal share for the residential land use within the proposed development are summarized in Table 5.

Table 5: TRANS Model Site Trip Generation – Residential Use

Travel Mode	Mode Share	AM Peak (Person Trips/h)			Mode Share	PM Peak (Person Trips/h)		
		In	Out	Total		In	Out	Total
Auto Driver	27%	1	5	6	23%	3	2	5
Auto Passenger	3%	0	0	0	6%	0	0	0
Transit	27%	1	5	6	29%	3	3	6
Non-motorized	43%	2	8	10	42%	5	4	9
Total Person Trips	**100%**	**4**	**18**	**22**	**100%**	**11**	**9**	**20**

As shown in Table 5, based on the TRANS Trip Generation method, the proposed site is projected to generate approximately 20 to 25 person-trips per hour during the weekday commuter peak hours. The increase in two-way transit trips is estimated to be 10 persons per hour, and the increase in bike/walk trips is approximately 10 persons per hour.

9.1.2. RETAIL TRIPS

The retail trip generation is based on the ITE trip generation rates, outline in Table 3. As ITE trip generation surveys only record vehicle trips and typically reflect highly suburban locations (with little to no access by travel modes other than private automobiles), adjustment factors appropriate to the more urban study area context were applied to attain estimates of person trips for the proposed development.

To convert ITE vehicle trip rates to person trips, an auto occupancy factor and a non-auto trip factor were applied to the ITE vehicle trip rates. Based on the TIA Guidelines and our review of available literature, a combined factor of approximately 1.28 is considered reasonable to account for typical North American auto occupancy values of approximately 1.15 and

combined transit/non-motorized modal shares of 10%. As such, the person trip generation for the proposed retail development is summarized in Table 6.

Table 6: Modified Person Trip Generation - Retail

Land Use	Area	AM Peak (Person Trip/h)			PM Peak (Person Trip/h)		
		In	Out	Total	In	Out	Total
Specialty Retail	555 m^2	12	11	23	20	27	47

The person trips shown in Table 6 for the proposed retail development were then reduced by modal share values based on the site's location and proximity to adjacent communities, employment, shopping uses and transit availability. Modal share values for the retail component of the proposed development are summarized in Table 7.

Table 7: Retail Modal Site Trip Generation

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	35%	5	4	9	7	10	17
Auto Passenger	5%	1	1	2	1	2	3
Transit	40%	4	4	8	8	10	18
Non-motorized	20%	2	2	4	4	5	9
Total Person Trips	**100%**	**12**	**11**	**23**	**20**	**27**	**47**
Less Retail Pass-by (30%)		-1	-1	-2	-3	-3	-6
Total 'New' Auto Trips		**4**	**3**	**7**	**4**	**7**	**11**

The following Table 8 summarizes the foregoing people trip generations for the residential and retail components of the proposed development.

Table 8: Total Site Trip Generation

Travel Mode	Approximate Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	30%	5	9	14	9	11	20
Auto Passenger	5%	1	1	2	1	2	3
Transit	34%	5	10	15	11	12	23
Non-motorized	31%	5	9	14	10	11	21
Total Person Trips	**100%**	**16**	**29**	**45**	**31**	**36**	**67**
Less Retail Pass-by (30%)		-1	-1	-2	-2	-2	-4
Total 'New' Auto Trips		**4**	**8**	**12**	**7**	**9**	**16**

As shown in Table 8, the total number of person trips expected to be generated by this development is approximately 45 and 70 persons/h during the weekday commuter peak hours. The total amount of 'new' vehicle traffic to the study area is projected to be 15 to 20 veh/h during the peak hours. This amount of traffic equates to less than 1 new vehicle every 2 to 3 minutes and is not considered a significant increase in traffic. As such, no future vehicle capacity analysis related to the development's vehicle impact is expected to be required.

9.1.3. MODE SHARES

Given the existing modal share values reflect high non-motorized (~35%) and transit (~30%) mode splits that are appropriate for a site located in the Inner Area with good access to transit, the future mode shares for this development are assumed to be the same as existing.

10. BACKGROUND NETWORK TRAVEL DEMANDS

10.1. HISTORIC TRAFFIC GROWTH

The following background traffic growth through the immediate study area (summarized in Table 9) was calculated based on historical traffic count data (years 2003, 2019, and 2016) provided by the City of Ottawa at the Richmond/Churchill intersection. Detailed background traffic growth analysis is included as Appendix D.

Table 9: Richmond/Churchill Historical Background Growth (2003 – 2016)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	-0.13%	0.29%	1.97%	0.91%	**0.78%**
AM Peak	-0.33%	0.45%	1.34%	0.18%	**0.34%**
PM Peak	-1.27%	-0.22%	2.24%	0.25%	**0.28%**

As shown in Table 10, the Richmond/Churchill intersection has experienced approximately 0.25% to 0.80% annual growth within recent years (calculated as a weighted average). To account for the historic and future increases in traffic volumes and to account for the traffic generated by the previously identified area developments, a 1% per annum growth factor was applied to existing traffic volumes along Richmond Road to obtain background traffic volumes for the 2019 built-out horizon year and 2024 (5-years beyond site build-out). The resultant 2019 and 2024 background traffic volumes are depicted as Figures 6 and 7, respectively.

Figure 6: 2019 Background Traffic Volumes

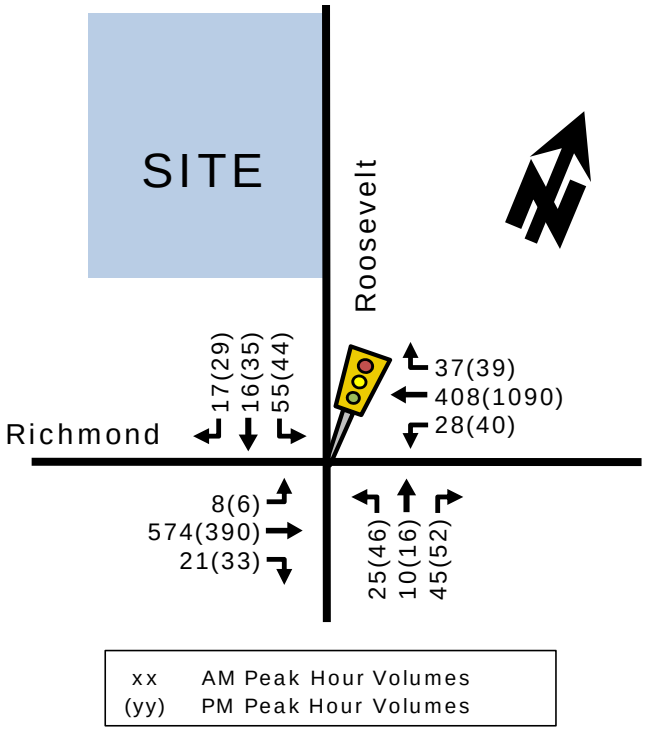
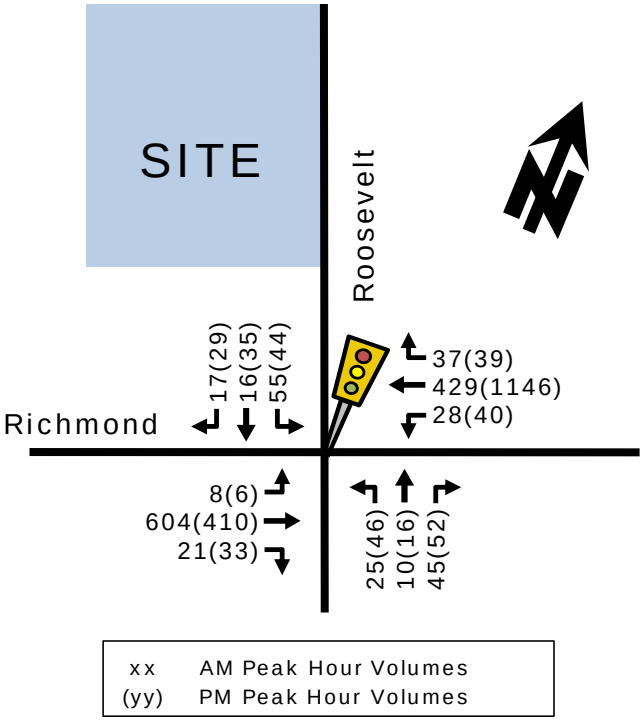


Figure 7: 2022 Background Traffic Volumes



11. DEVELOPMENT DESIGN

11.1. DESIGN FOR SUSTAINABLE MODES

Location of Transit Facilities

The subject site is approximately 475m walking distance from the Dominion BRT Station. Additionally, there are eastbound and westbound transit stops located 95m and 65m to the south of the site, respectively.

Pedestrian Routes and Facilities

The building will have at-grade accesses directly on to Roosevelt Avenue, with sidewalks located across on the street on the east side. No internal walkways or site circulation is required.

Bicycle Parking

Currently the site does not provide bicycle parking. Based on the City's By-Law requirements, a minimum of 16 bicycle parking spaces are needed.

11.2. CIRCULATION AND ACCESS

With regard to on-site circulation, the proposed parking lot is laid out such that two-way traffic can be efficiently accommodated. A site plan of the underground parking has not been provided and as such, the following by-laws apply. According to the City's By-Law requirements, drive aisle widths accommodating 2-way vehicle traffic should have a minimum width of 6.7 m. The ramp providing access to the lower level parking should have proper transition grades and a ramp grade between 10% to 15%. The ramp access should not exceed a 2% or less transition grade from the property line.

12. PARKING SUPPLY

We are advised that the proponent wished to provide a rate of approximately 0.9 parking spaces for the 22 residential units and 555m^2 of commercial development. This would provide approximately 31 parking spaces for residents and visitors of the proposed development. This amount of parking is sufficient according to the City's By-Law requirements as the development is within 600m of the Dominion Rapid Transit Station. The parking space dimensions are noted as 5.2m in length and 2.6m in width, which meet the City's minimum By-Law requirement.

13. BOUNDARY STREET DESIGN

There is no complete street design for the boundary street, Roosevelt Avenue. Planned changes for the boundary street include the construction of 3 parallel parking spaces on the west side of Roosevelt and a sidewalk connection to Richmond Road, directly adjacent to the site.

14. ACCESS INTERSECTION DESIGN

14.1. LOCATION AND DESIGN OF ACCESS

There is one two-way drive aisle connection proposed to Roosevelt Avenue, which is located approximately 45m north of Richmond Road. The driveway provides access to the parking garage ramp and a rear customer parking lot with a loading area for moving trucks/vans. The driveway width is noted to be approximately 11m wide. While this is larger than the 9m maximum permitted width, this driveway serves as both the surface parking and underground access and is therefore acceptable.

15. NEIGHBOURHOOD TRAFFIC MANAGEMENT

15.1. ADJACENT NEIGHBOURHOODS

Existing volumes on Roosevelt Avenue range from 20 – 60 veh/h in the morning and afternoon peaks. With only 15 – 20 new vehicle trips generated for the development, it is unlikely that Roosevelt Avenue will experience capacity issues as it is well under its capacity limit outlined in the TIA Guidelines – a maximum of 1,000 vehicles per day, or 120 vehicles in the peak hour.

16. TRANSIT

16.1. ROUTE CAPACITY

The Dominion Transit Station within close proximity to the proposed site will be able to accommodate the increase in transit ridership associated with this development. The construction of the Stage 2 LRT at Dominion Station will also provide additional transit capacity.

"New" two-way transit trips are approximately 15 (5 in, 10 out) and 23 (11 in, 12 out) persons/h in the AM and PM peaks, respectively. During the PM peak, this represents approximately 20-22% of a single bus (55 passengers), approximately 15-16% of an articulated bus (75 passengers), and approximately 12-13% of a double decker bus (90 passengers).

17. CONCLUSIONS AND NEXT STEPS

Based on the results summarized herein the following conclusions are offered:

- A total of 31 parking spaces on one underground parking level and a small surface parking lot are proposed to serve the subject development. This amount of parking meets the City's minimum and maximum parking requirements;
- A minimum of 16 bicycle parking spaces is needed to meet the City's By-Law requirements; and,
- One vehicle access is proposed at the north side of the site. It is located on Roosevelt Avenue, as far from the signalized Richmond/Roosevelt intersection as possible given the site's location. While the access is wider than the maximum wider stated in the Private Approach By-Law requirements, it is acceptable as it serves as the main access to the underground parking and rear surface lot.

Based on the foregoing conclusions, this report satisfies the TIA requirements for Domicile's 398-406 Roosevelt Avenue, redevelopment and is recommended to proceed from a transportation perspective.

Prepared By:

Rani Nahas, B.Eng. EIT
Transportation Analyst

Andrew Harte, P.Eng.
Senior Transportation Engineer

Appendix A

Screening Form

PARSONS

1223 Michael Street, Suite 100, Ottawa, Ontario, K1J 7T2
P: +1 613.738.4160 l F: +1 613.739.7105 l www.parsons.com

City of Ottawa 2017 TIA Guidelines

TIA Screening Form

Date 12/1/2017

Project 398-406 Roosevelt Ave

Project Number -

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

Module 1.1 - Description of Proposed Development	
Municipal Address	406 Roosevelt Avenue
Description of location	PART 1 of LOTS 5, 6 AND 8 REGISTERED PLAN 114 OTTAWA
Land Use	Residential and Commercial
Development Size	554 sq m commerical, 33 residential appartment units
Number of Accesses and Locations	1, approx. 65m north of Richmond
Development Phasing	Single Phase
Buildout Year	2019
Sketch Plan / Site Plan	See attached

Module 1.2 - Trip Generation Trigger		
Land Use Type	Townhomes or Apartments	
Development Size	33	Units
Trip Generation Trigger Met?	No	

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
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	
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	

8. EXEMPTION REVIEW

Based on the City's TIA guidelines and the subject site, the following modules/elements of the TIA process, summarized in Table 1, are recommended to be exempt in the subsequent steps of the TIA process:

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 Development Design	4.1.3 New Street Networks	Not required for applications involving site plans.
4.2 Parking	4.2.2 Spillover Parking	The site's residential parking rate is noted to meet the City's minimum By-Law for residential parking (13 stalls) and commercial parking (7 stalls). As such, parking is not expected to spill out of the site.
4.5 Transportation Demand Management	All elements	Residential development with less than 60 students/employees.
4.8 Review of Network Concept	All elements	This development is not expected to generate 200-person trips more than the permitted zoning for the site.

In addition to the above recommendations of the Exemptions Review, the following exemptions are also proposed for both Step 3 – Forecasting and Step 4 – Analysis, and are summarized in Table 2.

Table 2: Additional Recommended Exemptions Summary

Module	Element	Exemption Consideration
3.1 Development-generated Travel Demand	3.1.2 Trip Distribution	Minimal auto share anticipated given only 33 residential units on site, and negligible impact anticipated on road network.
	3.1.3 Trip Assignment	Minimal auto share anticipated given only 33 residential units on site, and negligible impact anticipated on road network.
4..4 Access Intersection Design	4.4.2 Intersection Control	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.
	4.4.3 Intersection Design	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.
4.7 Transit	4.7.2 Transit Priority	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.
4.9 Intersection Design	All Elements	Site access will operate at a private approach and will not require an intersection screening for a signal or roundabout.

9. NEXT STEPS

After discussion and review of the Screening and Scoping Report with City Staff, the next step is to complete the Forecasting Report.

From:	Dubyk, Wally
To:	Harte, Andrew
Cc:	Gordon, Christopher; David Renfroe; Nahas, Rani
Subject:	RE: 398-406 Roosevelt Ave - TIA Screening Form for Residential Infill Development
Date:	Friday, December 15, 2017 6:58:43 AM

Andrew,

Given the outcome of the Screening report (trip generation trigger not met), no Forecasting report is required and the modules under the Network Impact Component of Step 4 Analysis are not required.

Therefore, we agree with the recommendations outlined in the Exemption section of the Scoping Report.

Wally Dubyk
Project Manager - Transportation Approvals
Development Review, Central & South Branches
613-580-2424 x13783

From: Harte, Andrew [mailto:Andrew.Harte@parsons.com]
Sent: Friday, December 08, 2017 2:12 PM
To: Dubyk, Wally <Wally.Dubyk@ottawa.ca>
Cc: Gordon, Christopher <Christopher.Gordon@parsons.com>; David Renfroe <renfroe@domicile.ca>; Nahas, Rani <Rani.Nahas@parsons.com>
Subject: RE: 398-406 Roosevelt Ave - TIA Screening Form for Residential Infill Development

Wally,

Please find attached the Scoping Report for Domicile's infill development at 398-406 Roosevelt Avenue. If you require any physical copies, please let me know how many and I will send them in.

If you have any questions or wish to discuss, feel free to give me a call or let me know a good time to call you.

Regards,

Andrew Harte, P.Eng.
Senior Transportation Engineer
1223 Michael Street, Suite 100, Ottawa, Ontario, K1J 7T2
andrew.harte@parsons.com – P: +1 613.691.1527
PARSONS - Envision More
www.parsons.com | LinkedIn | Twitter | Facebook

From: Dubyk, Wally [mailto:Wally.Dubyk@ottawa.ca]
Sent: Monday, December 04, 2017 8:05 AM
To: Harte, Andrew <Andrew.Harte@parsons.com>
Subject: RE: 398-406 Roosevelt Ave - TIA Screening Form for Residential Infill Development

Andrew,

The Screening Form has identified that Triggers have been met. Please proceed with the Scoping Form.

Thank you,

Wally Dubyk
Project Manager - Transportation Approvals
Development Review, Central & South Branches
613-580-2424 x13783

From: Harte, Andrew [mailto:Andrew.Harte@parsons.com]
Sent: Friday, December 01, 2017 12:43 PM
To: Dubyk, Wally <Wally.Dubyk@ottawa.ca>
Cc: Gordon, Christopher <Christopher.Gordon@parsons.com>; Nahas, Rani <Rani.Nahas@parsons.com>
Subject: 398-406 Roosevelt Ave - TIA Screening Form for Residential Infill Development

Wally,

Please find the attached the TIA Screening Form for the proposed Domicile infill development at 398-406 Roosevelt Avenue, including the concept plan for the development.

The screening form indicates that the Location Trigger is met due to a minor overlap with the Richmond Traditional Mainstreet corridor, and the Safety Trigger is met due to the proximity to the Richmond/Roosevelt signalized intersection. My interpretation of this screening is that we can skip right to Step 4 and review the following:

- Module 4.1 Development Design – Elements 4.1.1 Design for Sustainable Modes, 4.1.2 Circulation and Access
- Module 4.2 Parking – All elements
- Module 4.3 Boundary Street Design (due to layby proposed) – All Elements
- Module 4.7 Transit – Element 4.7.1 Route Capacity
- Exclude all Modules/Elements not listed above

Please provide your acknowledgement/direction with regards to Screening Form and proposed scope of Step 4, and any additional area concerns or *exemptions* for the preparation of the next submission.

I am free to discuss at you earliest convenience if you need any clarification and await your confirmation of the Screening.

Regards,
Andrew Harte, P.Eng.
Senior Transportation Engineer
1223 Michael Street, Suite 100, Ottawa, Ontario, K1J 7T2
andrew.harte@parsons.com – P: +1 613.691.1527
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Appendix B

Traffic Count Data

Transportation Services - Traffic Services

W.O. 34683

Turning Movement Count - 15 Minute Summary Report

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

		ROOSEVELT AVE									RICHMOND RD									
		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	3	1	4	**8**	1	2	2	**5**	**13**	2	105	2	**109**	1	60	2	**63**	**172**	**185**
07:15	07:30	3	0	13	**16**	8	2	1	**11**	**27**	0	128	3	**131**	2	65	2	**69**	**200**	**227**
07:30	07:45	7	2	6	**15**	3	2	3	**8**	**23**	2	134	7	**143**	2	58	5	**65**	**208**	**231**
07:45	08:00	5	5	9	**19**	5	0	4	**9**	**28**	3	147	9	**159**	8	64	3	**75**	**234**	**262**
08:00	08:15	8	1	11	**20**	8	0	5	**13**	**33**	6	115	7	**128**	4	99	15	**118**	**246**	**279**
08:15	08:30	4	2	16	**22**	20	6	7	**33**	**55**	2	153	5	**160**	6	93	17	**116**	**276**	**331**
08:30	08:45	3	5	2	**10**	21	2	2	**25**	**35**	3	143	5	**151**	8	97	10	**115**	**266**	**301**
08:45	09:00	9	2	14	**25**	9	3	3	**15**	**40**	1	135	6	**142**	5	118	7	**130**	**272**	**312**
09:00	09:15	9	1	13	**23**	5	5	5	**15**	**38**	2	132	5	**139**	9	92	3	**104**	**243**	**281**
09:15	09:30	4	0	10	**14**	17	1	2	**20**	**34**	1	101	4	**106**	12	92	4	**108**	**214**	**248**
09:30	09:45	2	2	9	**13**	12	2	4	**18**	**31**	1	98	4	**103**	7	86	11	**104**	**207**	**238**
09:45	10:00	3	4	11	**18**	7	3	7	**17**	**35**	8	91	5	**104**	16	108	12	**136**	**240**	**275**
11:30	11:45	7	5	21	**33**	19	5	3	**27**	**60**	1	98	4	**103**	10	118	7	**135**	**238**	**298**
11:45	12:00	7	10	18	**35**	19	2	14	**35**	**70**	0	93	16	**109**	9	143	17	**169**	**278**	**348**
12:00	12:15	4	4	20	**28**	15	2	2	**19**	**47**	3	78	4	**85**	9	146	13	**168**	**253**	**300**
12:15	12:30	7	4	19	**30**	16	3	5	**24**	**54**	1	88	8	**97**	20	126	13	**159**	**256**	**310**
12:30	12:45	10	7	34	**51**	8	7	7	**22**	**73**	2	102	8	**112**	10	127	11	**148**	**260**	**333**
12:45	13:00	10	6	29	**45**	13	10	13	**36**	**81**	0	105	9	**114**	17	160	17	**194**	**308**	**389**
13:00	13:15	20	4	24	**48**	8	1	7	**16**	**64**	3	116	5	**124**	10	153	8	**171**	**295**	**359**
13:15	13:30	13	4	16	**33**	4	6	7	**17**	**50**	0	94	4	**98**	13	118	9	**140**	**238**	**288**
15:00	15:15	16	4	12	**32**	5	2	8	**15**	**47**	1	106	6	**113**	7	265	8	**280**	**393**	**440**
15:15	15:30	6	4	12	**22**	6	3	1	**10**	**32**	4	94	4	**102**	17	217	11	**245**	**347**	**379**
15:30	15:45	14	10	24	**48**	10	9	3	**22**	**70**	19	130	6	**155**	5	246	3	**254**	**409**	**479**
15:45	16:00	8	3	14	**25**	4	4	6	**14**	**39**	1	99	1	**101**	12	236	8	**256**	**357**	**396**
16:00	16:15	10	5	12	**27**	9	5	3	**17**	**44**	1	88	3	**92**	5	244	11	**260**	**352**	**396**
16:15	16:30	14	5	9	**28**	10	16	9	**35**	**63**	4	97	12	**113**	13	265	6	**284**	**397**	**460**
16:30	16:45	16	5	15	**36**	14	11	7	**32**	**68**	1	110	6	**117**	9	252	10	**271**	**388**	**456**
16:45	17:00	7	3	12	**22**	10	3	8	**21**	**43**	0	89	8	**97**	8	261	9	**278**	**375**	**418**
17:00	17:15	9	3	16	**28**	10	5	5	**20**	**48**	1	86	7	**94**	10	291	14	**315**	**409**	**457**
17:15	17:30	11	2	10	**23**	8	1	4	**13**	**36**	3	73	6	**82**	3	215	8	**226**	**308**	**344**
17:30	17:45	10	0	17	**27**	9	2	7	**18**	**45**	1	111	6	**118**	8	291	6	**305**	**423**	**468**
17:45	18:00	10	10	17	**37**	2	2	0	**4**	**41**	4	79	6	**89**	2	90	7	**99**	**188**	**229**
TOTAL:		269	123	469	**861**	315	127	164	**606**	**1467**	81	3418	191	**3690**	277	4996	287	**5560**	**9250**	**10717**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
34683

ROOSEVELT AVE @ RICHMOND RD

Count Date: Friday, June 12, 2015 **Start Time:** 07:00

	ROOSEVELT AVE			RICHMOND RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	6	1	**7**	18	4	**22**	**29**
08:00 09:00	17	13	**30**	8	9	**17**	**47**
09:00 10:00	4	1	**5**	3	5	**8**	**13**
11:30 12:30	2	0	**2**	2	5	**7**	**9**
12:30 13:30	2	3	**5**	4	7	**11**	**16**
15:00 16:00	7	4	**11**	3	4	**7**	**18**
16:00 17:00	4	2	**6**	6	5	**11**	**17**
17:00 18:00	2	6	**8**	3	9	**12**	**20**
Total	44	30	**74**	47	48	**95**	**169**

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

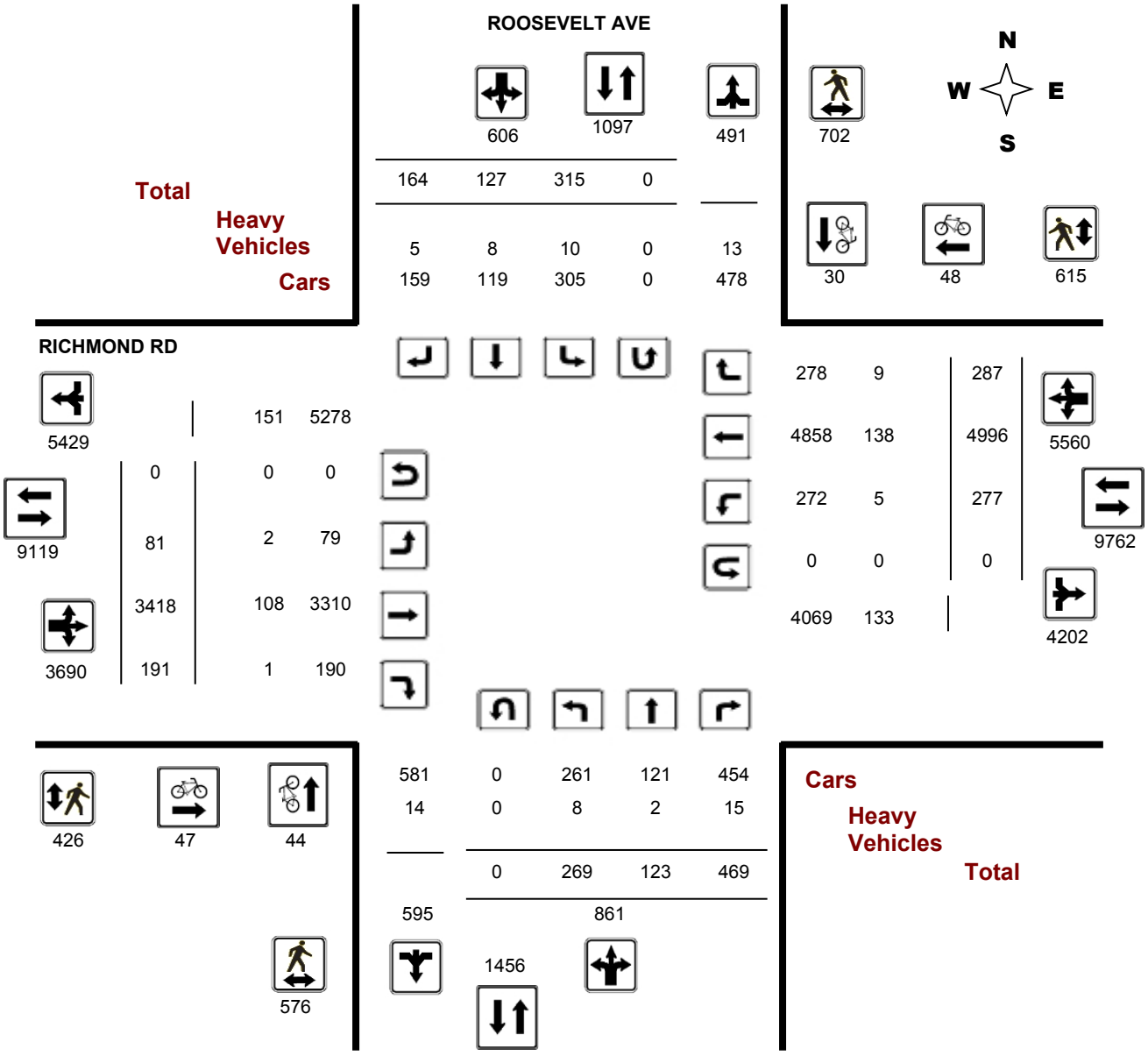
Turning Movement Count - Full Study Diagram

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015

WO#: 34683

Device: Jamar Technologies, Inc



Comments

Transportation Services - Traffic Services

W.O. 34683

Turning Movement Count - Heavy Vehicle Report

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015

		ROOSEVELT AVE									RICHMOND RD									
		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	2	4	**6**	0	1	0	**1**	**7**	0	12	0	**12**	2	25	0	**27**	**39**	**46**
08:00	09:00	3	0	7	**10**	3	0	0	**3**	**13**	1	29	0	**30**	1	20	3	**24**	**54**	**67**
09:00	10:00	0	0	3	**3**	1	2	2	**5**	**8**	0	15	0	**15**	1	16	1	**18**	**33**	**41**
11:30	12:30	1	0	0	**1**	2	0	1	**3**	**4**	1	10	1	**12**	1	21	1	**23**	**35**	**39**
12:30	13:30	1	0	0	**1**	1	2	2	**5**	**6**	0	18	0	**18**	0	21	2	**23**	**41**	**47**
15:00	16:00	2	0	0	**2**	1	1	0	**2**	**4**	0	11	0	**11**	0	16	0	**16**	**27**	**31**
16:00	17:00	1	0	1	**2**	2	2	0	**4**	**6**	0	7	0	**7**	0	9	2	**11**	**18**	**24**
17:00	18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**6**	0	10	0	**10**	**16**	**16**
Sub Total		8	2	15	**25**	10	8	5	**23**	**48**	2	108	1	**111**	5	138	9	**152**	**263**	**311**
U-Turns (Heavy Vehicles)					**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total		8	2	15	**0**	10	8	5	**23**	**48**	2	108	1	**111**	5	138	9	**152**	**263**	**311**

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
34683

Turning Movement Count - Pedestrian Volume Report

ROOSEVELT AVE @ RICHMOND RD

Count Date: Friday, June 12, 2015 **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	8	7	**15**	5	2	**7**	**22**
07:15 07:30	10	11	**21**	7	7	**14**	**35**
07:30 07:45	4	8	**12**	7	2	**9**	**21**
07:45 08:00	6	2	**8**	3	2	**5**	**13**
07:00 08:00	28	28	**56**	22	13	**35**	**91**
08:00 08:15	18	14	**32**	21	7	**28**	**60**
08:15 08:30	11	19	**30**	5	8	**13**	**43**
08:30 08:45	22	18	**40**	22	14	**36**	**76**
08:45 09:00	22	30	**52**	17	10	**27**	**79**
08:00 09:00	73	81	**154**	65	39	**104**	**258**
09:00 09:15	10	13	**23**	4	10	**14**	**37**
09:15 09:30	18	6	**24**	11	14	**25**	**49**
09:30 09:45	12	24	**36**	18	7	**25**	**61**
09:45 10:00	13	15	**28**	11	40	**51**	**79**
09:00 10:00	53	58	**111**	44	71	**115**	**226**
11:30 11:45	25	16	**41**	23	15	**38**	**79**
11:45 12:00	37	61	**98**	11	120	**131**	**229**
12:00 12:15	9	24	**33**	6	41	**47**	**80**
12:15 12:30	20	62	**82**	14	16	**30**	**112**
11:30 12:30	91	163	**254**	54	192	**246**	**500**
12:30 12:45	18	74	**92**	7	30	**37**	**129**
12:45 13:00	30	62	**92**	16	37	**53**	**145**
13:00 13:15	23	32	**55**	20	21	**41**	**96**
13:15 13:30	16	10	**26**	12	10	**22**	**48**
12:30 13:30	87	178	**265**	55	98	**153**	**418**
15:00 15:15	22	17	**39**	7	6	**13**	**52**
15:15 15:30	27	14	**41**	19	10	**29**	**70**
15:30 15:45	24	55	**79**	15	6	**21**	**100**
15:45 16:00	20	20	**40**	10	11	**21**	**61**
15:00 16:00	93	106	**199**	51	33	**84**	**283**
16:00 16:15	20	15	**35**	22	44	**66**	**101**
16:15 16:30	26	24	**50**	24	21	**45**	**95**
16:30 16:45	31	14	**45**	14	22	**36**	**81**
16:45 17:00	30	3	**33**	12	7	**19**	**52**
16:00 17:00	107	56	**163**	72	94	**166**	**329**
17:00 17:15	12	7	**19**	22	7	**29**	**48**
17:15 17:30	12	10	**22**	12	32	**44**	**66**
17:30 17:45	7	13	**20**	16	34	**50**	**70**
17:45 18:00	13	2	**15**	13	2	**15**	**30**
17:00 18:00	44	32	**76**	63	75	**138**	**214**
Total	576	702	**1278**	426	615	**1041**	**2319**

Comment:

Transportation Services - Traffic Services

Work Order 34683

Turning Movement Count - Full Study Summary Report

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor .80

Full Study

	ROOSEVELT AVE									RICHMOND RD									
	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	18	8	32	**58**	17	6	10	**33**	**91**	7	514	21	**542**	13	247	12	**272**	**814**	**905**
08:00 09:00	24	10	43	**77**	58	11	17	**86**	**163**	12	546	23	**581**	23	407	49	**479**	**1060**	**1223**
09:00 10:00	18	7	43	**68**	41	11	18	**70**	**138**	12	422	18	**452**	44	378	30	**452**	**904**	**1042**
11:30 12:30	25	23	78	**126**	69	12	24	**105**	**231**	5	357	32	**394**	48	533	50	**631**	**1025**	**1256**
12:30 13:30	53	21	103	**177**	33	24	34	**91**	**268**	5	417	26	**448**	50	558	45	**653**	**1101**	**1369**
15:00 16:00	44	21	62	**127**	25	18	18	**61**	**188**	25	429	17	**471**	41	964	30	**1035**	**1506**	**1694**
16:00 17:00	47	18	48	**113**	43	35	27	**105**	**218**	6	384	29	**419**	35	1022	36	**1093**	**1512**	**1730**
17:00 18:00	40	15	60	**115**	29	10	16	**55**	**170**	9	349	25	**383**	23	887	35	**945**	**1328**	**1498**
Sub Total	269	123	469	**861**	315	127	164	**606**	**1467**	81	3418	191	**3690**	277	4996	287	**5560**	**9250**	**10717**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	269	123	469	**861**	315	127	164	**606**	**1467**	81	3418	191	**3690**	277	4996	287	**5560**	**9250**	**10717**
EQ 12Hr	374	171	652	**1197**	438	177	228	**842**	**2039**	113	4751	265	**5129**	385	6944	399	**7728**	**12857**	**14896**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	299	137	522	**957**	350	141	182	**674**	**1631**	90	3801	212	**4103**	308	5556	319	**6183**	**10286**	**11917**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.80**						
AVG 24Hr	392	179	683	**1254**	459	185	239	**883**	**2137**	118	4979	278	**5375**	404	7278	418	**8099**	**13474**	**15611**
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.

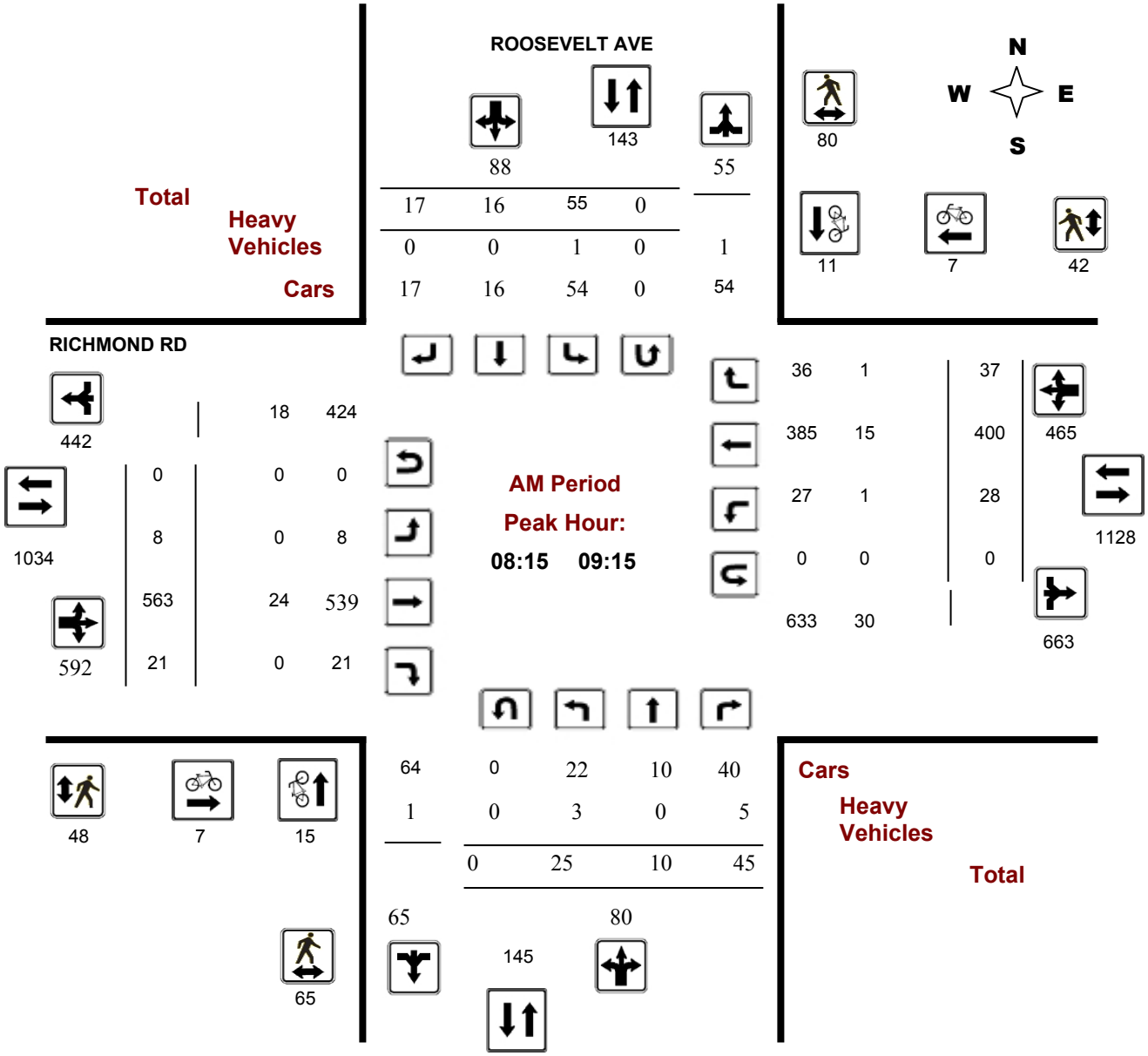
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015
Start Time: 07:00

WO No: 34683
Device: Jamar Technologies, Inc



Comments

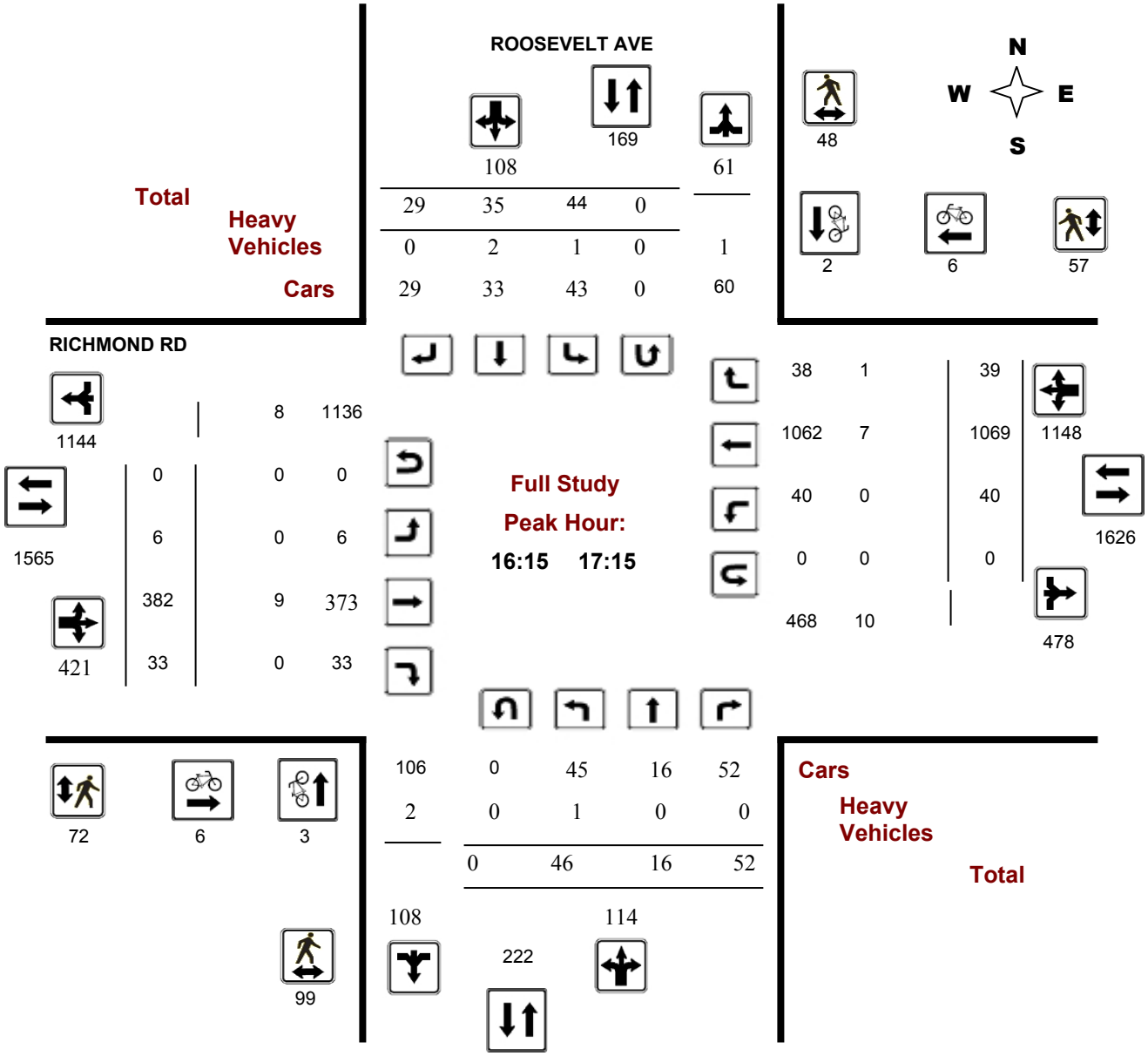
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015
Start Time: 07:00

WO No: 34683
Device: Jamar Technologies, Inc



Comments

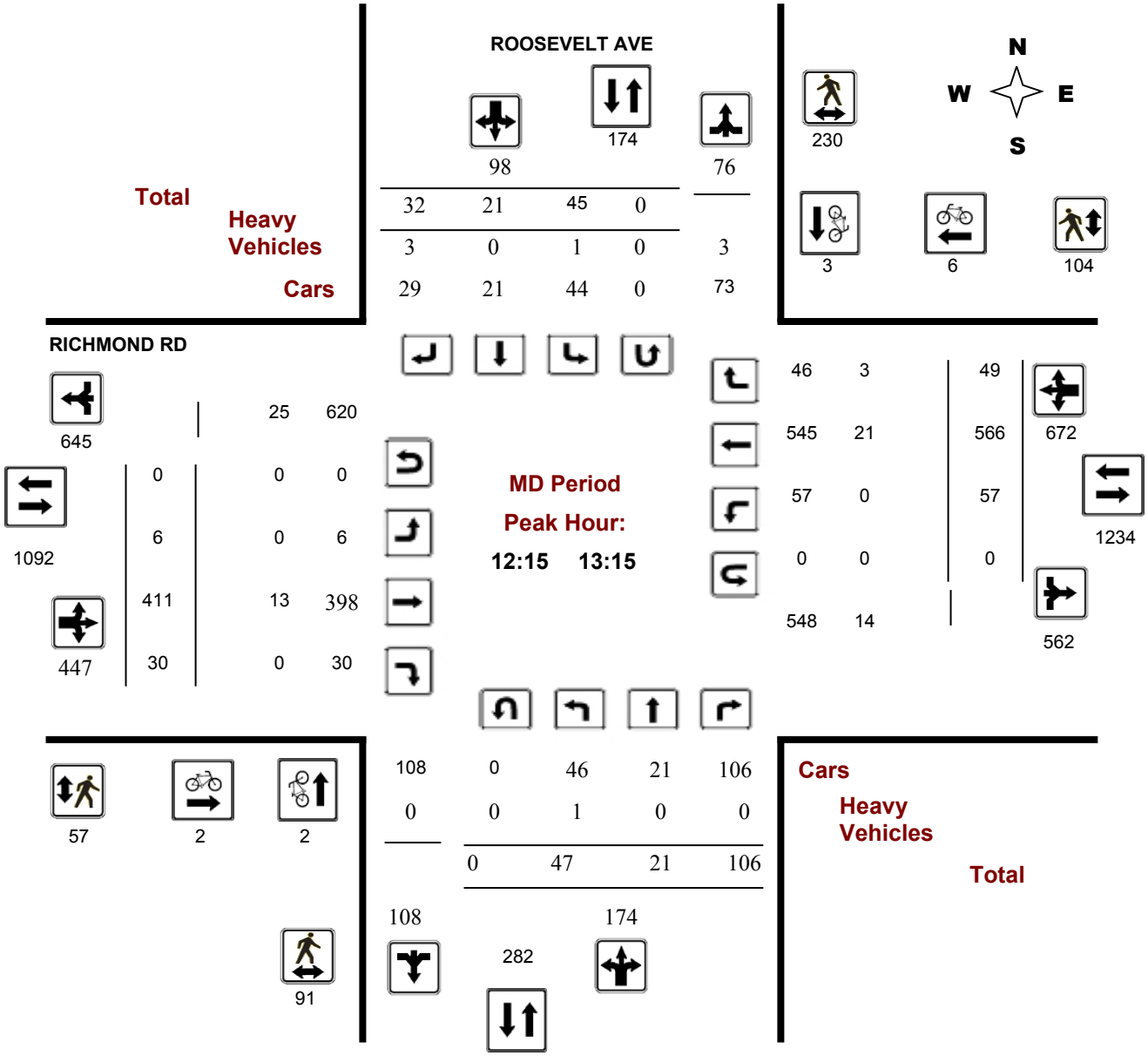
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015
Start Time: 07:00

WO No: 34683
Device: Jamar Technologies, Inc



Comments

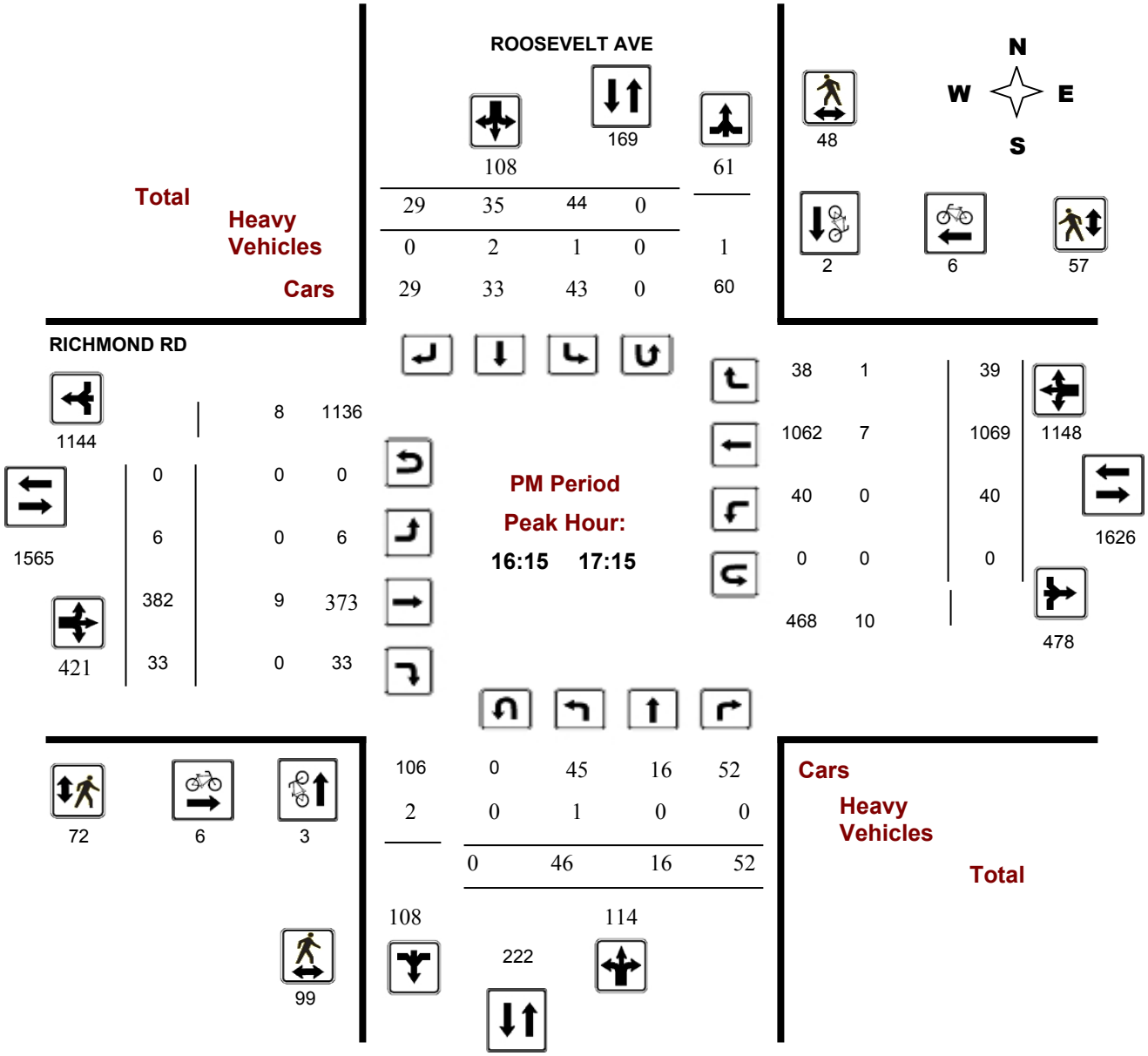
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015
Start Time: 07:00

WO No: 34683
Device: Jamar Technologies, Inc



Comments

Transportation Services - Traffic Services

Work Order
34683

Turning Movement Count - 15 Min U-Turn Total Report

ROOSEVELT AVE @ RICHMOND RD

Survey Date: Friday, June 12, 2015

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

Appendix C

Collision Data and Analysis

Total Area

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	1	1	1	0	0	0	0	4	67%
Non-fatal injury	0	1	0	0	0	1	0	0	2	33%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**2**	**1**	**1**	**0**	**1**	**0**	**0**	**6**	100%
	#2 or 17%	#1 or 33%	#2 or 17%	#2 or 17%	#6 or 0%	#2 or 17%	#6 or 0%	#6 or 0%		

RICHMOND RD / ROOSEVELT AVE

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2012-2016	5	15,611	1825	**0.18**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	1	0	1	0	0	0	0	3	60%
Non-fatal injury	0	1	0	0	0	1	0	0	2	40%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**2**	**0**	**1**	**0**	**1**	**0**	**0**	**5**	100%
	20%	40%	0%	20%	0%	20%	0%	0%		

ROOSEVELT AVE, RICHMOND RD to END

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2012-2016	1	1,598	1825	**0.34**

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%		

Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2012-01-01 TO: 2014-01-01

RICHMOND RD & ROOSEVELT AVE

Former Municipality: **Ottawa** Traffic Control: **Traffic signal** Number of Collisions: **2**

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
1	2012-03-23	Fri	11:39	Clear	Daylight	Turning	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Turning right	Truck - dump	Other motor vehicle	
2	2013-12-25	We	12:25	Clear	Daylight	Angle	P.D. only	V1 E	Ice	Going ahead	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Turning left	Automobile, station	Other motor vehicle	

(Note: Time of Day = "00:00" represents unknown collision time

City Operations - Transportation Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** January 1, 2017

Location: ROOSEVELT AVE @ RICHMOND RD

Traffic Control: Traffic signal **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jun-29, Sun,10:07	Clear	SMV other	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Pedestrian	1
2015-Nov-07, Sat,18:34	Clear	Turning movement	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Municipal transit bus	Other motor vehicle	
2016-Apr-09, Sat,10:57	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	

Location: ROOSEVELT AVE btwn RICHMOND RD & END

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-Jul-24, Fri,10:36	Clear	Sideswipe	P.D. only	Dry	South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Appendix D

Background Traffic Growth

Richmond / Churchill
8 hrs

Year	Date	North Leg		South Leg		East Leg		West Leg		Total
		SB	NB	NB	SB	WB	EB	EB	WB	
2003	Monday 16 June	4021	3247	2421	3069	2554	2582	3789	3887	25570
2009	Friday 7 August	3677	3243	2441	3128	3189	3145	4361	4152	27336
2016	Wednesday 26 October	3662	3468	2693	3007	3444	3248	4299	4375	28196

North Leg

Year	Counts				% Change			
	NB	*SB*	*NB+SB*	*INT*	*NB*	*SB*	*NB+SB*	*INT*
2003	3247	4021	7268	25570				
2009	3243	3677	6920	27336	-0.1%	-8.6%	-4.8%	6.9%
2016	3468	3662	7130	28196	6.9%	-0.4%	3.0%	3.1%

Regression Estimate	2003	3209	3957	7166
Regression Estimate	2016	3435	3607	7043
Average Annual Change		**0.53%**	**-0.71%**	**-0.13%**

West Leg

Year	Counts				% Change			
	EB	*WB*	*EB+WB*	*INT*	*EB*	*WB*	*EB+WB*	*INT*
2003	3789	3887	7676	25570				
2009	4361	4152	8513	27336	15.1%	6.8%	10.9%	6.9%
2016	4299	4375	8674	28196	-1.4%	5.4%	1.9%	3.1%

Regression Estimate	2003	3910	3901	7811
Regression Estimate	2016	4402	4387	8790
Average Annual Change		**0.92%**	**0.91%**	**0.91%**

East Leg

Year	Counts				% Change			
	EB	*WB*	*EB+WB*	*INT*	*EB*	*WB*	*EB+WB*	*INT*
2003	2582	2554	5136	25570				
2009	3145	3189	6334	27336	21.8%	24.9%	23.3%	6.9%
2016	3248	3444	6692	28196	3.3%	8.0%	5.7%	3.1%

Regression Estimate	2003	2674	2634	5308
Regression Estimate	2016	3326	3513	6839
Average Annual Change		**1.69%**	**2.24%**	**1.97%**

South Leg

Year	Counts				% Change			
	NB	*SB*	*NB+SB*	*INT*	*NB*	*SB*	*NB+SB*	*INT*
2003	2421	3069	5490	25570				
2009	2441	3128	5569	27336	0.8%	1.9%	1.4%	6.9%
2016	2693	3007	5700	28196	10.3%	-3.9%	2.4%	3.1%

Regression Estimate	2003	2383	3100	5484
Regression Estimate	2016	2661	3034	5694
Average Annual Change		**0.85%**	**-0.17%**	**0.29%**

Richmond / Churchill
AM Peak

Year	Date	North Leg		South Leg		East Leg		West Leg		Total
		SB	NB	NB	SB	WB	EB	EB	WB	
2003	Monday 16 June	515	584	352	398	227	428	698	382	3584
2009	Friday 7 August	471	529	321	374	310	379	603	423	3410
2016	Wednesday 26 October	470	580	413	377	282	494	694	408	3718

North Leg

Year	Counts				% Change			
	NB	*SB*	*NB+SB*	*INT*	*NB*	*SB*	*NB+SB*	*INT*
2003	584	515	1099	3584				
2009	529	471	1000	3410	-9.4%	-8.5%	-9.0%	-4.9%
2016	580	470	1050	3718	9.6%	-0.2%	5.0%	9.0%

Regression Estimate	2003	565	507	1072
Regression Estimate	2016	564	463	1027
Average Annual Change		**-0.02%**	**-0.69%**	**-0.33%**

West Leg

Year	Counts				% Change			
	EB	*WB*	*EB+WB*	*INT*	*EB*	*WB*	*EB+WB*	*INT*
2003	698	382	1080	3584				
2009	603	423	1026	3410	-13.6%	10.7%	-5.0%	-4.9%
2016	694	408	1102	3718	15.1%	-3.5%	7.4%	9.0%

Regression Estimate	2003	665	392	1057
Regression Estimate	2016	665	417	1082
Average Annual Change		**0.01%**	**0.47%**	**0.18%**

East Leg

Year	Counts				% Change			
	EB	*WB*	*EB+WB*	*INT*	*EB*	*WB*	*EB+WB*	*INT*
2003	428	227	655	3584				
2009	379	310	689	3410	-11.4%	36.6%	5.2%	-4.9%
2016	494	282	776	3718	30.3%	-9.0%	12.6%	9.0%

Regression Estimate	2003	400	248	647
Regression Estimate	2016	470	300	769
Average Annual Change		**1.25%**	**1.48%**	**1.34%**

South Leg

Year	Counts				% Change			
	NB	*SB*	*NB+SB*	*INT*	*NB*	*SB*	*NB+SB*	*INT*
2003	352	398	750	3584				
2009	321	374	695	3410	-8.8%	-6.0%	-7.3%	-4.9%
2016	413	377	790	3718	28.7%	0.8%	13.7%	9.0%

Regression Estimate	2003	331	393	724
Regression Estimate	2016	395	373	767
Average Annual Change		**1.37%**	**-0.41%**	**0.45%**

Richmond / Churchill
PM Peak

Year	Date	North Leg		South Leg		East Leg		West Leg		Total
		SB	NB	NB	SB	WB	EB	EB	WB	
2003	Monday 16 June	780	455	347	547	463	286	455	757	4090
2009	Friday 7 August	642	336	244	482	482	436	578	692	3892
2016	Wednesday 26 October	569	478	400	462	646	361	470	784	4170

North Leg

Year	Counts				% Change			
	NB	*SB*	*NB+SB*	*INT*	*NB*	*SB*	*NB+SB*	*INT*
2003	455	780	1235	4090				
2009	336	642	978	3892	-26.2%	-17.7%	-20.8%	-4.8%
2016	478	569	1047	4170	42.3%	-11.4%	7.1%	7.1%

Regression Estimate	2003	409	765	1174
Regression Estimate	2016	438	557	995
Average Annual Change		**0.54%**	**-2.42%**	**-1.27%**

West Leg

Year	Counts				% Change			
	EB	*WB*	*EB+WB*	*INT*	*EB*	*WB*	*EB+WB*	*INT*
2003	455	757	1212	4090				
2009	578	692	1270	3892	27.0%	-8.6%	4.8%	-4.8%
2016	470	784	1254	4170	-18.7%	13.3%	-1.3%	7.1%

Regression Estimate	2003	497	729	1226
Regression Estimate	2016	506	760	1266
Average Annual Change		**0.14%**	**0.32%**	**0.25%**

East Leg

Year	Counts				% Change			
	EB	*WB*	*EB+WB*	*INT*	*EB*	*WB*	*EB+WB*	*INT*
2003	286	463	749	4090				
2009	436	482	918	3892	52.4%	4.1%	22.6%	-4.8%
2016	361	646	1007	4170	-17.2%	34.0%	9.7%	7.1%

Regression Estimate	2003	327	440	767
Regression Estimate	2016	396	626	1022
Average Annual Change		**1.48%**	**2.76%**	**2.24%**

South Leg

Year	Counts				% Change			
	NB	*SB*	*NB+SB*	*INT*	*NB*	*SB*	*NB+SB*	*INT*
2003	347	547	894	4090				
2009	244	482	726	3892	-29.7%	-11.9%	-18.8%	-4.8%
2016	400	462	862	4170	63.9%	-4.1%	18.7%	7.1%

Regression Estimate	2003	301	538	839
Regression Estimate	2016	361	454	815
Average Annual Change		**1.40%**	**-1.29%**	**-0.22%**