December
2017

398 – 406 Roosevelt Avenue

TIA Scoping Report

Prepared for:

domicile

Prepared by:

PARSONS

398 – 406 Roosevelt Avenue

TIA Scoping Report

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

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

December 8, 2017

476577 – 01000

PARSONS

envision more

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TIA Scoping Report

1. SCREENING FORM

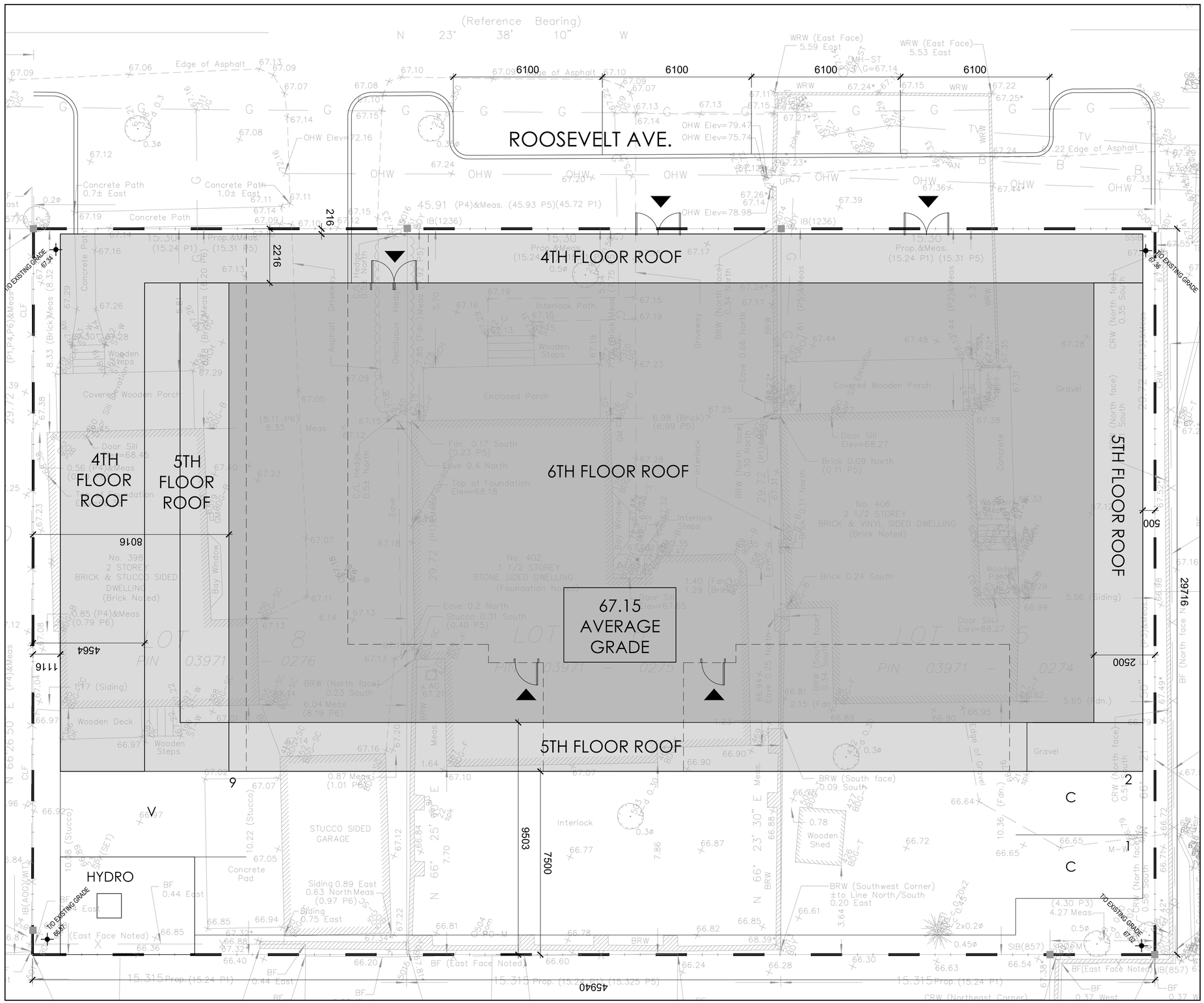
The screening form was submitted for the subject development on December 1st, 2017 to City of Ottawa staff for review and confirmation of the need for a Transportation Impact Assessment (TIA). The Location and Safety triggers were met based on the proximity to the Richmond Road corridor and adjacent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

The Screening Form and City Response 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 **SITE PLAN**
SCALE 1:75

FEBRUARY 14, 2017

NOTES:

PARKING :

BASEMENT (RESIDENTIAL) -	22
GROUND SURFACE (COMMERCIAL) -	7
GROUND SURFACE (VISITOR) -	2
TOTAL PARKING -	31

MINIMUM RESIDENTIAL PARKING SPACE: __
MAXIMUM COMBINED RESIDENTIAL AND VISITOR PARKING SPACE: 1.5/DWELLING UNIT = __ SPACES

MIN. VISITOR PARKING: 0 FOR FIRST 12 DWELLING UNITS, 0.083 PER DWELLING UNIT: 127 DWELLING UNITS-12 = __(0.083) = __VISITOR SPACES

BICYCLE PARKING: 0.5 PER DWELLING UNIT & 1 PER 250 SQ M OF GFA: __(0.5) = __ BICYCLE SPACES & ___ SQ M GFA/ 250 SQ M = __ BICYCLE SPACES = (___) = __ TOTAL BICYCLE SPACES

AREA OF SITE:

TOTAL SITE AREA: 1365 SQ M

UNIT TYPES - CONDO TOWER:
__ CONDOMINIUM APARTMENTS TOTAL

LEGAL DESCRIPTION:

PART 1 Plan of
LOTS 5, 6 AND 8 REGISTERED PLAN 114
CITY OF OTTAWA

ORIGINAL SURVEY PREPARED BY ANNIS O'SULLIVAN VOLLEBEKK LTD.

SURVEY #:19693-17 Domicile Lt 5 PL 114 T F

BUILDING AREAS

BELOW GRADE	1283 m² / 13807 ft²
ABOVE GRADE COMMERCIAL	
GROUND FLOOR	407.5 m² / 4386 ft²
2nd FLOOR	146.5 m² / 1577 ft²
TOTAL COMMERCIAL	554 m² / 5963 ft²
ABOVE GRADE RESIDENTIAL	
GROUND FLOOR	194.0 m² / 2088 ft²
2nd FLOOR	575 m² / 6190 ft²
3rd FLOOR	912 m² / 9816 ft²
4th FLOOR	912 m² / 9816 ft²
5th FLOOR	800.6 m² / 8618 ft²
6th FLOOR	637.0 m² / 6858 ft²
TOTAL RESIDENTIAL	4030 m² / 43379 ft²
TOTAL RESIDENTIAL + COMMERCIAL (ABOVE GRADE)	4584 m² / 49342 ft²
ABOVE + BELOW AREA	5867 m² / 63149 ft²

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
SITE PLAN

SITE PLAN CONTROL

revision	drawing no.
01	**SP-1**

3. EXISTING CONDITIONS

The TIA and ensuing analysis includes the signalized Richmond/Roosevelt intersection only.

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.

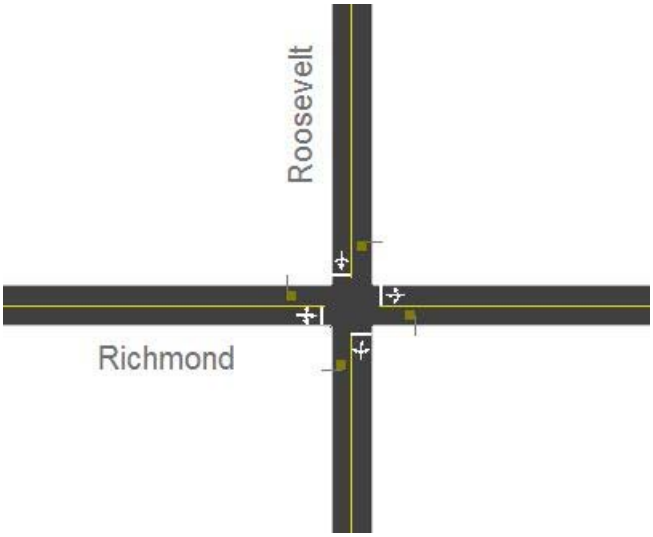
Access to the Transitway is provided by the Dominion Station located north of Roosevelt Avenue, approximately 475m walking distance to the north of the site. As the site is located within 600m radius of Dominion Station, the development is considered a Transit-Oriented Development (TOD).

Figure 3: Area Transit Network

3.4. EXISTING STUDY AREA INTERSECTION

Richmond/Roosevelt

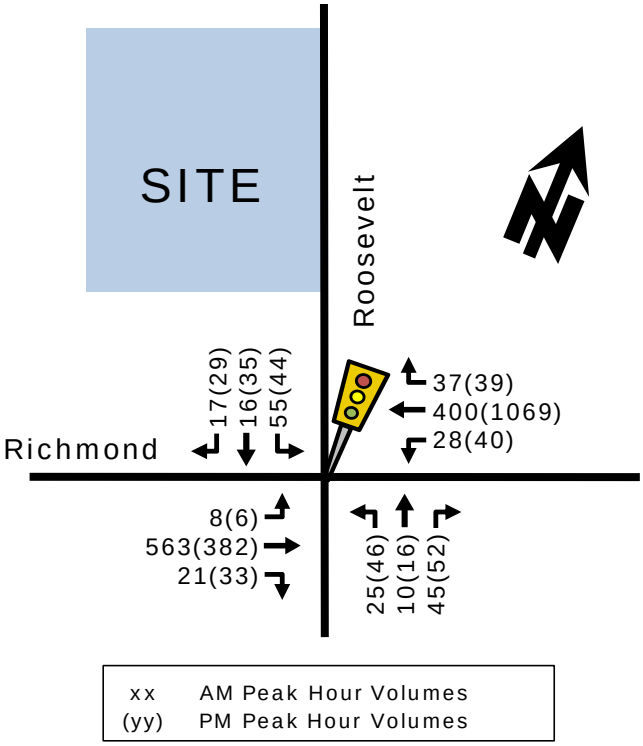
The Richmond/Roosevelt intersection is a signalized four-legged intersection. The north, south, east and westbound approaches consist of a single shared through-right-left lane each. All movements are permitted at this location.



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.

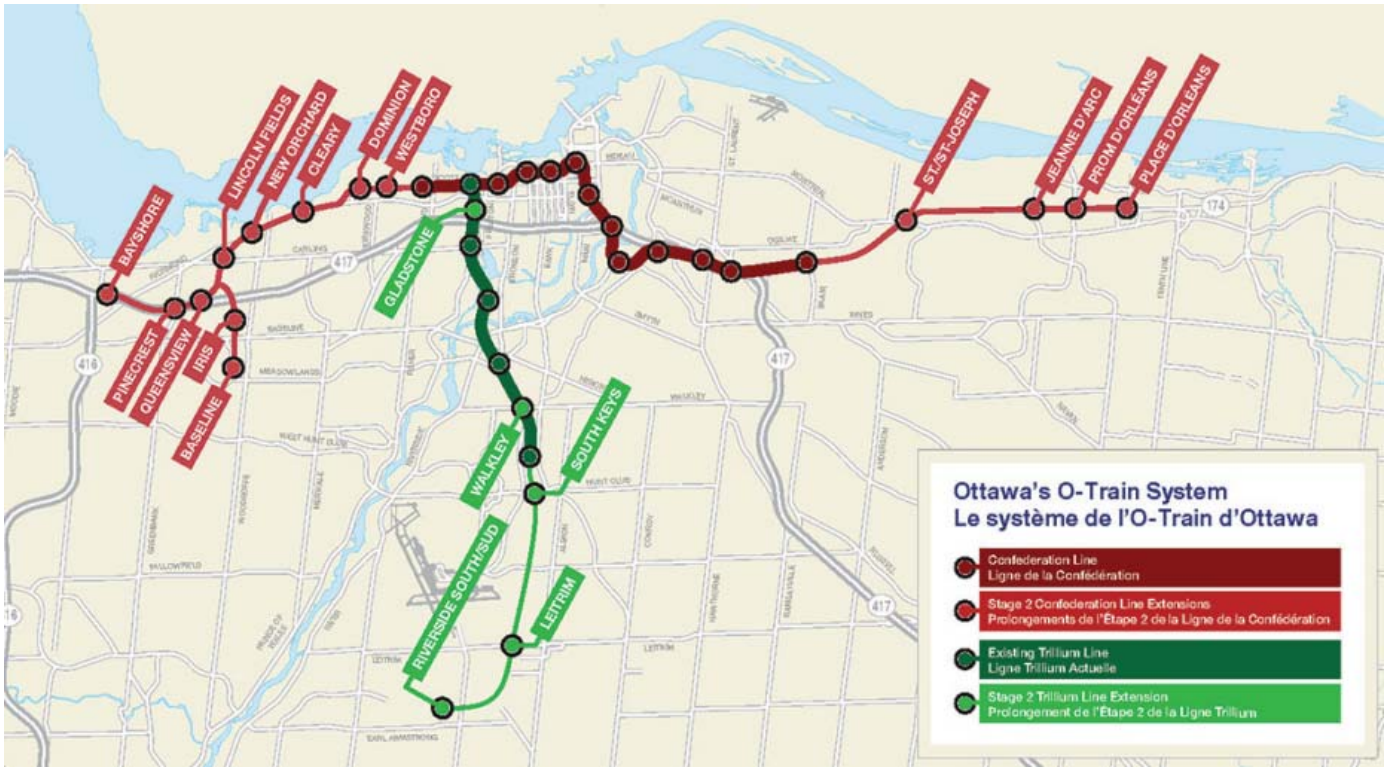
4. PLANNED CONDITIONS

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. NEXT STEPS

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

Appendix A

Screening Form

Harte, Andrew

From: Dubyk, Wally <Wally.Dubyk@ottawa.ca>
Sent: Monday, December 04, 2017 8:05 AM
To: Harte, Andrew
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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PARSONS

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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	

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

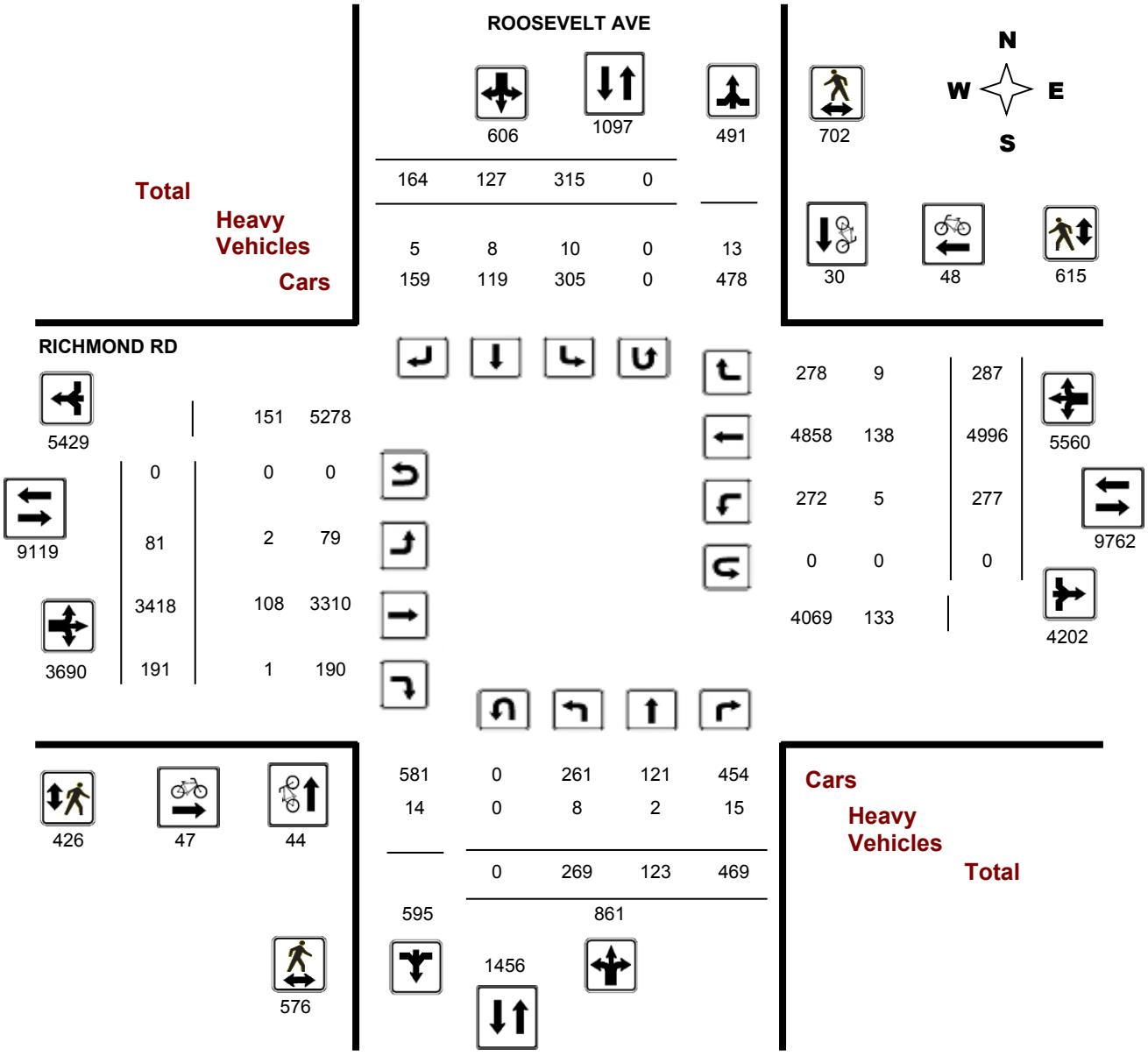
Turning Movement Count - Full Study Diagram

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.

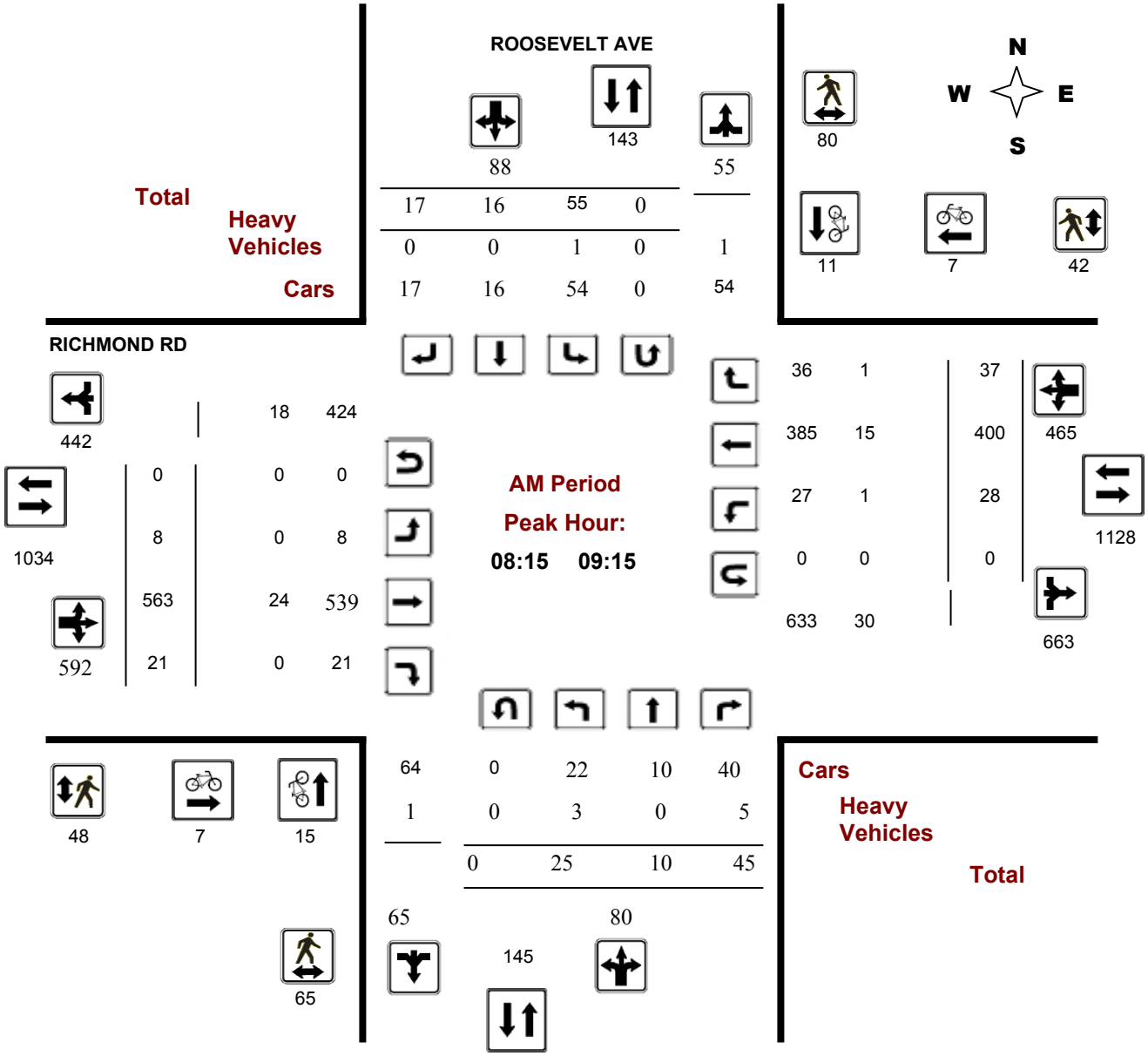
Transportation Services - Traffic Services

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

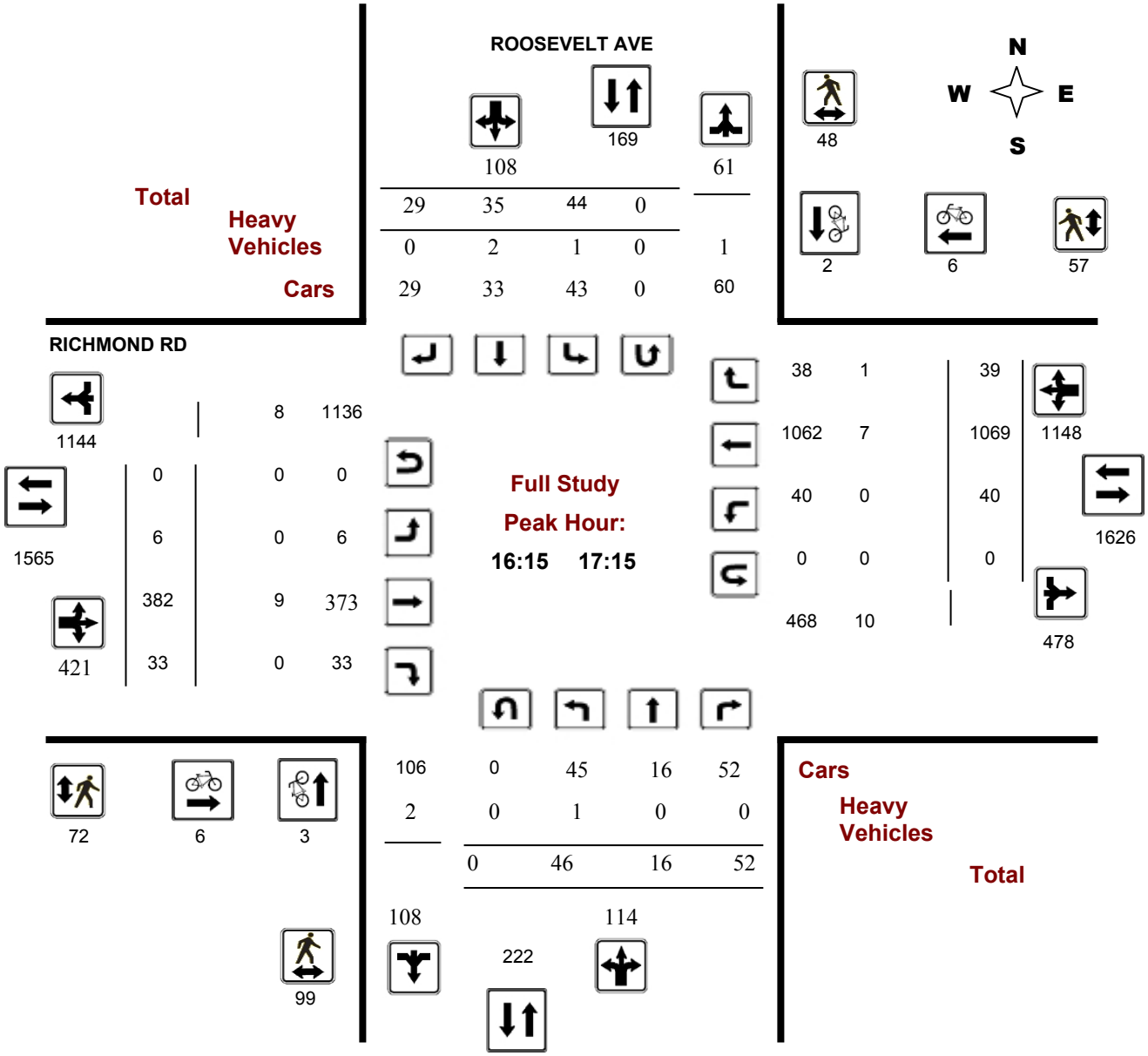
Transportation Services - Traffic Services

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

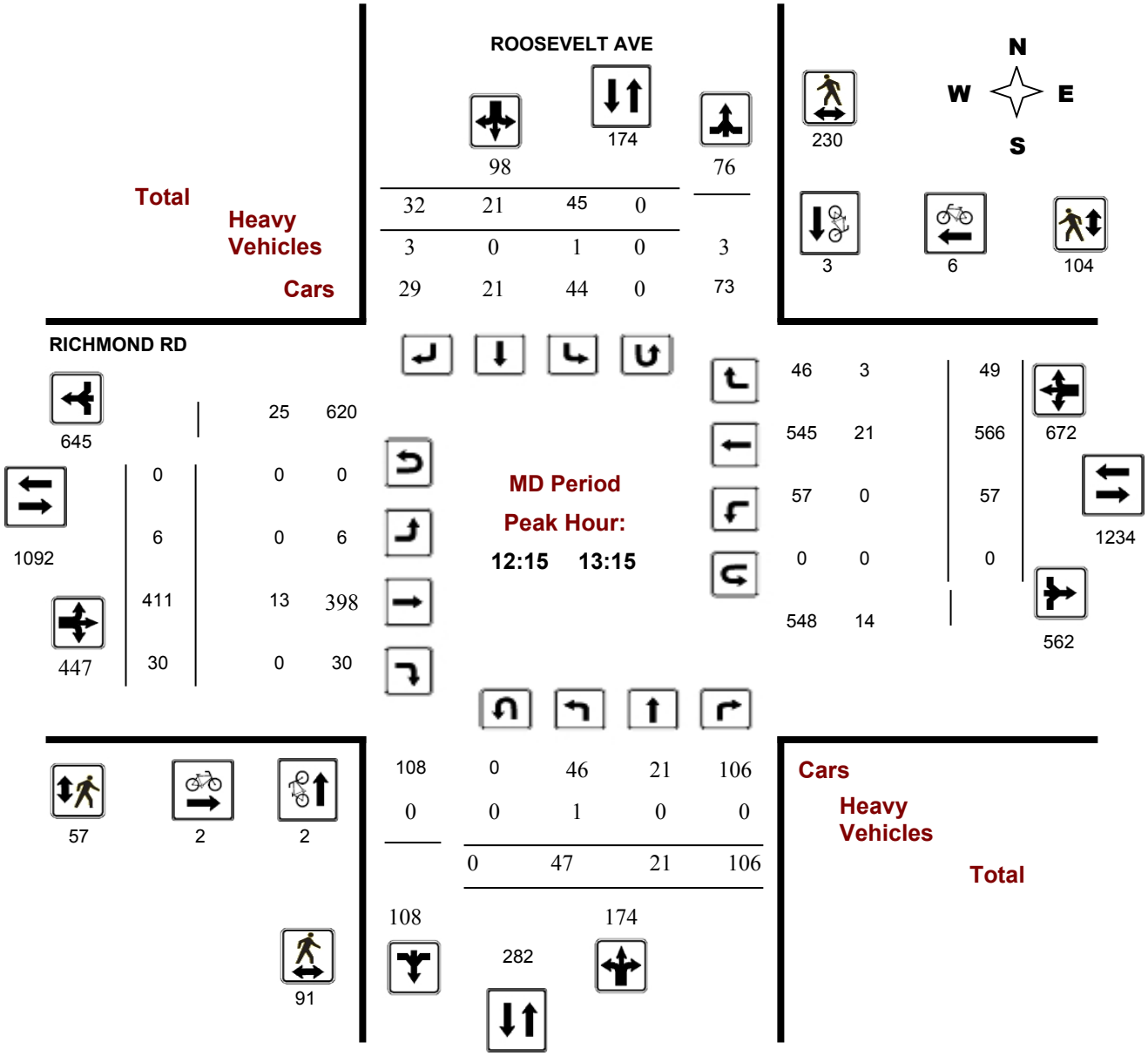
Transportation Services - Traffic Services

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

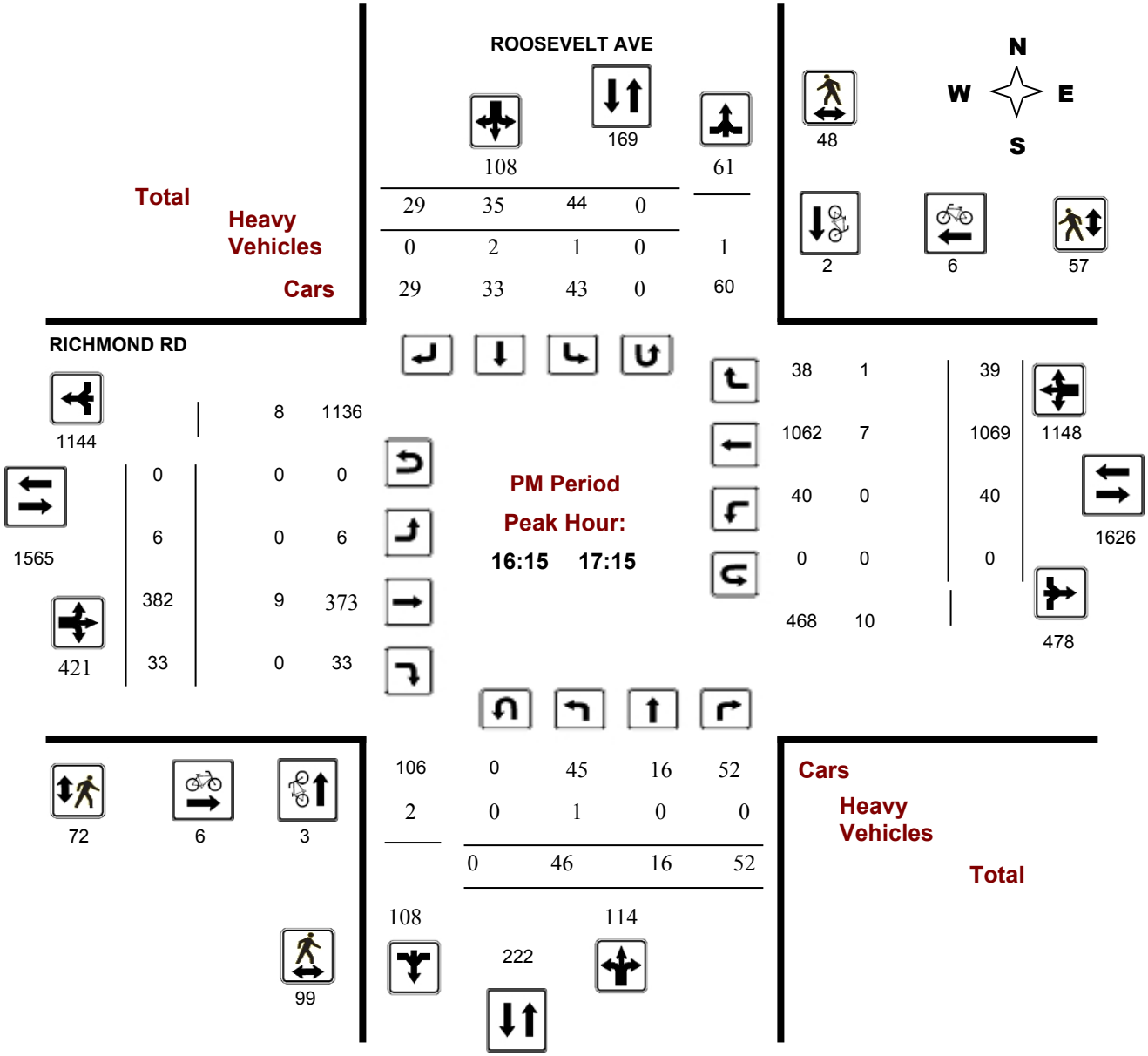
Transportation Services - Traffic Services

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	