SURFACE DEVELOPMENTS

AUG 2017

1946 Scott Street

Transportation Impact Assessment Screening and Scoping Report

PARSONS

TIA Plan Reports

On XX June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering ☐ or transportation planning ☐.

[1,2] License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

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Dated at Markham this 30 day of August, 2017.
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Signature of Individual certifier that s/he meets the above four criteria

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City of Ottawa 2017 TIA Guidelines	Date	8/17/2017
TIA Screening Form	Project	1946 Scott
	Project Number	476451-01000

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	1946 Scott Street	
Description of location	Frontage to Scott Street only	Adjacent to Scott/Lanark
Land Use	Residential	
Development Size	70 apartment units	
Number of Accesses and Locations	One access to Scott Street	
Development Phasing	n/a	
Buildout Year	Assume 2019	
Sketch Plan / Site Plan	See attached	

Module 1.2 - Trip Generation Trigger		
Land Use Type	Townhomes or Apartments	
Development Size	70	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)	Yes
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	<60	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	

1946 Scott Street Residential Development

Scoping and Screening Report

prepared for:
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August 30, 2017

476451-01000

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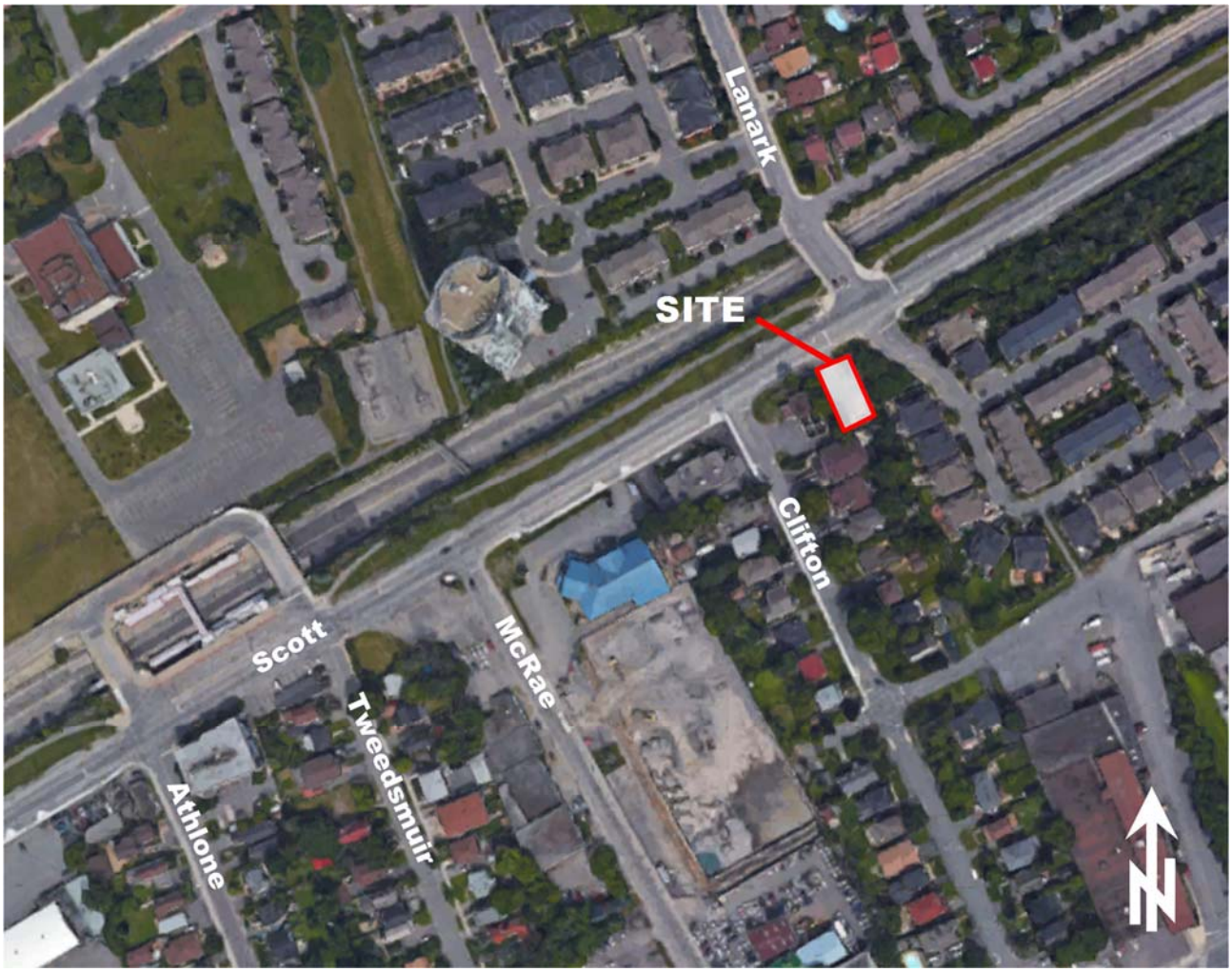
Screening and Scoping Report

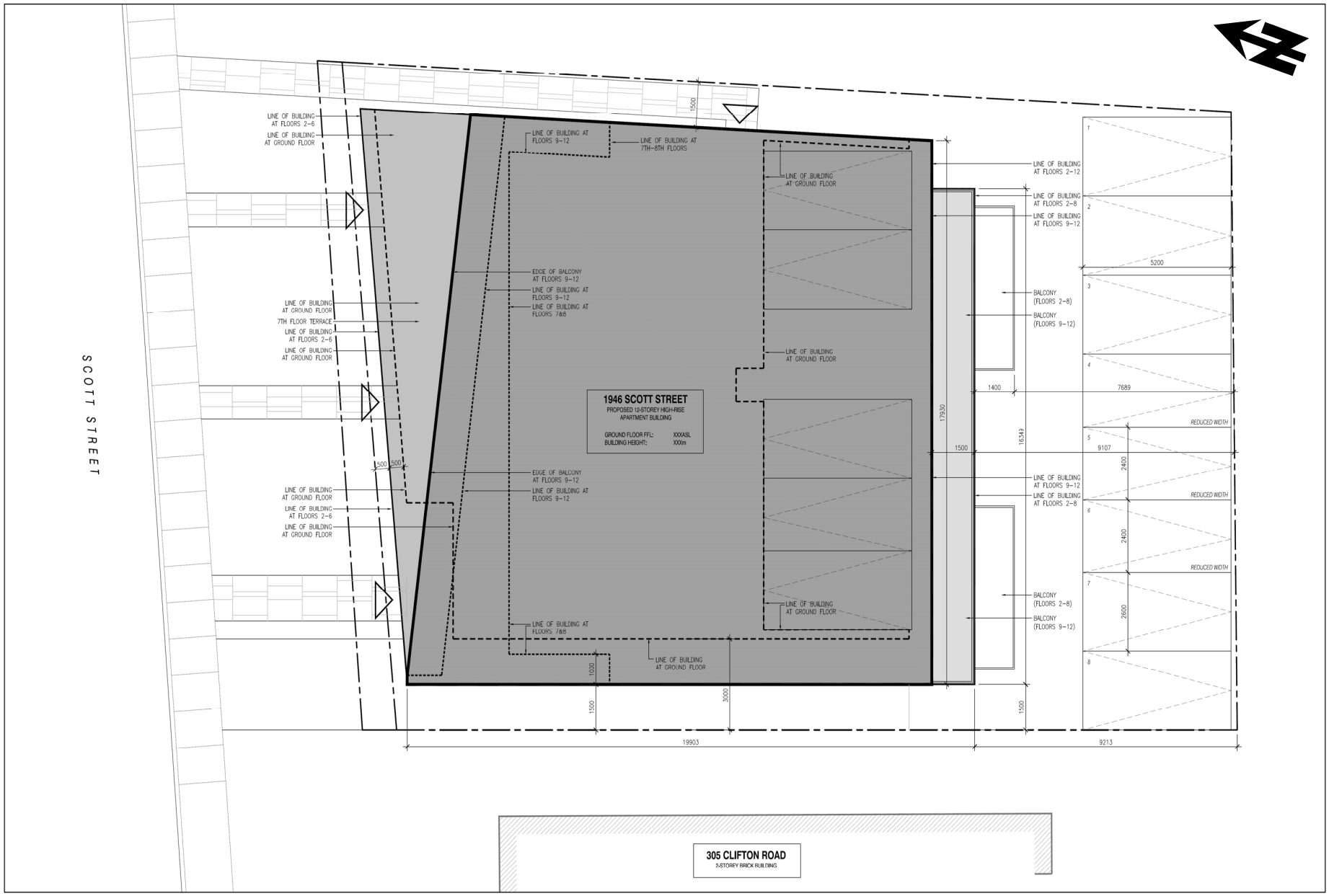
1. DESCRIPTION OF PROPOSED DEVELOPMENT

1.1. PROPOSED DEVELOPMENT

A 12-storey building with approximately 60 residential apartment units is being proposed along the south side of Scott Street, just west of Lanark Avenue. Vehicle access is proposed to Scott Street via a single full-movement driveway connection. A total of 13 parking spaces are proposed to serve the subject development in an above-ground on-site parking lot. The estimated date of occupancy is 2019, with one planned phase of development. The site is currently vacant and zoned as residential. The site's local context is depicted as Figure 1 and the Ground Floor Site Plan is depicted as Figure 2.

Figure 1: Local Context





1 SITE PLAN
SP-01 SCALE: 1:75

PARSONS

Figure 2: Proposed Site Plan

2. EXISTING CONDITIONS

2.1. AREA ROAD NETWORK

Scott Street is an east-west arterial roadway, which extends from Churchill Avenue in the west to Bayview Road in the east, where it continues as Albert Street into Ottawa's downtown area. Within the study area, its cross-section consists of a single travel lane in each direction and the posted speed limit is 50 km/h. Auxiliary turn lanes are provided at most signalized intersections along Scott Street.

Lanark Avenue/West Village Private is a north-south collector roadway north of Scott Street (Lanark Avenue), and a local roadway south of Scott Street (West Village Private). Within the study area, its cross-section consists of a single travel lane in each direction with auxiliary turn lanes provided at major intersections. The unposted speed limit is understood to be 50 km/h.

Clifton Road is a local roadway with an unposted speed limit of 50 km/h. Its cross-section consists of a single travel lane in each direction with on-street parking permitted along the east side of the road all day and along the west side of the road before 7am and after 7pm. Clifton Road's intersections with Richmond Road and Scott Street are STOP sign controlled on the minor approach only (Clifton Road) and auxiliary turn lanes are not provided. Due to residents' concerns along Clifton Road, area traffic measures such as bulb-outs, speed humps and all-way STOP controlled intersections have been implemented to minimize cut-through traffic.

2.2. PEDESTRIAN/CYCLING NETWORK

According to the City's 2013 Official Cycling Plan (OCP), Scott Street is classified as Spine Route and a Cross-Town Bikeway, and Clifton Road between Scott Street and Wilber Avenue is classified as a "Local Route". Within the study area, a multi-use pathway exists along the north side of Scott Street in addition to on-street bicycle lanes.

Connecting pedestrians to transit service and other adjacent development, sidewalks are currently provided along both sides of Lanark Avenue and along the south side of Scott Street, with an off-road multi-use pathway provided along the north side of Scott Street.

2.3. TRANSIT NETWORK

OC Transpo service is currently located along Scott Street with bus stops provided directly adjacent to the site for Local Route #50. Bus Rapid Transit (BRT) is located approximately 290 m west of the site via the Westboro Transit Station, accommodating 11 all-day local routes, 26 express routes and 3 peak hour routes. These routes are listed below:

- Local Routes
  - Routes 11, 50, 61, 62, 66, 81, 87, 91, 94, 95, 97, 403
- Connexion Routes
  - Routes 252, 256, 261, 262, 263, 282, 282
- Peak Hours Routes
  - Routes 63, 64, 164

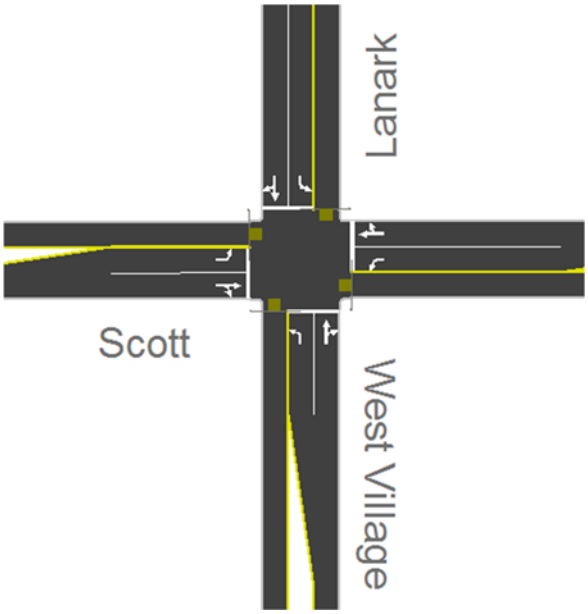
Phase 2 of the LRT project will divert transit onto Scott Street and the Westboro Transit Station will become the Westboro LRT Station once Phase 2 is complete by approximately 2024.

Figure 3: Area Transit Network

2.4. EXISTING STUDY AREA INTERSECTION

Scott/Lanark/West Village

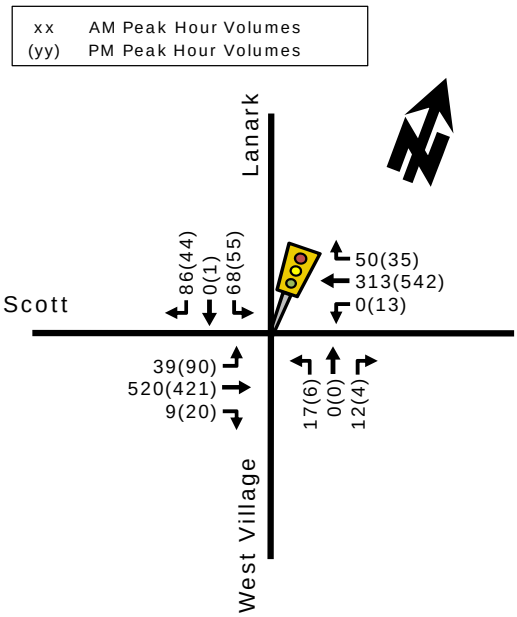
The Scott/Lanark/West Village intersection is a signalized four-legged intersection. A single lane approach with an auxiliary left-turn lane is provided for each leg with all movements permitted.



2.5. 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 Scott/Lanark & West Village intersection. Peak hour traffic volumes are included as Appendix A.

Figure 4: Existing Peak Hour Traffic Volumes



The following Table 1 provides a summary of existing traffic operations at the Scott/Lanark & West Village intersection, based on the Synchro (V9) traffic analysis software. The signalized intersection was assessed in terms of the volume-to-capacity (v/c) ratio and the corresponding Level of Service (LoS) for the 'critical movement(s)'. The signalized intersection 'as a whole' was assessed based on a weighted v/c ratio. The Synchro model output of existing conditions is provided within Appendix B.

Table 1: Existing Performance at the Study Area Intersection

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'as a whole'		
	LoS	max. v/c or avg. delay (s)	Movement	Delay (s)	LoS	v/c
Scott/Lanark/West Village	A(A)	0.44(0.48)	EBT(WBT)	8.5(8.6)	A(A)	0.42(0.43)
Note: Analysis of signalized intersections assumes a PHF of 0.95 and a saturation flow rate of 1800 veh/h/lane.						

As shown in Table 1, the signalized Scott/Lanark & West Village intersection 'as a whole' is currently operating at an acceptable LoS 'A' during the weekday morning and afternoon peak hours, with respect to the City of Ottawa operating standards of LoS 'D' or better (0.90 > v/c > 0.00). With regard to 'critical movements', all are noted as operating at an acceptable LoS 'A'.

2.6. EXISTING ROAD SAFETY CONDITIONS

Collision history for study area roads (2011 to 2015, inclusive) was obtained from the City of Ottawa, and most collisions (82%) involved only property damage, indicating low impact speeds, and 18% involved personal injuries. The primary causes of collisions cited by police include rear end (27%), sideswipe (27%), and angle (18%) 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 signalized Scott/Lanark & West Village intersection reported collisions have historically taken place at a rate of 0.27/MEV.

It is noteworthy that within the vicinity of the site, there was one collision involving two pedestrians at the Scott/Lanark intersection (in 2014) and one collision involving a cyclist at the Scott/Clifton intersection (in 2013). Both resulted in non-fatal injuries. The source collision data as provided by the City of Ottawa and related analysis is included as Appendix C.

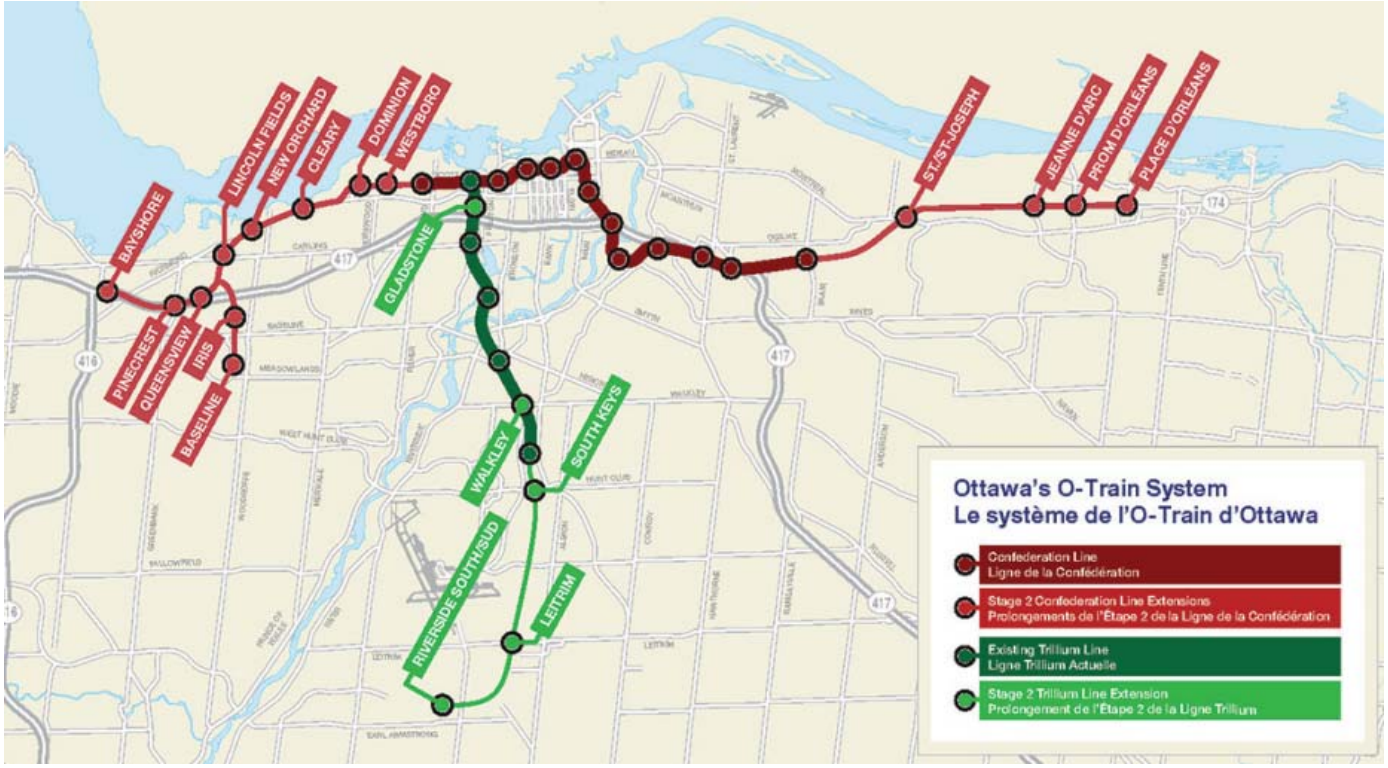
3. PLANNED CONDITIONS

3.1. PLANNED STUDY AREA TRANSPORTATION NETWORK CHANGES

A notable transportation network change 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 2018.

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 less than 300 m from the Westboro Station.

Figure 5: Planned LRT Phase II



During the LRT Phase II construction, buses will be routed off the existing Transitway onto Scott Street. Approximately 210 additional busses in the morning peak and 225 additional busses in the afternoon peak are expected to be added to the existing vehicle traffic. The detour is expected to be in operation from late 2021 (October/November) to 2023.

3.2. OTHER AREA DEVELOPMENT

With respect to other area development, the following development applications have been submitted to the City of Ottawa in the vicinity of the proposed site:

1960 Scott Street
Colonnade Bridgeport is proposing the construction of a mixed-use development consisting of approximately 120 residential dwelling units, 74,153 ft^2 of office and 14,440 ft^2 of retail located at the above address. The Transportation Brief (prepared by Parsons) projected 123 veh/h and 132 veh/h in the morning and afternoon peak hours, respectively.

320 McRae Avenue, 1976 Scott Street, and 315 Tweedsmuir Avenue
A mixed-use development consisting of approximately 242 residential dwelling units, 11,200 ft^2 of office space, and 23,000 ft^2 of retail land uses is proposed at the abovementioned address. The Transportation Study (prepared by Parsons) projected 104 and 142 veh/h in the morning and afternoon peak hours, respectively.

175 Richmond Road and 350 Kirkwood Avenue
Claridge Homes is proposing the construction of a residential/commercial development at the above-noted address. The Transportation Brief (prepared by Novatech Engineering) reported a projected increase in two-way traffic of 154 and 220 veh/h during the weekday morning and afternoon peak hours, respectively.

371 Richmond Road
Domicile is proposing the construction of a high-rise condominium development at the above-noted address, which is located at the above address. The Transportation Brief (prepared by Parsons) projected 35 veh/h and 30 veh/h in the morning and afternoon peak hours, respectively.

70 Richmond Road
Caribou Urban Properties Inc. is proposing to expand the existing vacant building with the anticipation that the future tenant will be a high-end coffee shop with a drive-through facility. The Transportation Impact Study (prepared by Parsons) projected 250 veh/h and 90 veh/h during the morning and afternoon peak hours, half of which were considered to be pass-by trips.

114 Richmond Road
Ashcroft Homes is proposing the construction of a mixed-use development at the above-noted address. The most recent addendum to the transportation study (prepared by Delcan, a Parsons company) projected 185 to 220 veh/h during the morning and afternoon peak hours.

236 Richmond Road
Main and Main Development is proposing a nine storey, 70-unit residential building with approximately 9,395 ft^2 of ground floor retail located at the above address. The Transportation Brief (prepared by Parsons) projected 66 veh/h and 65 veh/h in the morning and afternoon peak hours, respectively.

Tunney's Pasture
Tunney's Pasture is located approximately 1 km east of the subject site and currently consists of approximately 10,000 office/lab employees. A Master Plan for Tunney's Pasture proposes the site to be redeveloped to consist of approximately 24,000 office, lab, and retail employees and approximately 3,700 high density residential dwelling units. The Multi-Modal Transportation Study (prepared by Parsons) projected net increase in vehicle traffic of 1,135 and 1,400 veh/h during the morning and afternoon peak hours, respectively. Intersection modifications are recommended at locations that are projected to experience capacity issues and new signalized intersections are proposed for access/egress to/from the development.

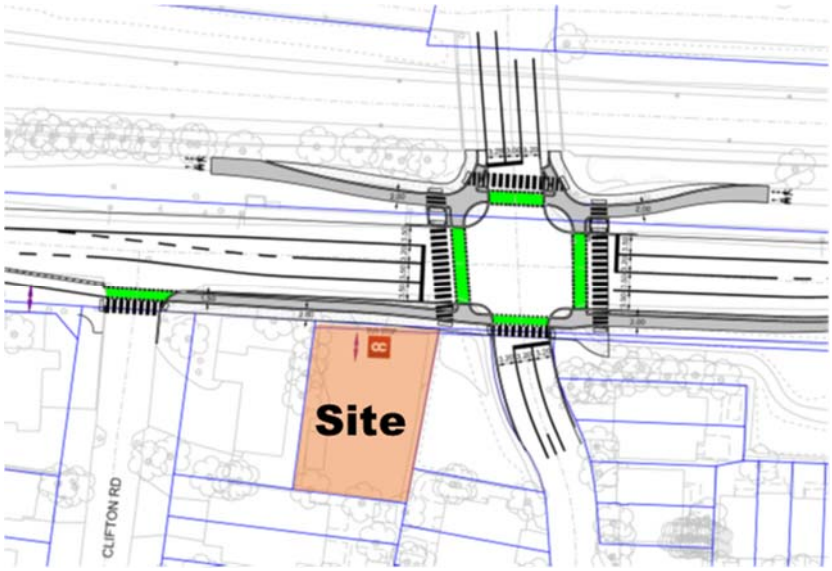
The emphasis in the City's recent Official Plan and Transportation Master Plan is to place priority on transit, encourage intensification around transit stations, encourage mixed-use developments and provide "complete streets" that better accommodate the active transportation needs of its residents and reduce the use of the private auto. The Tunney's Pasture Master Plan is reflective of these realities and is an excellent example of a sustainable plan from a transportation perspective.

4. STUDY AREA

4.1. BOUNDARY STREET DESIGN

The boundary street of the proposed development is Scott Street. The City of Ottawa has prepared a complete street concept for Scott Street which is attached as Appendix D and the section directly adjacent to the site is shown as Figure 6. The subject development is not expected to have any significant impact on the future design.

Figure 6: Planned Scott Street Interim Design



The proposed design will provide cycle tracks and sidewalks along both sides of Scott Street and provide fully-protected intersections at signalized intersections, including at the site's adjacent intersection (Scott/Lanark & West Village). Transit access is provided by bus stops directly adjacent to the site.

The planned modifications along Scott Street are expected to be constructed from May 2021 to October 2021 (some construction might begin in fall 2020). This plan will be in place for the detour of BRT busses along Scott Street during the Phase 2 LRT construction. The resulting cross-section of Scott Street will include two vehicle travel lanes (curb lane is transit only) in the eastbound direction between Island Park Drive and Clifton Road. Post construction (2024), it is understood that the cross-section of Scott Street will be revised to be a single vehicle travel lane in each direction.

4.2. TRANSPORTATION DEMAND MANAGEMENT

Depending on the nature of a development, Transportation Demand Management (TDM) strategies have the potential to be an integral part of a planned development in order to address and support the City of Ottawa policies with regard to TDM. For this particular site, its proximity to the existing transit service, future LRT service, and multi-use pathway/cycle track is considered very advantageous in lessening the reliance on the private automobile. On-site TDM measures could also be considered, including:

- Providing parking for car-sharing services (ie VRTUCAR); and
- Improving bicycle facilities, such as provision of secure on-site bicycle storage.

4.3. NEIGHBOURHOOD TRAFFIC MANAGEMENT

Site access is proposed to Scott Street, which is an arterial road. As such, the majority of site-generated traffic will not divert onto collector or local roadways through adjacent neighbourhoods. However, we have been advised that there is an existing concern with cut-through traffic along the local roadway adjacent to the west of the proposed development, Clifton Road. The City has already provided multiple traffic calming measures along Clifton Road to help minimize cut-through traffic including:

- Bulb-outs at intersections;
- All-way STOP control;
- Speed humps; and
- Peak period turn restrictions.

4.4. TRANSIT

OC Transpo bus stops are currently provided directly adjacent to the site and the Westboro Transit Station is approximately 290 m west of the site. As the site did not meet the trip generation trigger, it is not expected to make any significant impacts to the transit route capacity. As mentioned previously, Scott Street is planned as a detour route for BRT busses during the construction of Phase 2 LRT. As such the increase in busses along Scott Street is estimated to be approximately 210 busses/h during the morning peak hour and 225 busses per hour during the afternoon peak hour until year 2023. During the mid-day peak hour, the bus traffic is expected to be approximately 80-100 two-way busses/hour and during the evening, 60-70 two-way busses/hour are expected.

5. TIME PERIODS

The weekday morning and afternoon peak hours are considered the appropriate time periods for operational analysis, as this is a residential development.

6. HORIZON YEARS

The build out year for the proposed development is estimated to be 2019, with 2024 being the horizon year of study (5-years beyond build out). As mentioned previously, the Scott Street corridor has plans to provide detour routes for busses during Phase 2 LRT construction from 2021 to 2023.

6.1. BACKGROUND TRAFFIC

Based on the amount of planned and proposed developments within the vicinity of the site, Scott Street traffic volumes are expected to increase by an estimated 2% per annum. As the subject development is estimated to be completed in 2019, the following Figures 7 and 8 illustrate the background traffic volumes assuming a 2% traffic growth for the horizon years 2019 and 2024 (5-years beyond site build out).

Figure 7: 2019 Background Traffic Volumes

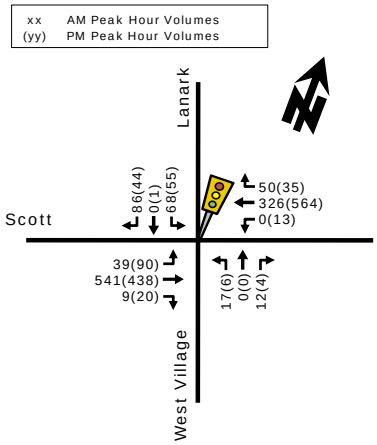
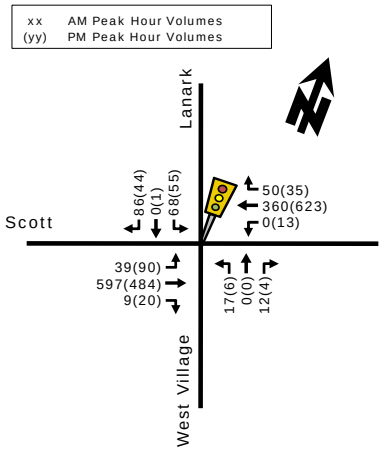


Figure 8: 2024 Background Traffic Volumes



7. EXEMPTIONS REVIEW

7.1. MODULES 3.1, 3.2, 3.3

The development is planned to be a 60-unit apartment building. According to the City's 2017 TIA Guidelines (Table 2), the trip generation trigger for apartment building developments is 90 units or more. As this site does not meet that trigger, no further site-trip generation analysis is included herein, and Modules 3.1, 3.2, and 3.3 are exempt from the TIA.

7.2. DEVELOPMENT DESIGN

7.2.1. CIRCULATION AND ACCESS

As shown on the Site Plan (Figure 2), vehicle parking is proposed at the rear of the building, with driveway access to Scott Street. The driveway is located at the site's western boundary to maximize the distance between the driveway and the adjacent intersection. The driveway is approximately 25 m from West Village Private, which meets the Private Approach By-Law (No. 2003-447-25(I)). It is noteworthy, that the driveway is approximately 12 m west of the westbound stop bar at the Scott/West Village & Lanark intersection.

The driveway width is noted to be 3.0 m wide. According to the City's Parking, Queues and Loading By-Law, an apartment building is permitted to have a driveway width of 3.6 m if there are less than 20 parking spaces on-site. As such, efforts should be made to increase the width of the driveway by 0.6 m, or a minor By-Law variance may be required. Similarly, the drive aisle width within the parking lot is noted to be 6.0 m wide. The City's Parking By-Law requires a minimum width of 6.7 m wide for perpendicular parking spaces. Given the low traffic volumes projected to travel to/from and within this parking lot, the proposed drive aisle widths will operate acceptably, however, a By-Law variance may be required.

7.2.2. DESIGN FOR SUSTAINABLE MODES

Pedestrian and cycling facilities are provided along both sides of Scott Street in the form of sidewalks and bicycle lanes. As shown in the attached Appendix D, cycle tracks are planned along both sides of Scott Street.

Transit stops and a rapid transit station (Westboro Station) are within 400 m walking distance for all future residents of the proposed apartment building. OC Transpo bus stops are located adjacent to the site along Scott Street.

7.3. PARKING

A total of 13 parking spaces are proposed to serve the subject development. According to the City's By-Law requirements, a minimum of 30 parking spaces are required for the residential units and 5 visitor parking spaces are required. Given the site's close proximity to the Westboro Transit Station (future LRT Station), approximately 300m, and the planned cycling infrastructure along Scott Street, a reduced parking is appropriate for this site. Reducing the available parking will further encourage residents to utilize non-auto modes of travel. A By-Law variance will likely be required to provide this reduced amount of parking.

The majority of parking spaces meet the City's By-Law requirements in terms of dimension (2.6 m in width and 5.2 m in length) and 4 are proposed with a reduced width (2.4 m in width).

Bicycle parking is not identified on the attached Site Plan, however a total of 30 bicycle parking spaces should be provided in well-lit areas, close to the main entrance, to meet the City's By-Law requirements.

7.4. ACCESS INTERSECTION DESIGN

The site access driveway is approximately 15 m from the closest intersection (Scott/Lanark/West Village). The proposed intersection control for the site access driveway is STOP control on the minor approach only.

MMLOS analysis was completed for the existing and future intersection configuration of Scott/Lanark & West Village. The results are summarized in Table 2, and the full analysis can be found in Appendix E.

Table 2: MMLOS Analysis Summary

Mode	Existing	Future	Target
Pedestrian	PLoS 'E'	PLoS 'E'	PLoS 'A'
Cyclist	BLoS 'D'	BLoS 'A'	BLoS 'A'
Transit	TLoS 'B'	TLoS 'B'	No Target
Truck	TkLoS 'E'	TkLoS 'F'	No Target
Auto	LoS 'A'	LoS 'A'	LoS 'E'

As shown in Table 2, the pedestrian level of service target is not currently met and with the planned modifications along Scott Street, pedestrians will continue to experience PLoS 'E'. It is noteworthy that the worst level of service score governs the overall intersection's performance. In this case, the north and south legs are projected to operate with PLoS 'B' and a delay score of PLoS 'A'. Along the east-west legs, the PETSI score is PLoS 'D' and the governing score is the PLoS 'E' delay score experienced for pedestrians crossing Scott Street. This could be improved by providing more green time to the minor street, which would likely result in worst score for transit and other vehicles. Given the major detour route along Scott Street at this location, reducing the green time along Scott Street is not recommended.

With regard to transit, there is no definable target in the MMLoS Guidelines as there is transit signal priority planned for Scott Street in the TMP. Scott Street, adjacent to the site, is planned with transit lanes in the eastbound direction for the duration of the Phase 2 LRT construction, as busses will be detoured to Scott Street. This will improve the level of service to the maximum TLoS 'B' as shown in Table 2. TLoS 'A' is reserved for grade separated facilities, which are not provided here.

Lanark Road and West Village Private are not identified as truck routes and as such there is no target truck level of service for this intersection.

Both the cyclists and vehicles are projected to meet the MMLoS targets with the proposed design along Scott Street.

8. FINDINGS AND RECOMMENDATIONS

Based on the foregoing analysis of the proposed site, the following transportation-related findings and recommendations are offered:

- The signalized Scott/Lanark & West Village intersection 'as a whole' is currently operating at an acceptable level of service during the morning and afternoon peak hours. The pedestrian and cycling levels of service do not currently meet their target levels of service;

- Transit service is located directly adjacent to the site along Scott Street and within 400 m walking distance to the Westboro Transit Station (future Phase 2 LRT station);

- Scott Street is planned as the detour for busses during the Phase 2 LRT construction and the City's design includes two eastbound vehicle travel lanes (curb lane is transit only) and cycle tracks along Scott Street. The projected volumes of busses is expected to range from 210 to 225 busses per hour during the weekday commuter peak hours and the detour is planned to be in operation from 2021 to 2023;

- Collision data reveals one collision with two pedestrians at the intersection directly adjacent to the site (Scott/Lanark & West Village) in the past 5 years and one collision with a cyclist at the Scott/Clifton intersection;

- Traffic growth within the vicinity of the site is expected to grow at approximately 2% per annum given the planned increase in development within the area;

- Given the number of apartment units proposed for this residential development, the trip-generation trigger is not met and no trip-generation analysis is included herein;

- The future conditions along Scott Street include an additional vehicle travel lane in the eastbound direction (transit only) between Island Park Drive and Clifton Road, with sidewalks and cycle tracks along both sides of the roadway. The study area intersection, Scott/Lanark & West Village is proposed as a fully-protected intersection. The MMLoS results show that the pedestrian level of service target is not met, but the cycling and vehicle levels of service targets are met;

- The site has planned full-movement access to Scott Street, located at the western boundary of the site. The driveway is approximately 25 m from the nearest intersecting street line (West Village Private), which satisfies the City's Private Approach By-Law in terms of location;

- The width of the driveway is noted to be 3.0 m wide. The City's By-Law states the driveway can be 3.6 m for a parking lot with 20 parking spaces or less. As such, a By-Law variance may be required for this reduced width;

- The proposed amount of vehicle parking does not meet the City's By-Law requirements. A total of 13 vehicle parking spaces are proposed (4 reduced in width) and a minimum 35 parking spaces are required. As discussed herein, a reduced parking rate is appropriate at this site given the access to transit via the nearby Westboro Transitway and Future LRT station, and the proposed cycling and pedestrian facilities along Scott Street. A parking By-Law variance may be required; and

- A minimum of 30 bicycle parking spaces should be provided in well-lit areas, close to the building's main entrance.

Based on the foregoing, the proposed 1946 Scott Street development is recommended from a transportation perspective.

Prepared By:

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Reviewed By:

Mark Crockford, P.Eng.
Transportation Engineer

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30-Aug-17
PROVINCE OF ONTARIO

Appendix A

Existing Traffic Counts

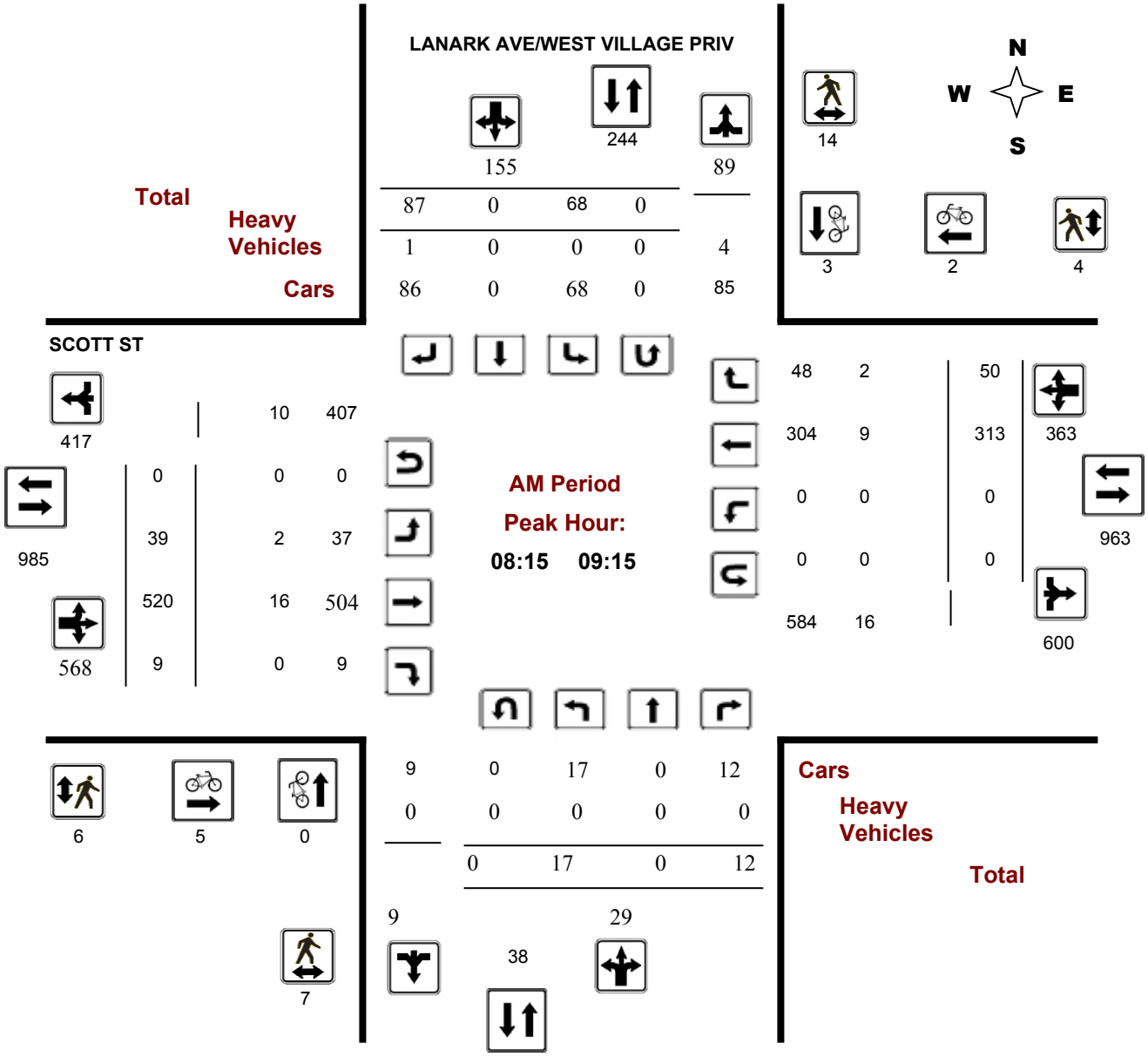
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

LANARK AVE/WEST VILLAGE PRIV @ SCOTT ST

Survey Date: Tuesday, March 28, 2017 **WO No:** 36807

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



Comments

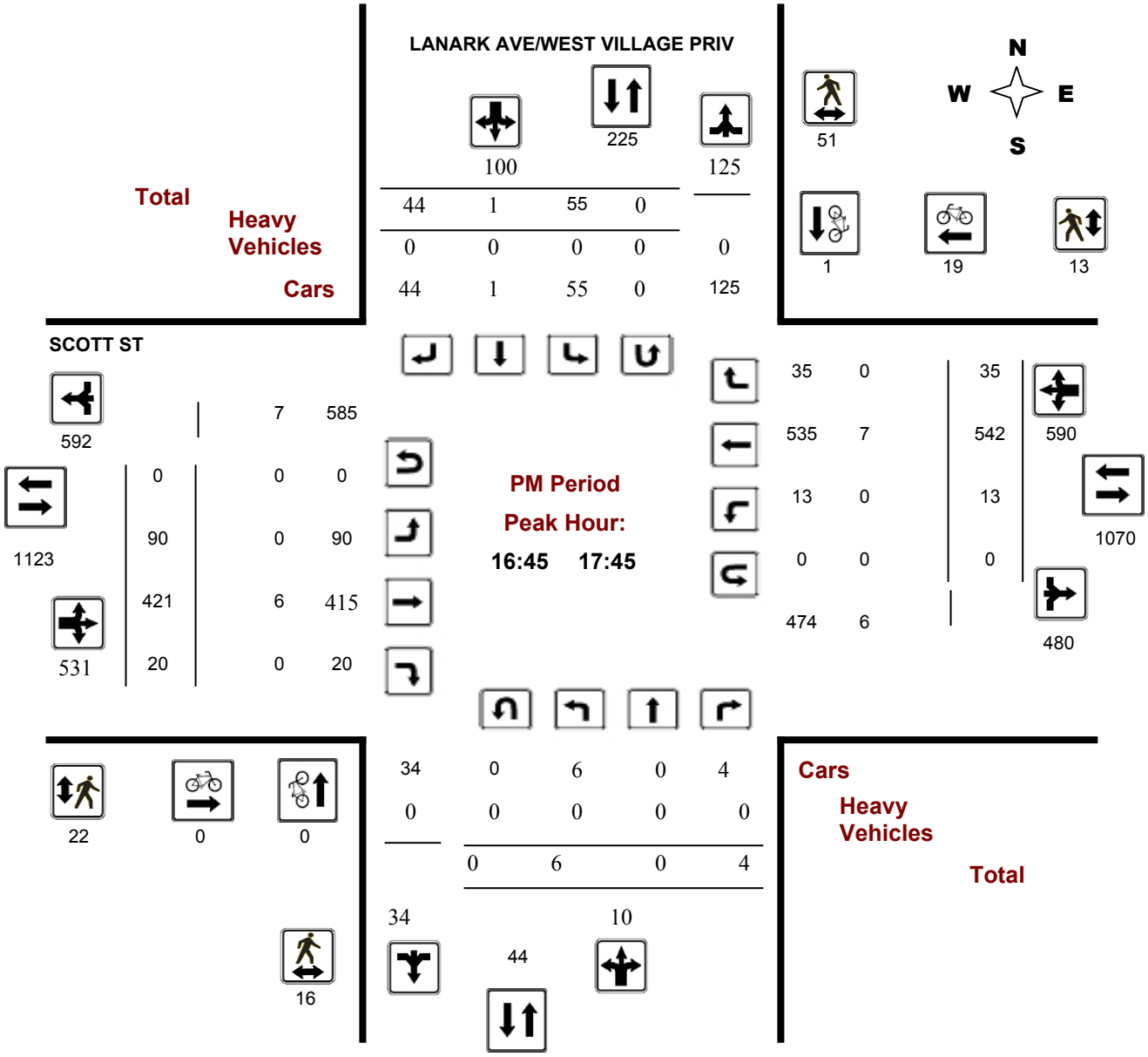
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

LANARK AVE/WEST VILLAGE PRIV @ SCOTT ST

Survey Date: Tuesday, March 28, 2017 **WO No:** 36807

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



Comments

Appendix B

SYNCHRO Capacity Analysis: Existing Conditions

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	39	520	313	17	0	68	0
Future Volume (vph)	39	520	313	17	0	68	0
Lane Group Flow (vph)	41	556	382	18	13	72	91
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA
Protected Phases		2	6		8		4
Permitted Phases	2			8		4	
Detector Phase	2	2	6	8	8	4	4
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.1	26.1	26.1	21.5	21.5	21.5	21.5
Total Split (s)	73.0	73.0	73.0	22.0	22.0	22.0	22.0
Total Split (%)	76.8%	76.8%	76.8%	23.2%	23.2%	23.2%	23.2%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.8	2.8	2.8	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	75.9	75.9	75.9	11.8	11.8	11.8	11.8
Actuated g/C Ratio	0.80	0.80	0.80	0.12	0.12	0.12	0.12
v/c Ratio	0.05	0.39	0.27	0.12	0.02	0.44	0.13
Control Delay	3.7	5.0	4.0	37.5	0.1	46.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	5.0	4.0	37.5	0.1	46.6	0.4
LOS	A	A	A	D	A	D	A
Approach Delay		4.9	4.0		21.8		20.8
Approach LOS		A	A		C		C
Queue Length 50th (m)	1.5	27.5	15.6	3.0	0.0	12.6	0.0
Queue Length 95th (m)	4.8	54.5	32.3	8.9	0.0	24.5	0.0
Internal Link Dist (m)		68.9	67.4		64.0		70.0
Turn Bay Length (m)	20.0			15.0		30.0	
Base Capacity (vph)	749	1423	1390	212	575	229	724
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.39	0.27	0.08	0.02	0.31	0.13

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Offset: 83 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 55.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: West Village/Lanark & Scott

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	421	13	542	6	0	55	1
Future Volume (vph)	90	421	13	542	6	0	55	1
Lane Group Flow (vph)	95	464	14	608	6	4	58	47
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.1	26.1	26.1	26.1	21.5	21.5	21.5	21.5
Total Split (s)	78.0	78.0	78.0	78.0	22.0	22.0	22.0	22.0
Total Split (%)	78.0%	78.0%	78.0%	78.0%	22.0%	22.0%	22.0%	22.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.8	2.8	2.8	2.8	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	80.3	80.3	80.3	80.3	12.4	12.4	12.4	12.4
Actuated g/C Ratio	0.80	0.80	0.80	0.80	0.12	0.12	0.12	0.12
v/c Ratio	0.17	0.33	0.02	0.43	0.04	0.01	0.35	0.22
Control Delay	4.6	4.5	3.7	5.4	37.0	0.0	45.3	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	4.5	3.7	5.4	37.0	0.0	45.3	14.2
LOS	A	A	A	A	D	A	D	B
Approach Delay		4.5		5.4		22.2		31.4
Approach LOS		A		A		C		C
Queue Length 50th (m)	3.6	20.4	0.5	30.1	1.1	0.0	10.8	0.2
Queue Length 95th (m)	10.4	41.9	2.2	61.2	4.6	0.0	21.7	10.0
Internal Link Dist (m)		68.9		67.4		64.0		70.0
Turn Bay Length (m)	20.0		30.0		15.0		30.0	
Base Capacity (vph)	564	1422	696	1413	201	650	218	270
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.33	0.02	0.43	0.03	0.01	0.27	0.17

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 40 (40%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 7.3 — Intersection LOS: A
Intersection Capacity Utilization 67.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: West Village/Lanark & Scott

Appendix C

Collision Data and Analysis

City Operations - Transportation Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** January 1, 2016

Location: CLIFTON RD @ SCOTT ST

Traffic Control: Stop sign **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Nov-24, Mon,15:00	Clear	Angle	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: LANARK AVE/WEST VILLAGE PRIV @ SCOTT ST

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-Nov-06, Thu,15:03	Rain	Rear end	P.D. only	Wet	West	Going ahead	Delivery van	Other motor vehicle	
					West	Turning left	Pick-up truck	Other motor vehicle	
2014-Oct-17, Fri,09:46	Clear	SMV other	Non-fatal injury	Dry	South	Turning left	Pick-up truck	Pedestrian	2
2015-Feb-08, Sun,18:55	Clear	SMV other	P.D. only	Packed snow	East	Slowing or stopping	Pick-up truck	Ran off road	

Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2011-01-01 TO: 2014-01-01

CLIFTON RD & SCOTT ST

Former Municipality: **Ottawa** Traffic Control: **Stop sign** Number of Collisions: **3**

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
1	2011-12-12	Mo	09:00	Clear	Daylight	Turning	P.D. only	V1 W	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 E	Dry	Going ahead	Automobile, station	Other motor vehicle	
2	2012-06-08	Fri	19:15	Clear	Daylight	Single vehicle	P.D. only	V1 N	Dry	Turning left	Pick-up truck	Fire hydrant	0
3	2013-06-20	Thu	19:01	Clear	Daylight	Angle	Non-fatal	V1 N	Dry	Turning right	Automobile, station	Cyclist	0
								V2 E	Dry	Going ahead	Bicycle	Other motor vehicle	

LANARK AVE & SCOTT ST

Former Municipality: **Ottawa** Traffic Control: **Traffic signal** Number of Collisions: **4**

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
4	2011-08-05	Fri	15:45	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 E	Dry	Stopped	Pick-up truck	Other motor vehicle	
5	2012-11-26	Mo	16:57	Clear	Dusk	Approaching	P.D. only	V1 E	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Stopped	Automobile, station	Other motor vehicle	
6	2013-01-07	Mo	13:39	Clear	Daylight	Rear end	P.D. only	V1 E	Slush	Slowing or	Automobile, station	Other motor vehicle	0
								V2 E	Slush	Slowing or	Pick-up truck	Other motor vehicle	
7	2013-06-13	Thu	17:45	Clear	Daylight	Sideswipe	P.D. only	V1 E	Dry	Overtaking	Unknown	Other motor vehicle	0
								V2 E	Dry	Stopped	Municipal transit bus	Other motor vehicle	

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

Total Area

Classification of Accident	*Rear End*	*Turning Movement*	*Sideswipe*	*Angle*	*Approaching*	*Single Vehicle (other)*	*Single vehicle (Unattended vehicle)*	*Other*	*Total*	
P.D. only	3	1	1	1	1	2	0	0	9	82%
Non-fatal injury	0	0	0	1	0	1	0	0	2	18%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**3**	**1**	**1**	**2**	**1**	**3**	**0**	**0**	**11**	100%
	#1 or 27%	#4 or 9%	#4 or 9%	#3 or 18%	#4 or 9%	#1 or 27%	#7 or 0%	#7 or 0%		

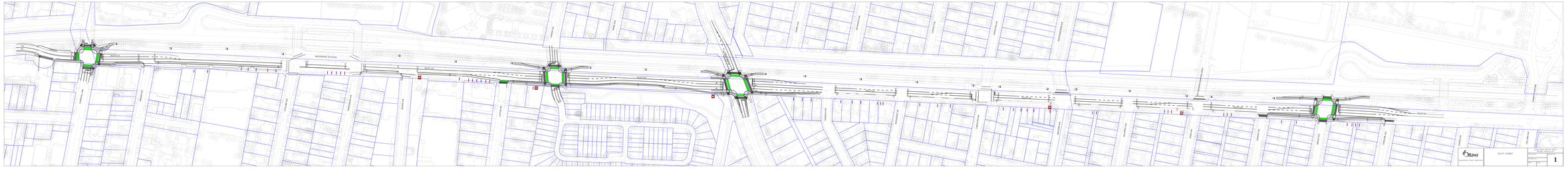
LANARK AVE / SCOTT ST

Years	*Total # Collisions*	*24 Hr AADT Veh Volume*	*Days*	*Collisions/MEV*
2011-2015	7	14,039	1825	**0.27**

Classification of Accident	*Rear End*	*Turning Movement*	*Sideswipe*	*Angle*	*Approaching*	*Single Vehicle (other)*	*Single vehicle (Unattended vehicle)*	*Other*	*Total*	
P.D. only	3	0	1	0	1	1	0	0	6	86%
Non-fatal injury	0	0	0	0	0	1	0	0	1	14%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**3**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**7**	100%
	43%	0%	14%	0%	14%	29%	0%	0%		

Appendix D

City of Ottawa Scott Street Design Concept Plan


MEETBANG STATION
SCOTT ST
SCOTT ST
SCOTT ST

Appendix E

MMLoS Analysis

Multi-Modal Level of Service - Intersections Form

Consultant	Parsons	**Project**	1946 Scott Street
Scenario	Existing & Future	**Date**	29-Aug-17
Comments			

INTERSECTIONS		Existing Conditions				Future Conditions			
	Crossing Side	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	3	3	3	3	3	4	4
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RToR) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No	No	No	No	No	No	No	No
	Right Turn Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	5-10m	5-10m	5-10m	5-10m	3-5m	3-5m	3-5m	3-5m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings
	PETSI Score	71	71	71	71	75	75	58	58
	Ped. Exposure to Traffic LoS	C	C	C	C	B	B	D	D
	Cycle Length	95	95	95	95	95	95	95	95
	Effective Walk Time	54	54	7	7	54	54	7	7
	Average Pedestrian Delay	9	9	41	41	9	9	41	41
	Pedestrian Delay LoS	A	A	E	E	A	A	E	E
	Level of Service	C	C	E	E	B	B	E	E
		E				E			
	Approach From	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP
	Right Turn Lane Configuration			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Right Turning Speed			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Cyclist relative to RT motorists	#N/A	#N/A	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	Separated	Separated	Separated	Separated
	Left Turn Approach	One lane crossed	One lane crossed	1 lane crossed	1 lane crossed	2-stage, LT box	2-stage, LT box	2-stage, LT box	2-stage, LT box
	Operating Speed	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
	Left Turning Cyclist	D	D	D	D	A	A	A	A
	Level of Service	#N/A	#N/A	D	D	A	A	A	A
		#N/A				A			
Transit	Average Signal Delay	≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec
	Level of Service	B	B	B	B	B	B	B	B
		B				B			
Truck	Effective Corner Radius	10 - 15 m	10 - 15 m	10 - 15 m	10 - 15 m	< 10 m	< 10 m	< 10 m	< 10 m
	Number of Receiving Lanes on Departure from Intersection	1	1	1	1	1	1	≥ 2	≥ 2
	Level of Service	E	E	E	E	F	F	D	D
		E				F			
Auto	Volume to Capacity Ratio	0.0 - 0.60				0.0 - 0.60			
	Level of Service	A				A			