

Traffic Study FINAL - Rev.0

**WS Vidal Properties LP
14937 Thrift Avenue Development**

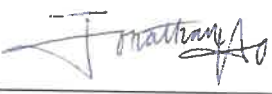
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1 INTRODUCTION

1.1 Background

R.F. Binnie & Associates Ltd. (Binnie) was retained by WestStone Group (the Developer) to prepare a traffic study for a proposed multi-family residential development in the City of White Rock (the City), BC. The proposed development is located at 14937 Thrift Avenue, as shown in **Figure 1-1**. The proposed site plan of the study development is provided in **Appendix A** and it is expected to provide a total of 129 residential units.

1.2 Study Objectives

The purpose of this study is to review the background conditions within the study area and analyze traffic and parking impacts generated by the proposed development. If any traffic issues are identified, this report will recommend improvements to mitigate them.

The objectives of this traffic study are to make considerations regarding the following items:

- Review the background information available for this study development and the surrounding area;
- Assess pedestrian, cyclist and transit connections and accessibility;
- Examine the City's parking requirements according to the Bylaw and review the on-site vehicle and bicycle parking supply;
- Estimate the site generated traffic volumes from the proposed development and the trip distribution;
- Analyze existing and forecast traffic operations on the study road network with and without site generated traffic volumes;
- Review existing development plan for pedestrian access, vehicle access, bicycle and storage access, and loading provisions;
- Assess the proposed access and internal traffic circulation within the proposed development; and
- Recommend necessary transportation improvements based on the traffic analysis findings.



Figure 1-1: Proposed Development Location

2 EXISTING CONDITIONS

2.1 Site Location

The proposed development is located in White Rock at the northwest corner of the intersection of Thrift Avenue and Vidal Street. The land-use surrounding the development is medium density multi-unit residential (RM-2) to the east, and single-unit residential to the southwest (RS-1 and RS-2). There are also several comprehensive district developments such as “Beverly” at 1501 Vidal Street directly to the north, and “Royce” located to the east at 14855 Thrift Avenue.

Adjacent to the proposed development, Thrift Avenue, Oxford Street, and Martin Street are classified as primary collectors with two lanes and on-street parking. Vidal Street, Vine Avenue, and Blackwood Street are classified as local roads with two lanes and on-street parking. North Bluff Road to the north is classified as an arterial road with four lanes and on-street parking along portions of the south side of the street.

The study development is also located at approximately 900 m to the southwest of Semiahmoo Shopping Centre and White Rock Centre Transit Exchange.

2.2 Adjacent Road Network

2.2.1 Thrift Avenue

Thrift Avenue is a two-lane roadway classified as a primary collector that runs in the east-west direction within the study area. It begins just west of Oxford Street before becoming 14th Avenue at 160th Street. Within the study area, on-street parking is permitted on Thrift Avenue. Thrift Avenue also has a posted speed limit of 50 km/h.

2.2.2 Oxford Street

Oxford Street is a two-lane roadway classified as a primary collector that runs in the north-south direction within the study area. Oxford Street travels from Marine Drive to North Bluff Road, where it becomes 148th Street north of North Bluff Road. Oxford street has a posted speed limit of 50km/h and within the study area, on-street parking is permitted on either side of the road.

2.2.3 Everall Street

Everall Street is a two-lane roadway classified as a local road that runs in the north-south direction within the study area. Everall Street travels between North Bluff Road and Buena Vista Avenue. On-street parking is permitted on either side of the road.

2.2.4 Vidal Street

Vidal Street is a two-lane roadway classified as a local road that runs in the north-south direction within the study area. Vidal Street begins at Vine Avenue and ends just south of Thrift Avenue. On-street parking is permitted on either side of the road.

2.2.5 Blackwood Street

Blackwood Street is a two-lane roadway classified as a local road that runs in the north-south direction within the study area. Blackwood Street begins at North Bluff Road and ends just south of Thrift Avenue. On-street parking is permitted on either side of the road.

2.3 Study Intersections

2.3.1 Thrift Avenue and Oxford Street

The Thrift Avenue and Oxford Street intersection is currently an offset four-legged two-way stop-controlled intersection. The west approach is located slightly north of the east approach. Thrift Avenue is stop-controlled while traffic on Oxford Street is free-flowing. All approaches have a single lane with no dedicated lanes or storage lanes for vehicles turning left or right. Pedestrian crosswalks are currently provided on the north, east, and south approaches of this intersection.

2.3.2 Thrift Avenue and Everall Street

The Thrift Avenue and Everall Street intersection is currently a four-legged two-way stop-controlled intersection. Everall Street is stop-controlled while traffic on Thrift Avenue is free-flowing. All approaches have a single lane with no dedicated lanes or storage lanes for vehicles turning left or right. There is a pedestrian crosswalk with overhead flashing lights on the west approach of this intersection, and a standard pedestrian crosswalk on the north approach.

2.3.3 Thrift Avenue and Vidal Street

The Thrift Avenue and Vidal Street intersection is currently a four-legged two-way stop-controlled intersection. Vidal Street is stop-controlled while traffic on Thrift Avenue is free-flowing. All approaches have a single lane with no dedicated lanes or storage lanes for vehicles turning left or right.

2.3.4 Thrift Avenue and Blackwood Street

The Thrift Avenue and Blackwood Street intersection is currently a four-legged two-way stop-controlled intersection. Blackwood Street is stop-controlled while traffic on Thrift Avenue is free-flowing. All approaches have a single lane with no dedicated lanes or storage lanes for vehicles turning left or right.

The existing laning configurations and traffic controls at the study intersections are shown in **Figure 2-1**.

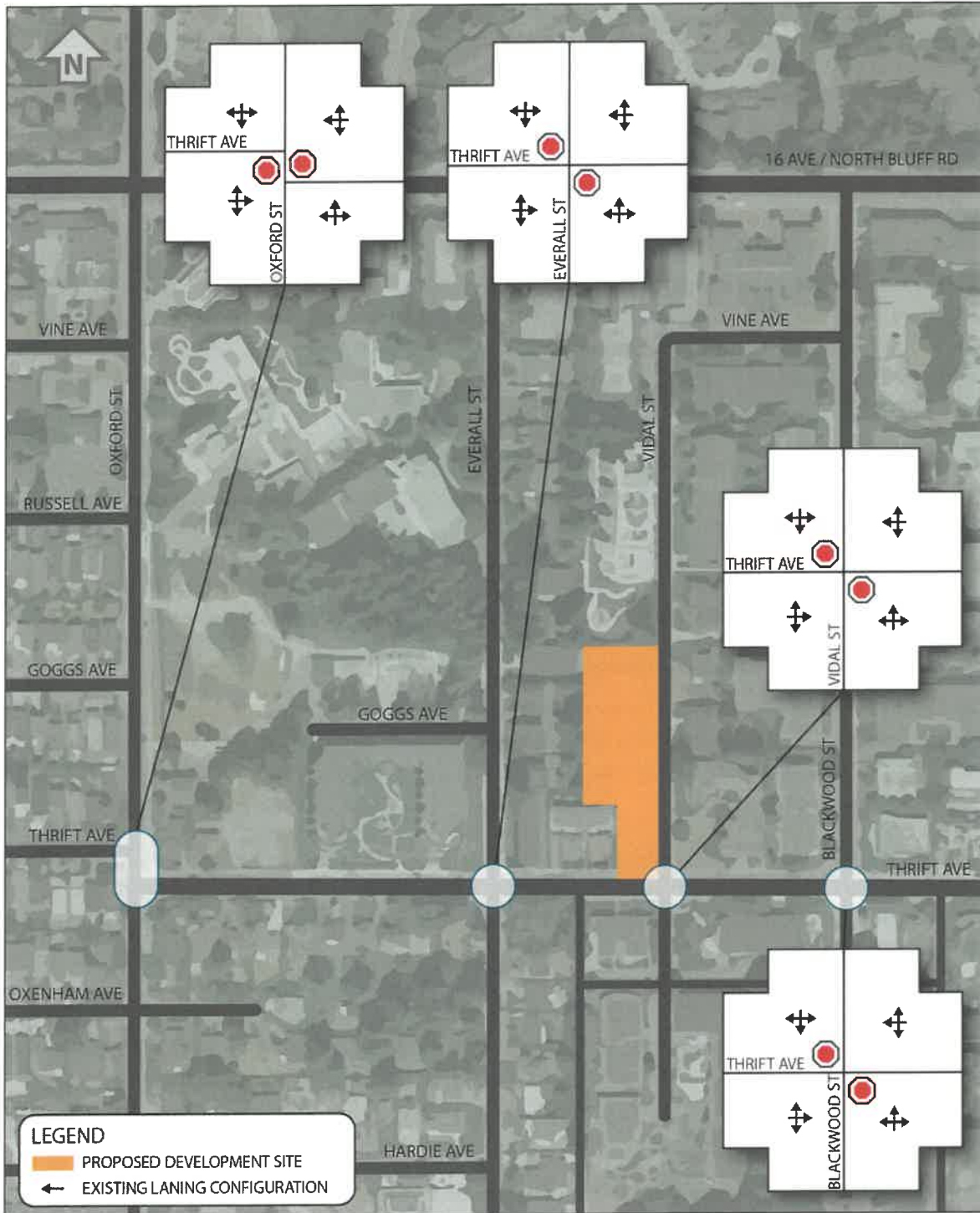


Figure 2-1: Existing Intersection Laning Configuration and Traffic Controls

2.4 Existing Traffic Volumes

Existing traffic volumes for the study intersections along Thrift Avenue were collected by Binnie on May 20, 2019. This included the intersections of Vidal Street at Thrift Avenue, Everall Street at Thrift Avenue, and Blackwood Street at Thrift Avenue. Traffic data for Oxford Street at Thrift Avenue was provided in the background documents from the City. The 2019 existing traffic volumes for the AM peak hour and PM peak hour are summarized in **Figure 2-2**.

2.4.1 Thrift Avenue and Oxford Street

During the AM peak hour, 98 vehicles were observed to be travelling northbound on Oxford Street and 207 were observed to be travelling in the southbound direction. 212 vehicles were observed to be travelling westbound along Thrift Avenue and ten vehicles were observed to be travelling eastbound along Thrift Avenue.

During the PM peak hour, 69 vehicles were observed to be travelling northbound on Oxford Street and 271 were observed to be travelling in the southbound direction. 232 vehicles were observed to be travelling westbound along Thrift Avenue and 14 vehicles were observed to be travelling eastbound along Thrift Avenue.

The predominant turning movements at this intersection were observed to be the southbound left-turn movement and the westbound right-turn movement during both the AM peak hour and PM peak hour.

2.4.2 Thrift Avenue and Everall Street

During the AM peak hour, nine vehicles were observed to be travelling northbound on Everall Street and 24 were observed to be travelling in the southbound direction. 226 vehicles were observed to be travelling westbound along Thrift Avenue and 174 vehicles were observed to be travelling eastbound along Thrift Avenue.

During the PM peak hour, six vehicles were observed to be travelling northbound on Everall Street and 16 were observed to be travelling in the southbound direction. 252 vehicles were observed to be travelling westbound along Thrift Avenue and 170 vehicles were observed to be travelling eastbound along Thrift Avenue.

2.4.3 Thrift Avenue and Vidal Street

During the AM peak hour, 22 vehicles were observed to be travelling northbound on Vidal Street and 24 were observed to be travelling in the southbound direction. 226 vehicles were observed to be travelling westbound along Thrift Avenue and 174 vehicles were observed to be travelling eastbound along Thrift Avenue.

During the PM peak hour, 14 vehicles were observed to be travelling northbound on Vidal Street and 22 were observed to be travelling in the southbound direction. 250 vehicles were observed to be travelling westbound along Thrift Avenue and 178 vehicles were observed to be travelling eastbound along Thrift Avenue.

2.4.4 Thrift Avenue and Blackwood Street

During the AM peak hour, 19 vehicles were observed to be travelling northbound on Blackwood Street and 21 were observed to be travelling in the southbound direction. 203 vehicles were observed to be travelling westbound along Thrift Avenue and 212 vehicles were observed to be travelling eastbound along Thrift Avenue.

During the PM peak hour, two vehicles were observed to be travelling northbound on Blackwood Street and 42 were observed to be travelling in the southbound direction. 252 vehicles were observed to be travelling westbound along Thrift Avenue and 182 vehicles were observed to be travelling eastbound along Thrift Avenue.

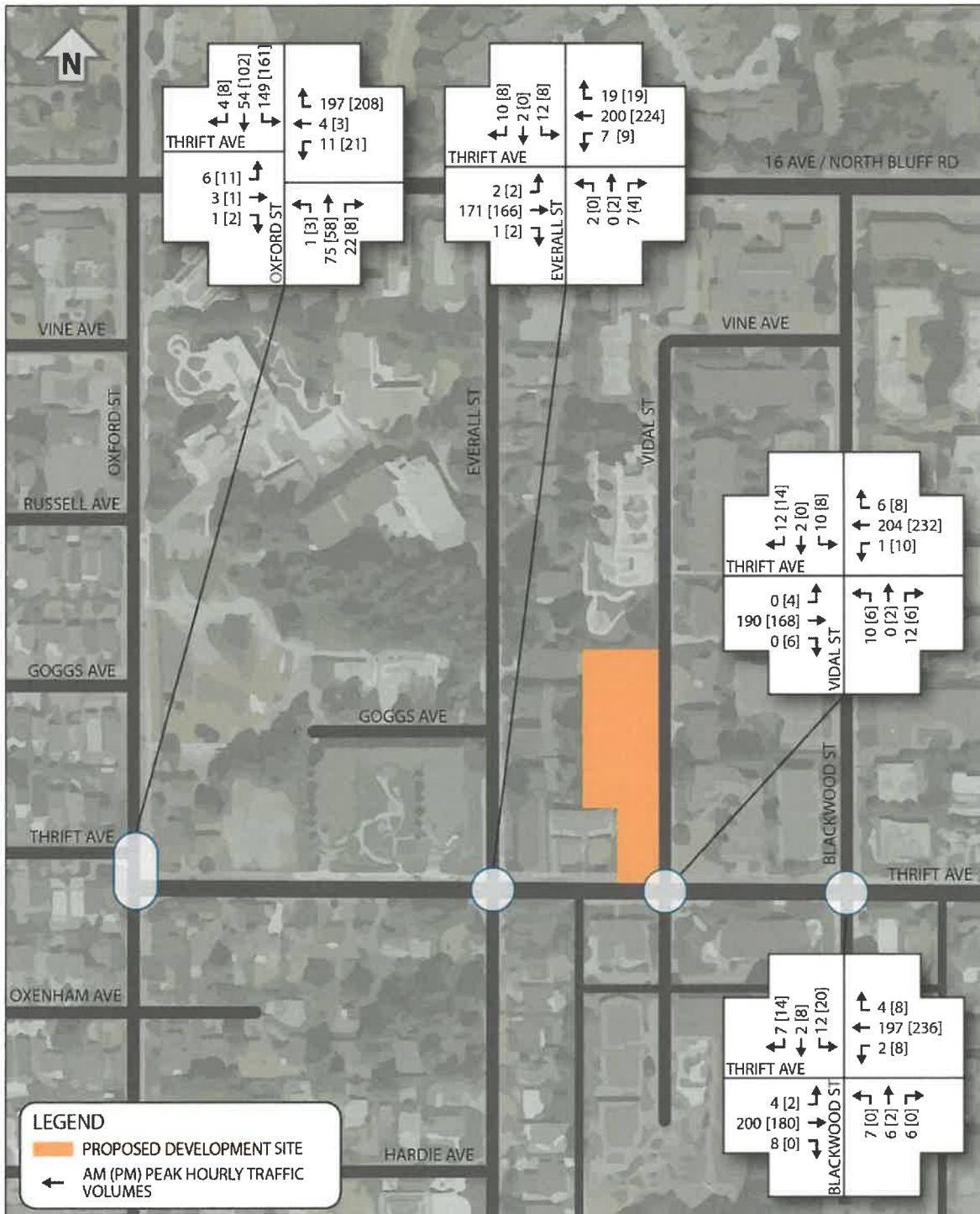


Figure 2-2: 2019 Existing Traffic Volumes

2.5 Pedestrian Accommodations

As described in **Section 2.1**, pedestrian facilities are currently provided on both the north side and south side of Thrift Avenue, and the east side and west side of Vidal Street immediately adjacent to the development. There are pedestrian crosswalks that facilitate crossing Everall Street and Thrift Avenue located approximately 100 m to the west. There is a painted crosswalk on the north approach at the intersection of Vidal Street and Thrift Avenue.

2.6 Cyclist Accommodations

Within the study area, there are several cyclist facilities in close proximity to the proposed development, which are shown in **Figure 2-3**. Thrift Avenue is classified as a Major Street Shared Lane which provides an east-west cycling connection through White Rock and south Surrey. Nearby, Martin Street is also classified as a Major Street Shared Lane which provides cycling access to the north.

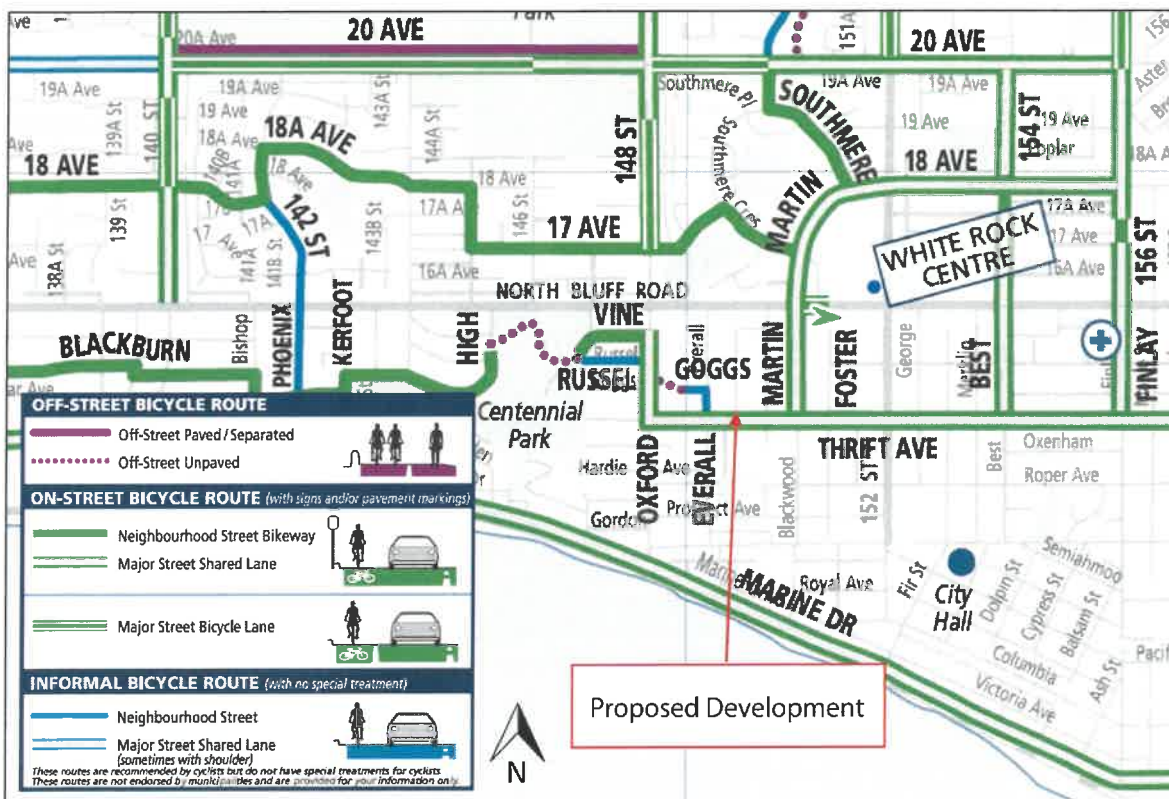


Figure 2-3: White Rock Cycling Map (TransLink, December 2016)

2.7 Transit Services

The public transit service within the City are currently provided by TransLink with three bus routes located along Thrift Avenue with stops within one block of the development:

- Route #351 Bridgeport Station/Crescent Beach – This bus route operates between Bridgeport Station in Richmond and Crescent Beach in Surrey, travelling along Highway 99, King George

Highway and White Rock Centre. There is a westbound bus stop located one block east of the proposed development and an eastbound bus stop located directly across the street from the development.

- Route #345 King George Station/White Rock Centre – This bus route operates between King George Station Surrey and White Rock Centre, travelling along 152 Street and Fraser Highway. There is a westbound bus stop located one block east of the proposed development.
- Route #321 Surrey Central Station/Newton Exchange / White Rock Centre – This bus route operates between Surrey Centre Station, Newton Exchange, and White Rock Centre, travelling along King George Boulevard. There is a westbound bus stop located one block east of the proposed development.

The existing transit routes are shown in **Figure 2-4**.

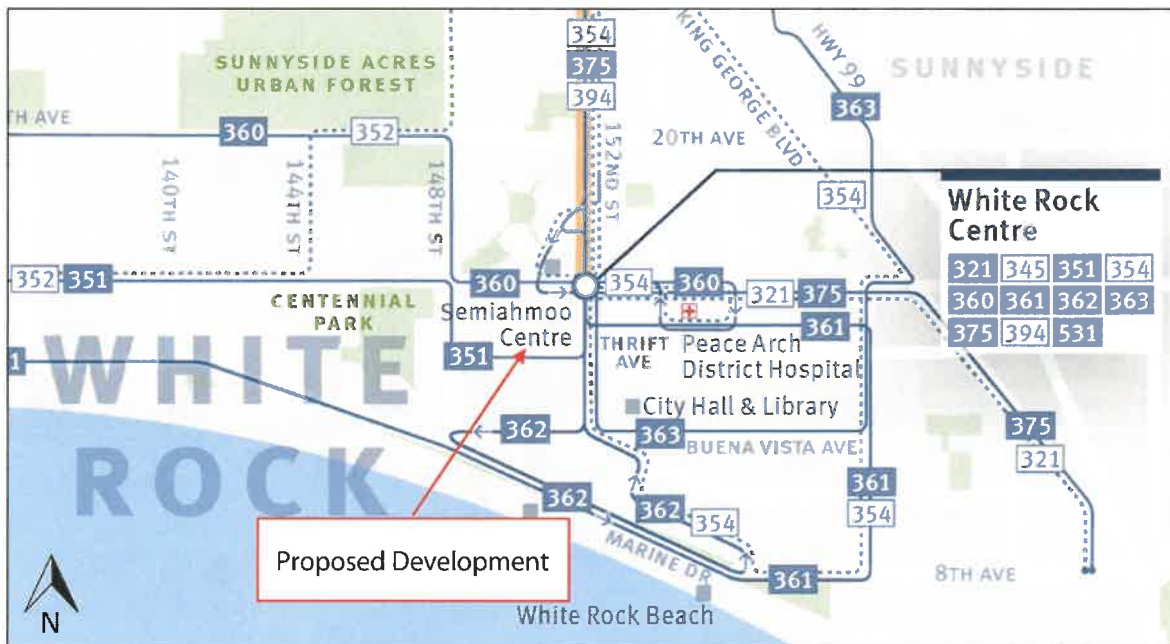


Figure 2-4: Existing Transit Routes in White Rock (TransLink, 2018)

3 FUTURE CONDITIONS

3.1 Proposed Development Concept

The proposed development is located at the northwest corner of the intersection of Thrift Avenue and Vidal Street. Based on the information received from the Developer on May 1, 2019, the proposed development is expected to provide 129 rental residential units when it is completed.

The study development is proposing a two-way access on the east side of the property which will allow vehicles to enter and exit the underground parking levels from Vidal Street. This driveway will be located to the north of the intersection of Vidal Street and Thrift Avenue.

3.2 Phasing and Timing

The proposed opening day of the study development is expected to be in the 2022 horizon year. It is expected that all 129 rental residential units will be built out in one phase.

3.3 Pedestrian Accommodations

The proposed entrance of the development is expected to be located on Vidal Street. Pedestrians will be able to access proposed development using the existing crosswalk at the north approach of the intersection of Vidal Street and Thrift Avenue. As previously mentioned in **Section 2.5**, there are also pedestrian facilities provided as part of the proposed development along the south and east sides of the property.

3.4 Cycling Accommodations

There are also a number of bicycle routes in the vicinity of the proposed development. As mentioned in **Section 2.5** and shown in **Figure 2-3**, Thrift Avenue is classified as a Major Street Shared Lane which provides an east-west cycling connection through White Rock and south Surrey. Nearby, Martin Street is also classified as a Major Street Shared Lane which provides cycling access to the north.

As part of the proposed development, a total of 129 Class 1 long-term secure bicycle parking spaces will be provided and they will be accessed from Vidal Street. A total of 27 Class 2 short-term bicycle parking spaces will be provided and they will be accessed at ground level from Vidal Street.

3.5 Transit Services

Based on the information provided by the TransLink website, there are currently no planned changes to the transit routes nearby to the development. The three bus routes summarized in **Section 2.7** are expected to continue operating on Thrift Avenue in front of the proposed development.

3.6 Road Network Upgrades

It is assumed that there will be no major changes to the existing road network at the study intersections for the opening day or horizon year scenarios. According to the City's Strategic Transportation Plan, published 2014, Thrift Avenue is identified as a potential complete street. This would include the

possible installation of protected bicycle lanes along the corridor while the existing two travel lanes appear to be maintained for the foreseeable future.

3.7 Trip Generation and Distribution

The forecast trip generation for the proposed study and adjacent developments was estimated based on the rates published in the Institute of Transportation Engineers’ (ITE) *Trip Generation, 10th Edition*. The trip generation rates for the developments are assumed to be consistent with the following land use category outlined in the ITE guidelines:

- Residential Mid-Rise Multifamily Housing (ITE Ref. 221)

This land use is for multi-unit residential buildings between three and ten floors, including rental and non-rental units with recent data collected from 35 locations across North America. The ITE parking rates include both resident and visitor parking demands. Further details on ITE Ref. 221 are provided in Appendix C.

The forecast site generated traffic volumes for the proposed study developments are summarized in **Table 3-1**.

Table 3-1: Forecast Study Development Site Generated Traffic

Description	Size	Unit	ITE Ref.	Avg. Trip Ends / Unit	Trip Gen.	% Entering	% Exiting	Vehicle Entering	Vehicle Exiting
AM Peak Hour									
Apartments	129	Units	221	0.36	47	26	74	12	35
Total:								12	35
PM Peak Hour									
Apartments	129	Units	221	0.44	57	61	39	35	22
Total:								35	22

The forecast trip distribution for the site generated traffic volumes was estimated based on the existing travel patterns as identified by the turning movement counts. The forecast trip distribution and site generated traffic volumes are shown in **Figure 3-1** and **Figure 3-2**, respectively.

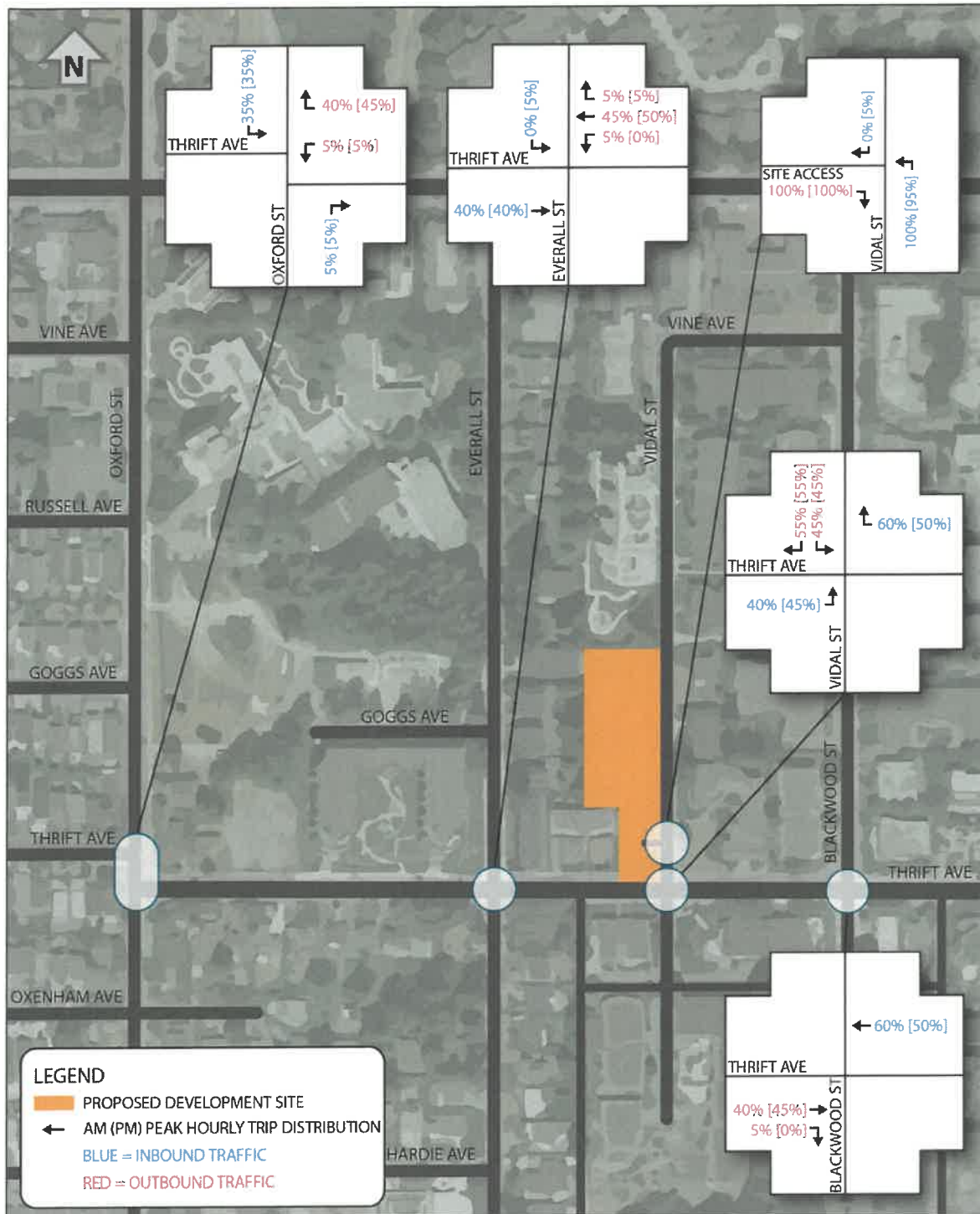


Figure 3-1: Forecast Trip Distribution

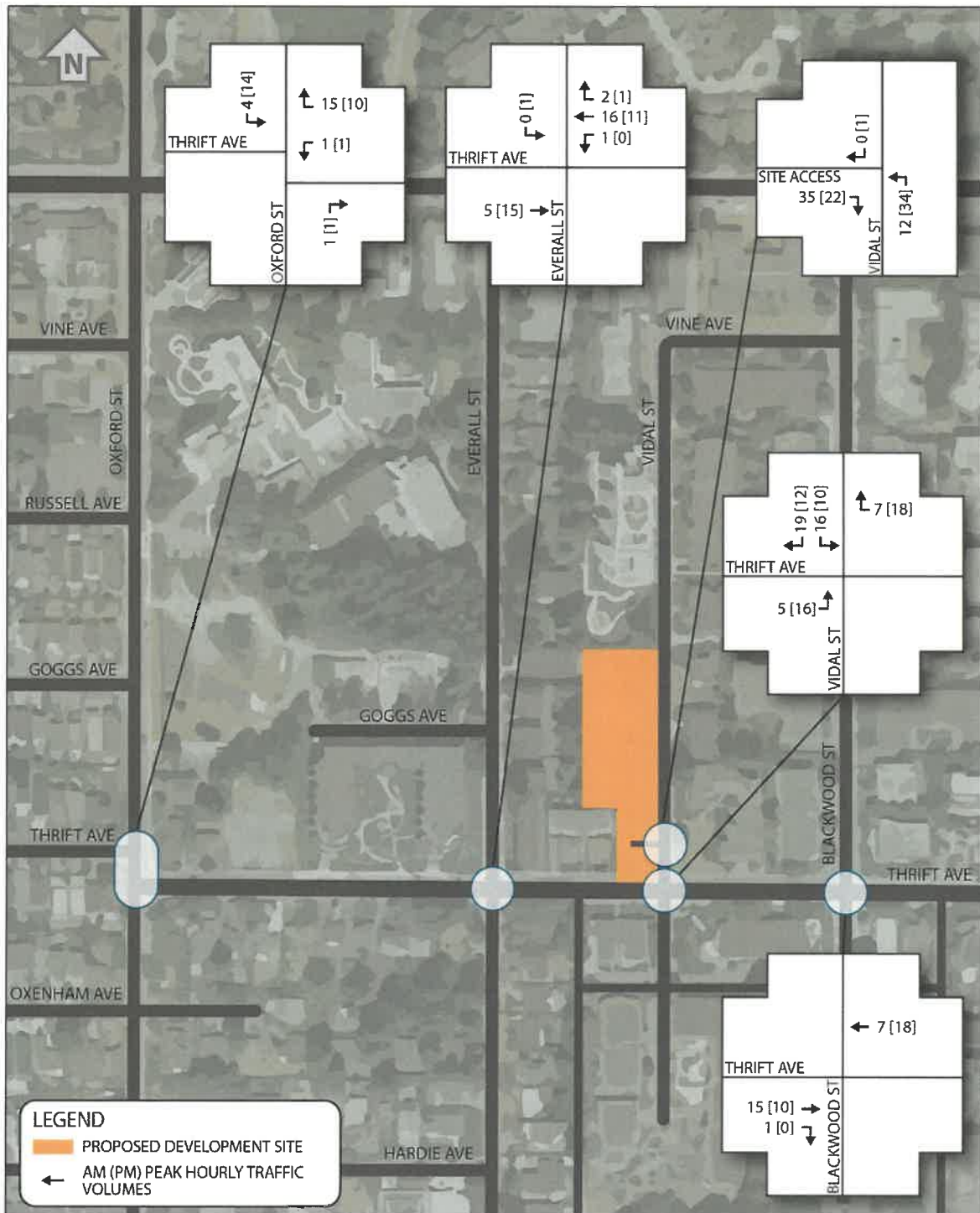


Figure 3-2: Forecast Site Generated Traffic Volumes

4 TRAFFIC OPERATIONS ANALYSIS

4.1 Methodologies

The traffic operations analysis in this report was performed using the Synchro 10 software suite for unsignalized intersections, which is generally based on the Highway Capacity Manual (HCM) methodologies. The traffic operations for each scenario were evaluated to estimate the volume-to-capacity (v/c) ratio, delay, level-of-service (LOS), and 95th percentile queue length at the study intersections.

When reviewing the traffic analysis results, a v/c ratio at or above 1.0 typically indicates that traffic volumes exceed the intersection capacity. Delay, in terms of seconds, represents the average wait time experienced by a driver on the approach to the intersection. LOS is a grading system on intersection operation based on the calculated delay as shown in **Table 4-1** for a signalized intersection and **Table 4-2** for an unsignalized intersection. LOS A means that the intersection experiences little to no delay whereas a LOS F indicates significant delay is present.

Table 4-1: HCM LOS Criteria for Signalized Intersection

Level of Service	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

Table 4-2: HCM LOS Criteria for Unsignalized Intersection

Level of Service	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

The traffic operation analysis is conducted based on the following study thresholds:

- Overall intersection and individual movement of LOS D or better
- Individual movement v/c ratio of 0.85 or less
- Delay less than 35 s (unsignalized)
- Delay less than 55 s (signalized)
- 95th percentile queue lengths impacting adjacent intersections or accesses

The detailed traffic analysis results from Synchro will be provided for the final report in **Appendix D**.

4.2 Existing Traffic Operations

The existing traffic operations analysis on the study road network was completed using the 2019 existing traffic volumes summarized in **Figure 2-2**. The analysis was performed based on the existing intersection configurations and controls shown in **Figure 2-1**.

4.2.1 AM Peak Hour

During the AM peak hour, all the target intersections were found to be operating within the study thresholds. The maximum v/c ratio was found to be 0.25 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

4.2.2 PM Peak Hour

During the PM peak hour, all the target intersections were found to be operating within the study thresholds. The maximum v/c ratio was found to be 0.28 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The traffic operations analysis results based on the 2019 existing traffic volumes are summarized in **Table 4-3**.

Table 4-3: 2019 Existing Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	10.3	0.25	7.6	B	10.6	0.28	8.8
	NBT/R	A	-	0.06	-	A	-	0.04	-
	SBL/T	A	5.9	0.11	2.8	A	5.0	0.12	3.0
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	11.8	0.03	0.7	B	12.4	0.03	0.7
	NBL/T	A	0.2	0.00	0.1	A	0.2	0.01	0.1
	SBT/R	A	-	0.13	-	A	-	0.17	-
	Int. LOS	A				A			
<i>Thrift Avenue at Everall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	-	A	0.1	0.00	-
	WBL/T/R	A	0.3	0.01	0.1	A	0.3	0.01	0.2
	NBL/T/R	A	9.8	0.01	0.3	B	10.3	0.01	0.2
	SBL/T/R	B	11.2	0.04	1.0	B	11.1	0.03	0.7
	Int. LOS	A				A			
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	-	0.00	-	A	0.2	0.00	0.1
	WBL/T/R	A	-	0.00	-	A	0.4	0.01	0.2
	NBL/T/R	B	10.8	0.04	0.9	B	11.2	0.03	0.6
	SBL/T/R	B	11.0	0.04	1.0	B	10.9	0.04	0.9
	Int. LOS	A				A			
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.2	0.00	0.1	A	0.1	0.00	-
	WBL/T/R	A	0.1	0.00	-	A	0.3	0.01	0.2
	NBL/T/R	B	11.5	0.04	0.9	B	12.6	0.00	0.1
	SBL/T/R	B	11.5	0.04	0.9	B	12.1	0.08	2.0
	Int. LOS	A				A			

4.3 Background Traffic Operation Analysis

The forecast background traffic volumes were projected based on an annual growth rate of 2%. The background traffic analysis notes that the following developments are built-out as of the writing of this report. These include developments and facility improvements at the following locations:

- Evergreen Baptist of Care Facility Expansion;
- 14855 Thrift Avenue; and
- 1501 Vidal Street.

Additionally, several proposed developments were identified through documents provided by the City. These locations were noted yet to be completed and are assumed to be fully built out in the future background traffic volumes. The Institute of Transportation Engineers' (ITE) *Trip Generation, 10th Edition* trip generation rates were used when required and their site-generated traffic was assumed to be inclusive in the background traffic volumes without being subject to the annual growth:

- 1454 Oxford Street;
- 1434 Oxford Street, 14809 Thrift Avenue, 14815 Thrift Avenue; and
- 14825 Thrift Avenue, 14835 Thrift Avenue.

4.3.1 2022 Opening Day Background Traffic Operations

The 2022 opening day background traffic operations analysis assumes the existing intersection and laning configurations. The 2022 opening day background traffic volumes are shown in **Figure 4-1**.

AM Peak Hour

During the AM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.28 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

PM Peak Hour

During the PM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.31 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The 2022 opening day background traffic analysis results are summarized in **Table 4-4**.

Table 4-4: 2022 Opening Day Background Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	10.5	0.28	8.7	B	10.9	0.31	10.2
	NBL/T	A	-	0.07	-	A	-	0.05	-
	SBL/T	A	6.0	0.12	3.2	A	5.2	0.13	3.4
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	11.6	0.02	0.5	B	12.9	0.03	0.8
	NBL/T	A	0.2	0.00	0.1	A	0.2	0.01	0.1
	SBT/R	A	-	0.14	-	A	-	0.19	-
	Int. LOS	A				A			
<i>Thrift Avenue at Overall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	-	A	0.1	0.00	-
	WBL/T/R	A	0.3	0.01	0.1	A	0.4	0.01	0.2
	NBL/T/R	B	10.0	0.01	0.3	B	10.5	0.01	0.2
	SBL/T/R	B	11.5	0.05	1.1	B	11.4	0.03	0.7
Int. LOS	A				A				
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	-	0.00	-	A	0.2	0.00	0.1
	WBL/T/R	A	-	0.00	-	A	0.4	0.01	0.2
	NBL/T/R	B	11.1	0.04	1.0	B	11.6	0.03	0.7
	SBL/T/R	B	11.3	0.05	1.1	B	11.2	0.04	1.0
Int. LOS	A				A				
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	0.1	A	0.1	0.00	-
	WBL/T/R	A	0.1	0.00	-	A	0.3	0.01	0.2
	NBL/T/R	B	11.9	0.04	1.0	B	13.0	0.00	0.1
	SBL/T/R	B	11.9	0.04	1.0	B	12.5	0.09	2.3
Int. LOS	A				A				

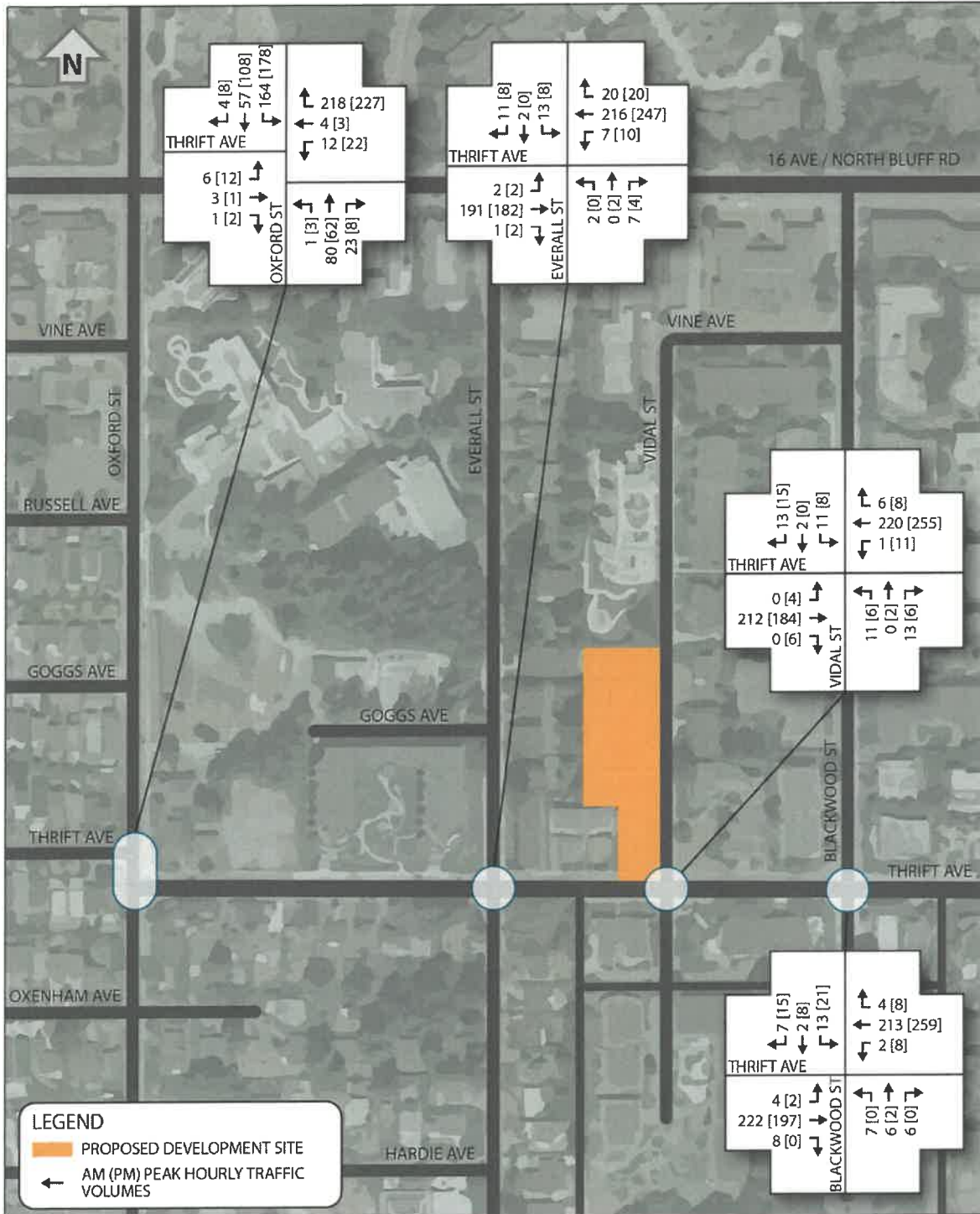


Figure 4-1: 2022 Opening Day Background Traffic Volumes

4.3.2 2032 Opening Day +10 Years Background Traffic Operations

The 2032 opening day plus 10 years background traffic operations analysis assumes the existing intersection and laning configurations. The 2032 background traffic volumes were determined by applying a growth factor of 2% per year to the existing traffic volumes. These are shown in **Figure 4-2**.

AM Peak Hour

During the AM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.37 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

PM Peak Hour

During the PM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.40 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The 2032 background traffic analysis results are summarized in **Table 4-5**.

Table 4-5: 2032 Opening Day +10 Years Background Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	11.7	0.37	12.9	B	12.2	0.40	14.7
	NBT/R	A	-	0.08	-	A	-	0.06	-
	SBL/T	A	6.2	0.15	4.1	A	5.4	0.16	4.2
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	11.6	0.03	0.6	B	14.5	0.05	1.1
	NBL/T	A	0.2	0.01	0.1	A	0.3	0.01	0.2
	SBT/R	A	-	0.11	-	A	-	0.23	-
	Int. LOS	A				A			
<i>Thrift Avenue at Everall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	0.1	A	0.1	0.00	0.1
	WBL/T/R	A	0.3	0.01	0.2	A	0.4	0.01	0.2
	NBL/T/R	B	10.7	0.02	0.5	B	11.3	0.01	0.3
	SBL/T/R	B	12.6	0.07	1.6	B	12.5	0.04	1.0
	Int. LOS	A				A			
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	-	0.00	-	A	0.2	0.00	0.1
	WBL/T/R	A	-	0.00	-	A	0.4	0.01	0.2
	NBL/T/R	B	12.0	0.06	1.4	B	12.8	0.04	1.0
	SBL/T/R	B	12.3	0.06	1.6	B	12.1	0.06	1.4
	Int. LOS	A				A			
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.2	0.00	0.1	A	0.1	0.00	0.1
	WBL/T/R	A	0.1	0.00	0.1	A	0.3	0.01	0.2
	NBL/T/R	B	13.1	0.06	1.4	B	14.3	0.01	0.2
	SBL/T/R	B	13.2	0.06	1.6	B	14.1	0.13	3.4
	Int. LOS	A				A			

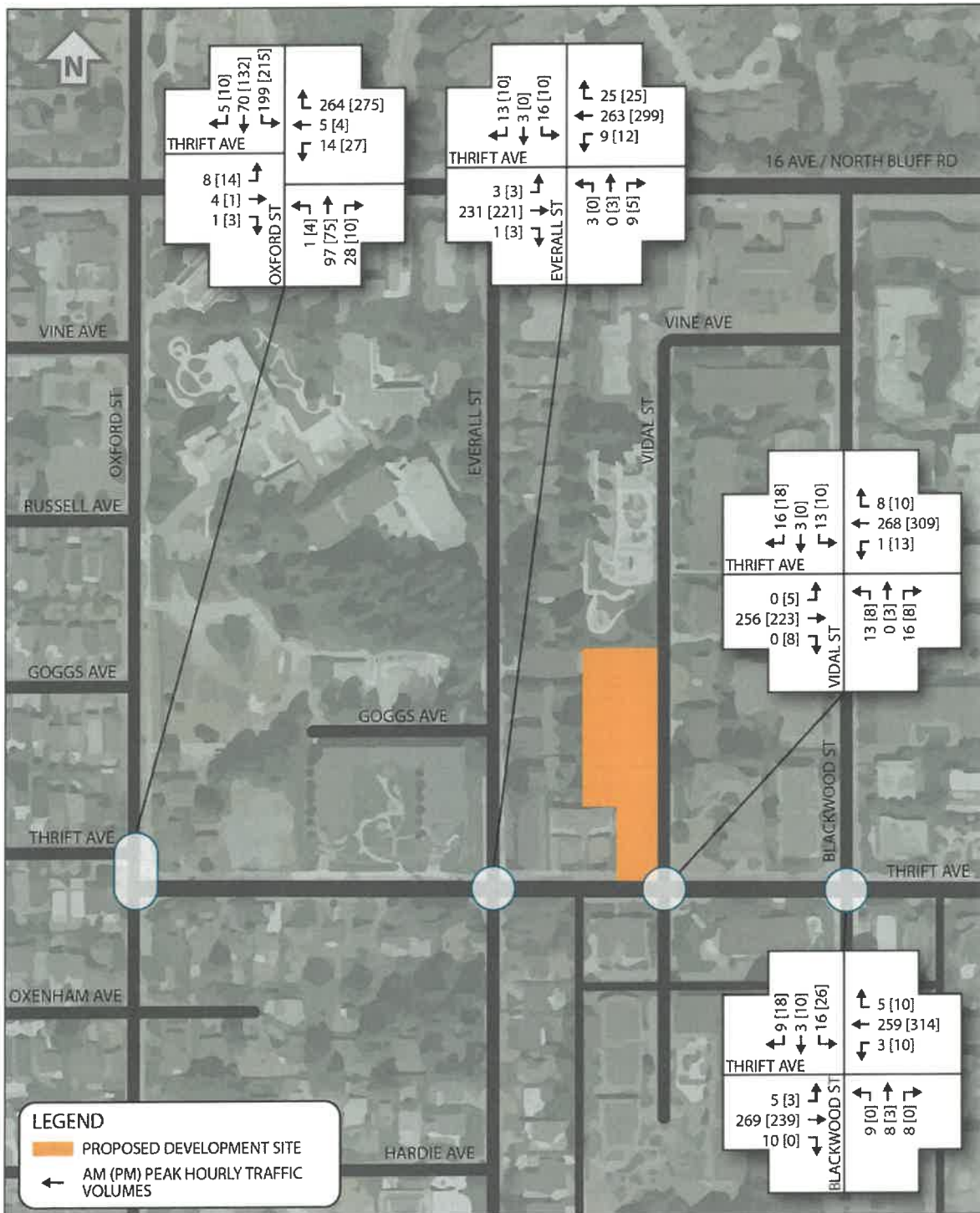


Figure 4-2: 2032 Opening Day +10 Years Background Traffic Volumes

4.3.3 2045 Horizon Year Background Traffic Operations

The 2045 horizon year background traffic operations analysis assumes the existing intersection and laning configurations. The 2045 horizon year background traffic volumes were determined by applying a growth factor of 2% per year to the existing traffic volumes. These are shown in **Figure 4-3**.

AM Peak Hour

During the AM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.50 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

PM Peak Hour

During the PM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.57 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The 2045 horizon year background traffic analysis results are summarized in **Table 4-6**.

Table 4-6: 2045 Horizon Year Background Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	13.9	0.50	21.4	C	15.9	0.57	27.8
	NBT/R	A	-	0.11	-	A	-	0.07	-
	SBL/T	A	6.6	0.20	5.8	A	5.7	0.20	5.8
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	14.7	0.05	1.2	C	18.5	0.09	2.1
	NBL/T	A	0.3	0.01	0.2	A	0.3	0.01	0.2
	SBT/R	A	-	0.23	-	A	-	0.29	-
	Int. LOS	A				A			
<i>Thrift Avenue at Everall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	0.1	A	0.1	0.00	0.1
	WBL/T/R	A	0.4	0.01	0.2	A	0.4	0.01	0.3
	NBL/T/R	B	11.4	0.03	0.7	B	13.2	0.03	0.7
	SBL/T/R	B	14.9	0.11	2.7	B	14.6	0.07	1.7
	Int. LOS	A				A			
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	-	0.00	-	A	0.3	0.01	0.2
	WBL/T/R	A	0.1	0.00	-	A	0.5	0.01	0.3
	NBL/T/R	B	14.0	0.09	2.3	C	15.1	0.07	1.6
	SBL/T/R	B	14.3	0.10	2.5	B	14.1	0.09	2.2
	Int. LOS	A				A			
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.2	0.01	0.2	A	0.1	0.00	0.1
	WBL/T/R	A	0.1	0.00	0.1	A	0.4	0.01	0.3
	NBL/T/R	C	15.6	0.09	2.3	C	16.9	0.01	0.2
	SBL/T/R	C	15.9	0.10	2.6	C	17.7	0.21	5.9
	Int. LOS	A				A			

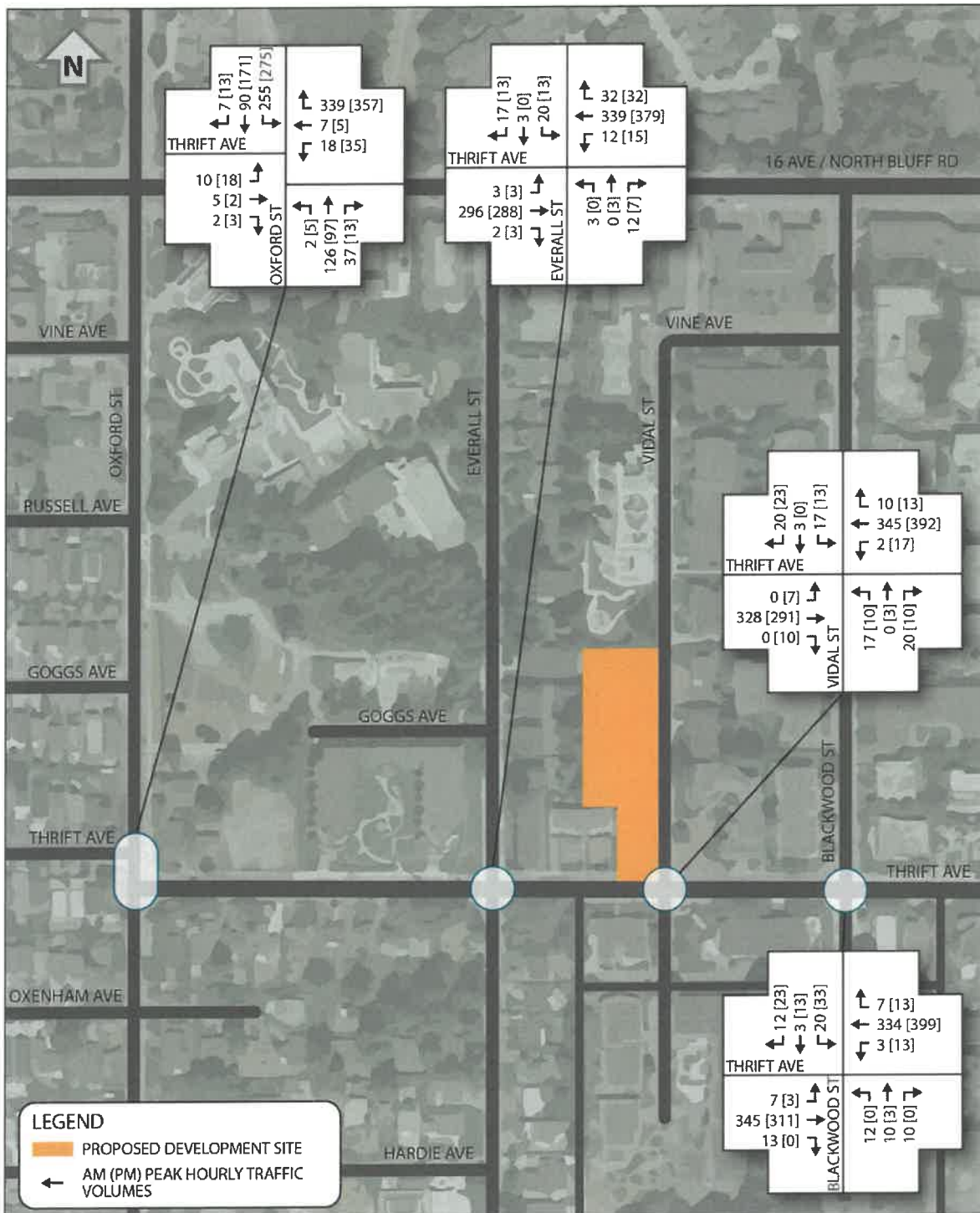


Figure 4-3: 2045 Horizon Year Background Traffic Volumes

4.4 Combined Traffic Operation Analysis

The combined traffic operation analysis considers both the background traffic growth as well as the site generated traffic volumes. The study development is expected to have one stop-controlled access on Vidal Street where free-flow traffic will be maintained on the local roadway. The proposed laning for the 2022 horizon year combined traffic operations analysis is shown in **Figure 4-4**.

4.4.1 2022 Opening Day Combined Traffic Conditions

The opening day 2022 horizon year combined traffic operation analysis is performed based on the forecast traffic volumes shown in **Figure 4-5**.

AM Peak Hour

During the AM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.30 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

PM Peak Hour

During the PM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.33 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The combined traffic analysis for the 2022 horizon year is shown in **Table 4-7**.

Table 4-7: 2022 Opening Day Combined Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	10.7	0.30	9.7	B	11.2	0.33	11.0
	NBT/R	A	-	0.07	-	A	-	0.05	-
	SBL/T	A	6.1	0.13	3.3	A	5.4	0.14	3.7
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	11.7	0.02	0.5	B	13.2	0.04	0.8
	NBL/T	A	0.1	0.00	0.1	A	0.2	0.01	0.1
	SBT/R	A	-	0.15	-	A	-	0.20	-
	Int. LOS	A				A			
<i>Thrift Avenue at Everall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	-	A	0.1	0.00	-
	WBL/T/R	A	0.3	0.01	0.2	A	0.3	0.01	0.2
	NBL/T/R	B	10.1	0.01	0.3	B	10.7	0.01	0.2
	SBL/T/R	B	11.7	0.05	1.2	B	11.7	0.03	0.8
Int. LOS	A				A				
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	0.2	0.00	5.3	A	0.9	0.02	0.4
	WBL/T/R	A	-	0.00	-	A	0.4	0.01	0.2
	NBL/T/R	B	11.5	0.04	2.2	B	12.2	0.03	0.7
	SBL/T/R	B	11.7	0.11	2.5	B	12.0	0.09	2.2
Int. LOS	A				A				
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	0.1	A	0.1	0.00	-
	WBL/T/R	A	0.1	0.00	-	A	0.3	0.01	0.2
	NBL/T/R	B	12.1	0.04	1.0	B	13.3	0.00	0.1
	SBL/T/R	B	12.1	0.05	1.1	B	12.8	0.09	2.4
Int. LOS	A				A				
<i>Vidal Street at Development Access (Unsignalized)</i>	EBL/R	A	8.6	0.04	0.9	A	8.5	0.02	0.5
	NBL/T	A	4.8	0.01	0.2	A	5.3	0.02	0.5
	SBT/R	A	-	0.02	-	A	-	0.02	-
	Int. LOS	A				A			

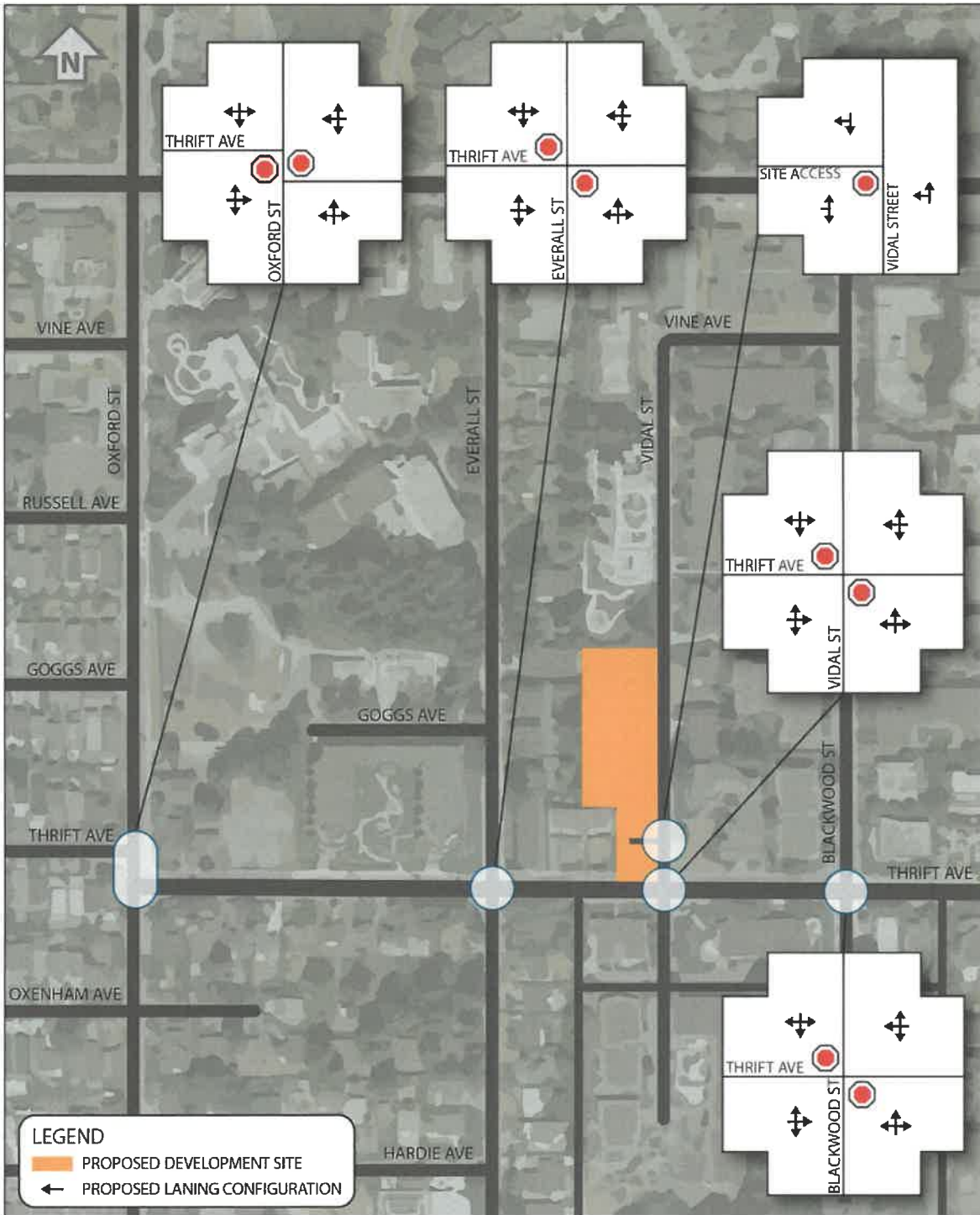


Figure 4-4: 2022 Opening Day Laning Configuration and Traffic Controls

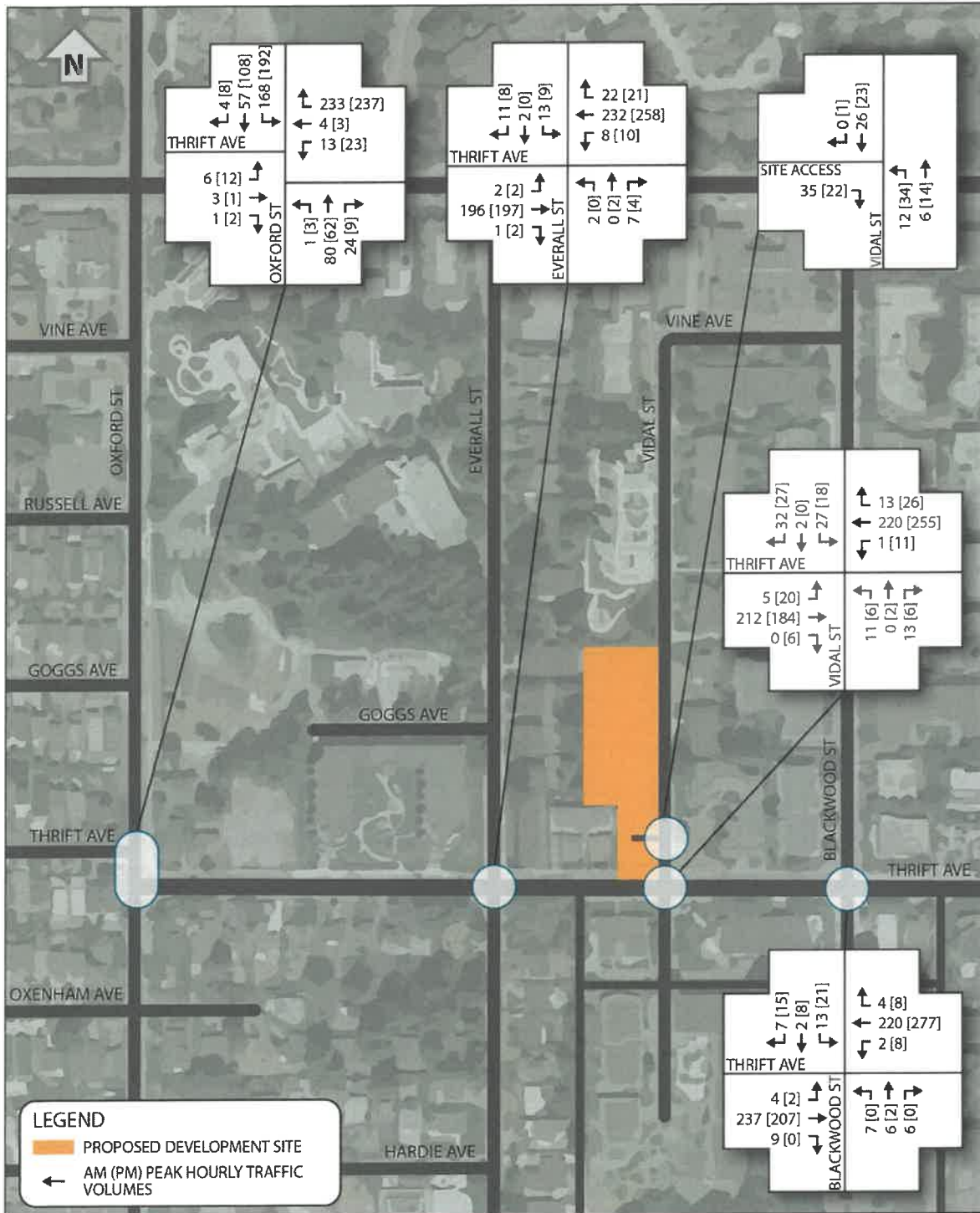


Figure 4-5: 2022 Opening Day Combined Traffic Volumes

4.4.2 2032 Opening Day +10 Years Combined Traffic Operations

The 2032 horizon year background traffic operations analysis assumes the existing intersection and laning configurations. The 2032 horizon year combined traffic volumes are shown in **Figure 4-6**.

AM Peak Hour

During the AM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.38 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

PM Peak Hour

During the PM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.48 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The 2032 horizon year background traffic analysis results are summarized in **Table 4-8**.

Table 4-8: 2032 Opening Day +10 Years Combined Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	11.7	0.38	13.4	B	12.9	0.48	20.4
	NBT/R	A	-	0.08	-	A	-	0.06	-
	SBL/T	A	6.3	0.16	4.2	A	5.5	0.17	4.6
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	13.0	0.03	0.7	B	14.8	0.05	1.2
	NBL/T	A	0.3	0.01	0.2	A	0.3	0.01	0.2
	SBT/R	A	-	0.18	-	A	-	0.24	-
	Int. LOS	A				A			
<i>Thrift Avenue at Everall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	0.1	A	0.1	0.00	0.1
	WBL/T/R	A	0.3	0.01	0.2	A	0.4	0.01	0.2
	NBL/T/R	B	11.2	0.02	0.5	B	11.5	0.01	0.3
	SBL/T/R	B	14.4	0.08	2.0	B	12.9	0.05	1.1
	Int. LOS	A				A			
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	0.2	0.00	0.1	A	0.8	0.02	0.4
	WBL/T/R	A	-	0.00	-	A	0.4	0.01	0.2
	NBL/T/R	B	12.4	0.06	1.5	B	13.5	0.05	1.1
	SBL/T/R	B	12.9	0.14	3.6	B	13.1	0.11	2.8
	Int. LOS	A				A			
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.2	0.00	0.1	A	0.1	0.00	0.1
	WBL/T/R	A	0.1	0.00	0.1	A	0.3	0.01	0.2
	NBL/T/R	B	13.4	0.06	1.5	B	14.7	0.01	0.2
	SBL/T/R	B	13.5	0.07	1.6	B	14.5	0.14	3.5
	Int. LOS	A				A			
<i>Vidal Street at Development Access (Unsignalized)</i>	EBL/R	A	8.6	0.04	0.9	A	8.5	0.02	0.5
	NBL/T	A	4.3	0.01	0.2	A	4.8	0.02	0.5
	SBT/R	A	-	0.02	-	A	-	0.02	-
	Int. LOS	A				A			

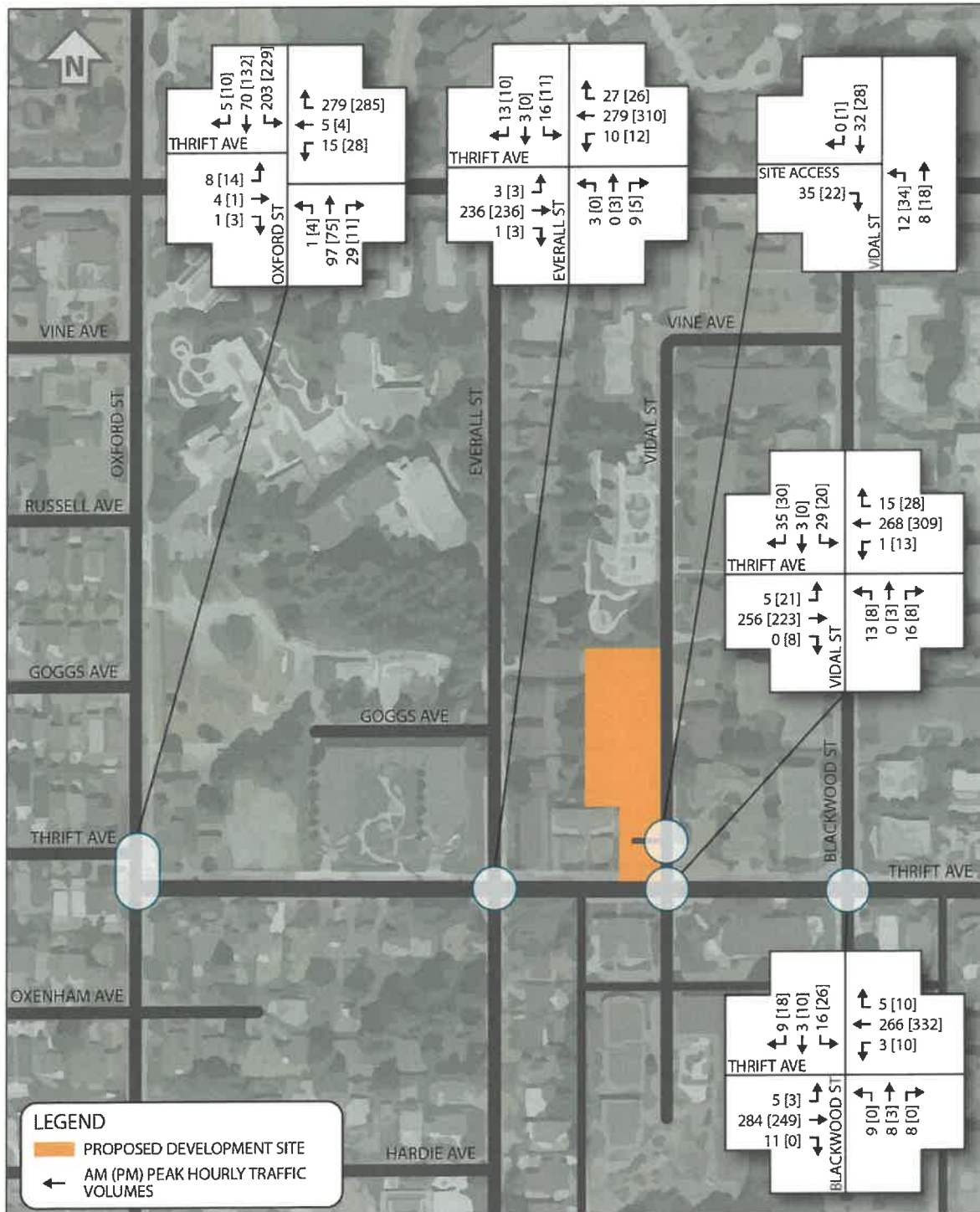


Figure 4-6: 2032 Opening Day +10 Years Combined Traffic Volumes

4.4.3 2045 Horizon Year Combined Traffic Operations

The 2045 horizon year background traffic operations analysis assumes the existing intersection and laning configurations. The 2045 horizon year combined traffic volumes are shown in **Figure 4-7**.

AM Peak Hour

During the AM peak hour, all of the study intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.52 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

PM Peak Hour

During the PM peak hour, all the target intersections are expected to operate within the study thresholds. The maximum v/c ratio is expected to be 0.52 for the westbound movements at the intersection of Thrift Avenue and Oxford Street.

The 2045 horizon year background traffic analysis results are summarized in **Table 4-9**.

Table 4-9: 2045 Horizon Year Combined Traffic Operations

Intersection	Turning Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay (s)	V/C Ratio	95% Q (m)	LOS	Delay (s)	V/C Ratio	95% Q (m)
<i>Thrift Avenue at Oxford Street South (Unsignalized)</i>	WBL/R	B	14.4	0.52	23.3	B	14.2	0.52	23.6
	NBT/R	A	-	0.11	-	A	-	0.07	-
	SBL/T	A	6.6	0.21	5.9	A	5.8	0.22	6.3
	Int. LOS	A				A			
<i>Thrift Avenue at Oxford Street North (Unsignalized)</i>	EBL/R	B	14.8	0.05	1.2	C	16.5	0.06	1.4
	NBL/T	A	0.3	0.01	0.2	A	0.3	0.01	0.2
	SBT/R	A	-	0.23	-	A	-	0.30	-
	Int. LOS	A				A			
<i>Thrift Avenue at Everall Street (TWSC)</i>	EBL/T/R	A	0.1	0.00	0.1	A	0.1	0.00	0.1
	WBL/T/R	A	0.4	0.01	0.3	A	0.4	0.01	0.3
	NBL/T/R	B	11.6	0.03	0.7	B	12.1	0.02	0.5
	SBL/T/R	C	15.3	0.11	2.8	C	15.1	0.08	1.8
	Int. LOS	A				A			
<i>Thrift Avenue at Vidal Street (TWSC)</i>	EBL/T/R	A	0.2	0.00	0.1	A	0.8	0.02	0.5
	WBL/T/R	A	0.1	0.00	-	A	0.5	0.01	0.3
	NBL/T/R	B	14.6	0.10	2.4	C	16.1	0.07	1.8
	SBL/T/R	C	15.5	0.19	5.3	C	15.7	0.16	4.2
	Int. LOS	A				A			
<i>Thrift Avenue at Blackwood Street (TWSC)</i>	EBL/T/R	A	0.2	0.01	0.2	A	0.1	0.00	0.1
	WBL/T/R	A	0.1	0.00	0.1	A	0.4	0.01	0.3
	NBL/T/R	C	16.0	0.10	2.4	C	17.4	0.01	0.2
	SBL/T/R	C	16.3	0.11	2.7	C	18.4	0.22	6.2
	Int. LOS	A				A			
<i>Vidal Street at Development Access (Unsignalized)</i>	EBL/R	A	8.6	0.04	0.9	A	8.6	0.02	0.5
	NBL/T	A	4.0	0.01	0.2	A	4.5	0.02	0.6
	SBT/R	A	-	0.03	-	A	-	0.02	-
	Int. LOS	A				A			

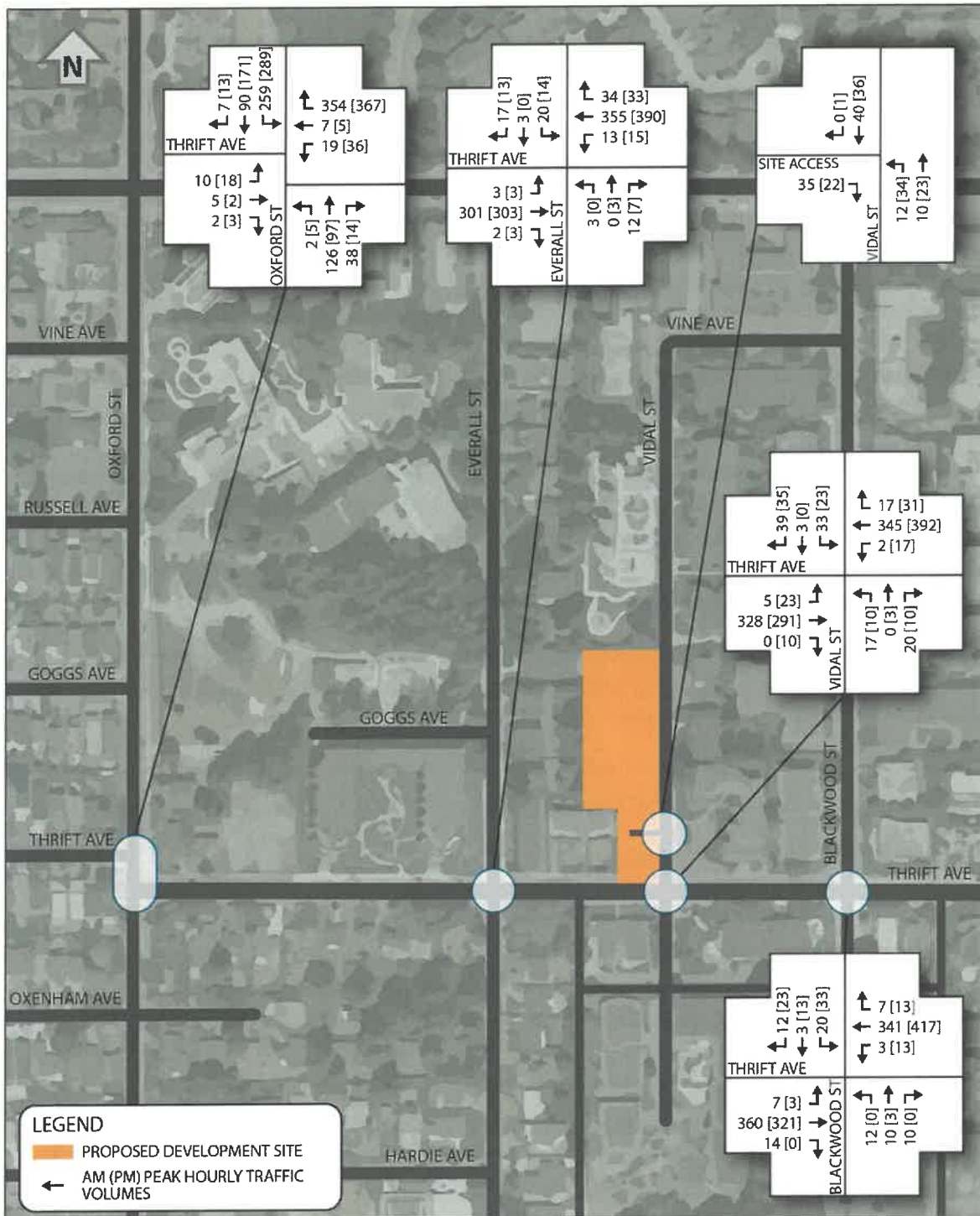


Figure 4-7: 2045 Horizon Year Combined Traffic Volumes

5 TRAFFIC CIRCULATION AND OFF-STREET PARKING

5.1 Site Access Review

The study development is expected to have one access on Vidal Street. All ingress and egress movements for the underground parkade are expected to be made from this single entrance.

The driveway spacing was reviewed according to the Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads* Chapter 8 – Section 8.9.7. Within residential land uses adjacent to a minor intersection, a minimum distance of 2.0 m is suggested between the driveway and the back of the curb corner. The proposed driveway location for the study development is expected to exceed the minimum TAC guidelines. In order to provide adequate sightlines for the site traffic to safely enter Vidal Street, a no-stopping zone should be established on either side of the driveway.

5.2 AutoTURN Review

An AutoTURN analysis was conducted for the ingress and egress movements of a standard passenger vehicle at each of the parkade levels based on design guidelines published by TAC. The AutoTURN analysis found that this design vehicle is able to perform the ingress and egress movements without issues at the proposed access. It is also expected to manoeuvre without issues within the study development's parkade as per the current site plan.

It is noted that solid waste collection bins are located near the parkade entrance within the building. It is anticipated these will be moved to Vidal Street for collection and that solid waste collection vehicles are not expected to enter the parkade.

The analysis also reviewed the critical parking manoeuvres within the parkade, typically parking spaces that are against walls, and found that they could be accessed by the design vehicle without issues.

The AutoTURN analysis for the study development is provided in **Appendix B**.

5.3 Off-Street Parking

The off-street parking requirements for the proposed development were calculated based on the City's Bylaw No. 2000 (2019). Based on Section 4.14, a total of 194 parking spaces are required with 155 spaces for resident parking and 39 spaces for visitor parking, which is presented in **Table 5-1** below.

Table 5-1: Bylaw Parking Requirements

Description	Bylaw Ref.	Size	Unit	Demand Per Unit	Stalls Required
Required Parking Spaces - Apartment	2000 - 4.14	129	Units	1.20	155
Visitor Parking Spaces - Apartment	2000 - 4.14	129	Units	0.30	39
Total:					194

Based on the January 9, 2020 site plan, there are 179 parking spaces for the proposed development with 39 spaces for visitor parking and 140 spaces for resident parking. As there is a 15 stall shortfall and that a variance from the Bylaw is required, the forecast parking demand for the proposed development was

reviewed based on the rate published in the Institute of Transportation Engineers’ (ITE) *Parking Generation Manual, 5th Edition*. The parking generation rate for the development is assumed to be consistent with the following land use category outlined in the ITE guidelines:

- Residential Mid-Rise Multifamily Housing (ITE Ref. 221)

The forecast site generated traffic volumes for the proposed study development are summarized in **Table 5-2**.

Table 5-2: Forecast Study Development Generated Parking Demand

Description	Size	Unit	ITE Ref.	Avg. Parking Gen Per Unit	Generated Parking Demand
Weekday Peak Period	129	Units	221	1.31	169

During the peak parking period, which is likely overnight within the development, there is an estimated parking demand for 169 parking spaces, inclusive of the visitor parking, which is less than the proposed 179 parking spaces in the proposed development. Although the proposed 179 parking spaces do not meet the Bylaw requirements, they were found to exceed the projected parking demand for similar residential sites based on ITE parking generation rates. The ITE parking demand rate is generally based on market residential developments; therefore, the study rental development is anticipated to generate less parking demand than the projection using ITE’s parking generation rate. Further, with existing bus routes operating on Thrift Avenue that are directly adjacent to the proposed development, the dependency on using personal vehicles for local trips are expected to be reduced.

Based on the review performed in this section, the provided on-site parking supply would be sufficient for this proposed development.

5.4 Bicycle Parking

Based on section 4.16 of the City’s Bylaw No. 2000 (2019), a total of 155 bicycle parking spaces are required with 129 spaces for Class 1 secure long-term parking and 26 spaces for Class 2 short-term parking. Based on the January 9, 2020 site plan, there are 156 bicycle parking spaces provided in the proposed development, which meet the Bylaw requirements presented in **Table 5-3**.

Table 5-3: Bicycle Parking Requirements

Description	Bylaw Ref.	Size	Unit	Demand Per Unit	Stalls Required
Bicycle Parking Stall Class 1	2000 - 4.16	129	Units	1.00	129
Bicycle Parking Stall Class 2	2000 - 4.16	129	Units	0.20	26
Total:					155

5.5 Loading

According to section 4.15 of the City’s Bylaw No. 2000 (2019), an off-street loading space is required if there are greater than ten units in an apartment complex. Based on the site plan, a single off-street loading space is located perpendicular to the parkade driveway on the east side of the building. An

AutoTURN analysis found that an MSU (medium single unit) truck design vehicle is able to reverse into this loading space from Vidal Street without issues. A Building Manager is expected to be on-site at all times to help plan and facilitate access to the loading bay to minimize impacts to on-street parking.

In order to accommodate the MSU turning movements into the loading bay, a variance will be required to permit the driveway to widen in excess of 7 metres at the new property line. This is considered to be acceptable as the widest point of the driveway is near the building where conflicts with pedestrians would be low.

To provide waste collection services on-site, the study development is expected to accommodate that completely on-site with low-profile compactors. Waste collection would then be performed by small trucks that could manoeuvre through the parkade.

6 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study is to evaluate the transportation effects of the proposed multi-family residential development and its traffic impacts on the adjacent transportation network. The proposed development is expected to provide a total of 129 residential units at its full build-out.

A summary of the study findings are as follows:

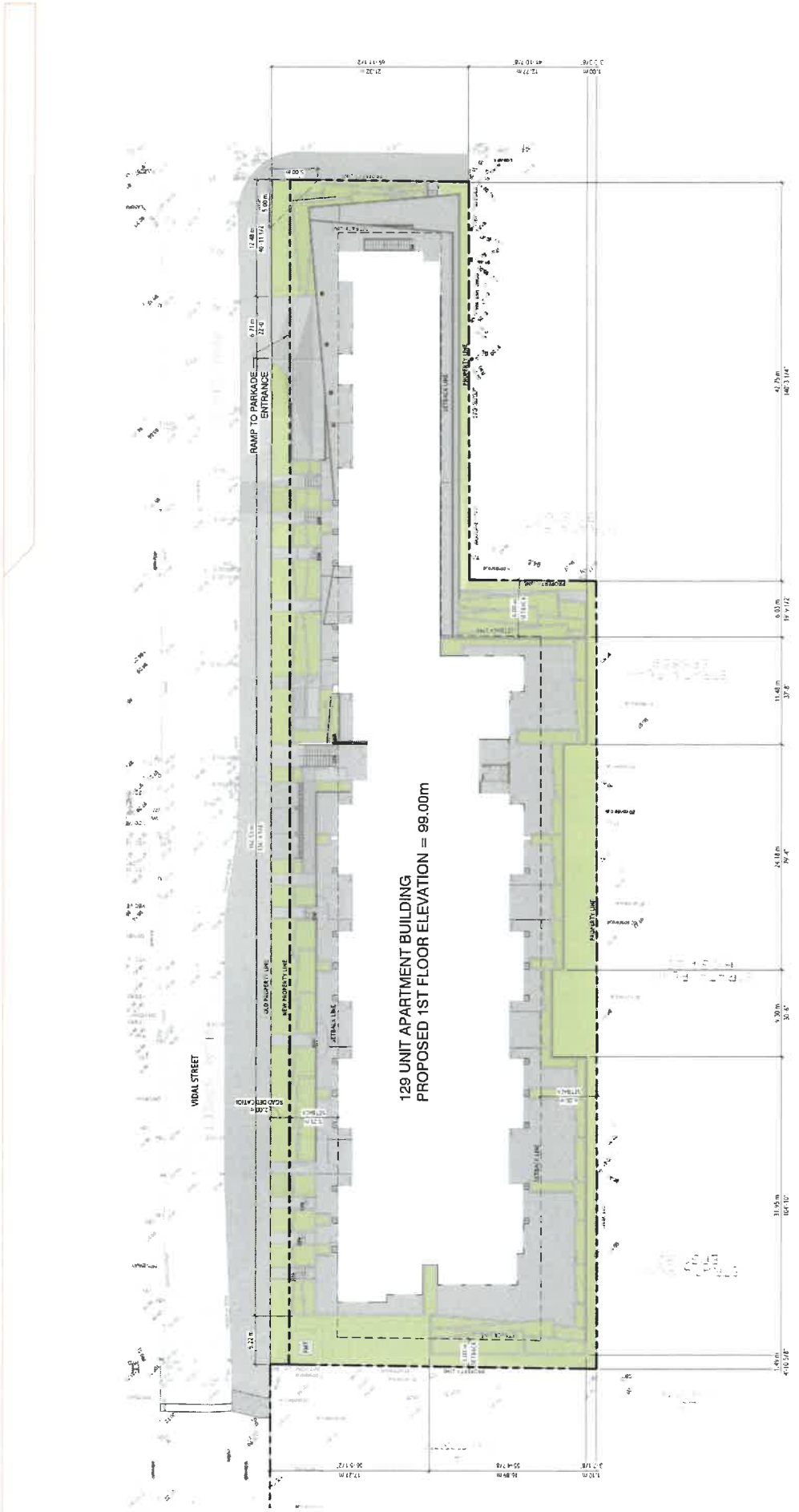
- The study area is located in close proximity to existing transit routes and regional cycling routes. There are existing pedestrian facilities provided on the study roadways as well.
- A new pedestrian sidewalk is proposed along Vidal Street and Thrift Avenue adjacent to the proposed development.
- The development is expected to provide a total of 129 'Class 1' bicycle parking spaces and 27 'Class 2' bicycle parking spaces which meet the City's Bylaw requirements.
- At full build-out, the proposed development is expected to generate 47 vehicle trips onto the study road network during the AM peak hour, with 12 inbound trips, and 35 outbound trips.
- The proposed development is expected to generate 57 vehicle trips onto the study road network during the PM peak hour, with 35 inbound trips and 22 outbound trips.
- The proposed development is expected to provide one access point on Vidal Street north of Thrift Avenue with free-flow traffic maintained on Vidal Street. The proposed driveway distance from Thrift Avenue is expected to meet and exceed the minimum TAC requirement.
- The existing study intersections along Thrift Avenue are currently operating within the study thresholds during both the AM and PM peak hours. During the 2022 opening day, 2032 horizon year, and 2045 horizon year scenarios, the existing intersections and the study development access are expected to continue operating within study thresholds.
- The study development is required to provide 155 residential parking spaces and 39 visitor parking spaces for a total of 194 parking spaces based on the City's Bylaw; however, the proposed parking supply is expected to be sufficient in accommodating the parking demand based on the ITE's parking generation rate.
- Solid waste collection will be performed fully within the site.
- A variance will be required to permit the driveway to widen in excess of 7 metres at the new property line in order to accommodate loading activities. The area where the driveway would exceed 7 metres is away from the pedestrian sidewalk so safety is not expected to be impacted.

Based on the study findings, all of the intersections within the study area are expected to operate acceptably; thus, no transportation improvements are expected to be required to accommodate the traffic demand generated by the proposed development.

An on-site Building Manager is recommended to monitor and facilitate access to the loading bay in order to coordinate its used by future residents and to reduce impacts to on-street parking.

APPENDIX A

PROPOSED SITE PLAN



129 UNIT APARTMENT BUILDING
 PROPOSED 1ST FLOOR ELEVATION = 99.00m



VIDAL STREET DEVELOPMENT
 VIDAL STREET, WHITE ROCK, N.S.

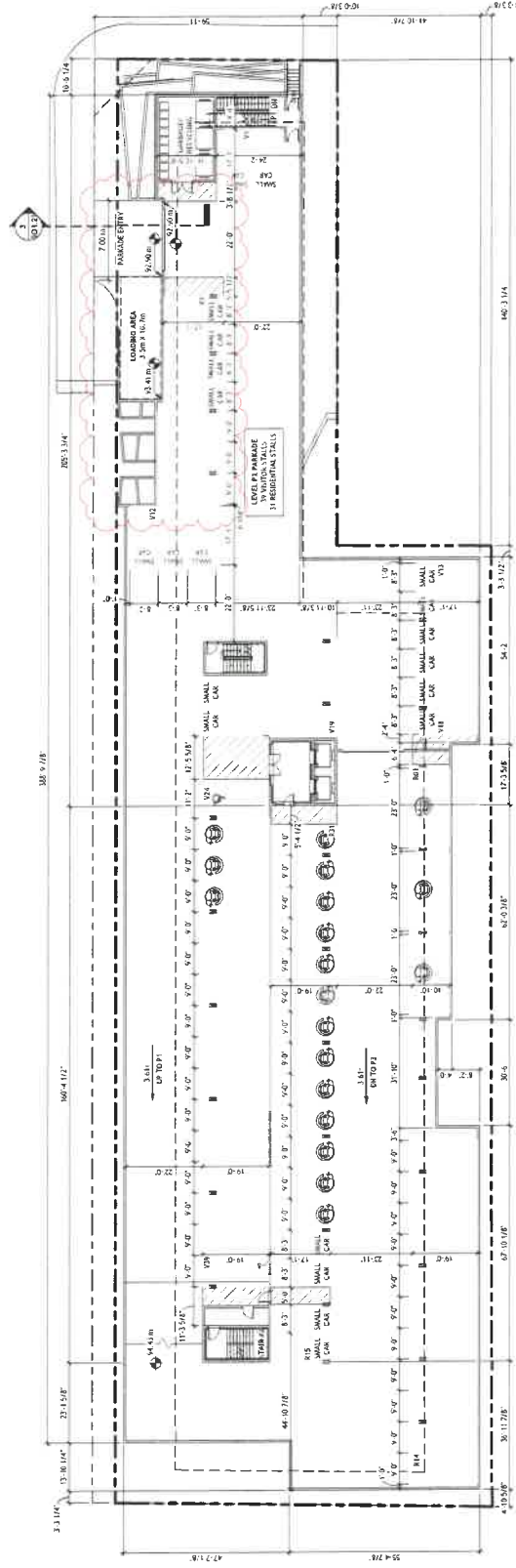
SITE PLAN
 SCALE: 1:100

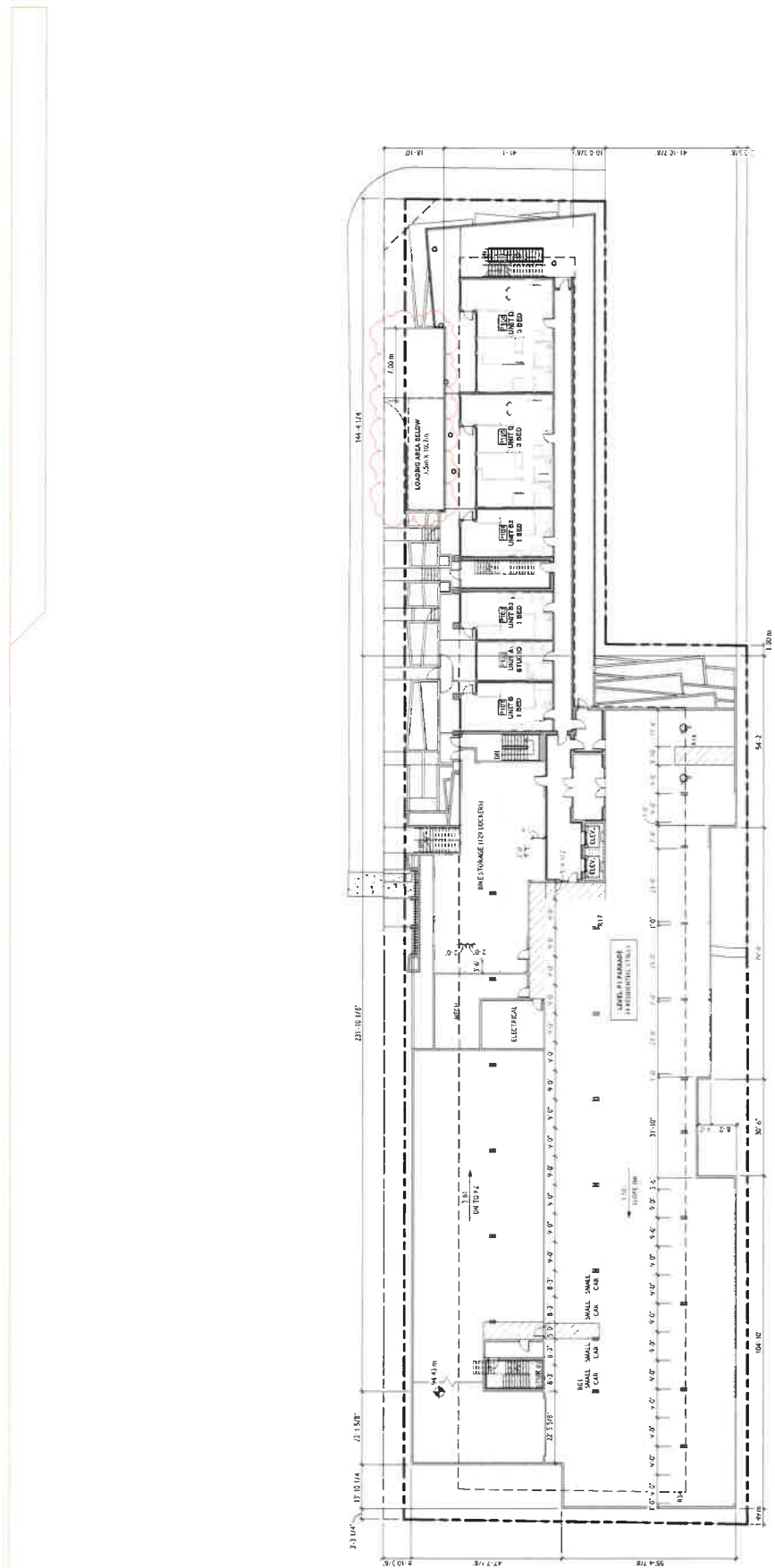


ISSUED FOR DEVELOPMENT PERMIT
 APPROVAL: 06/04/24
 PROJECT NUMBER: 1-170



SD1.20





KEY DEVELOPMENT GROUP
 1000 WEST 10TH AVENUE, SUITE 1000
 DENVER, CO 80202

VIDAL STREET DEVELOPMENT
 1000 WEST 10TH AVENUE, SUITE 1000
 DENVER, CO 80202

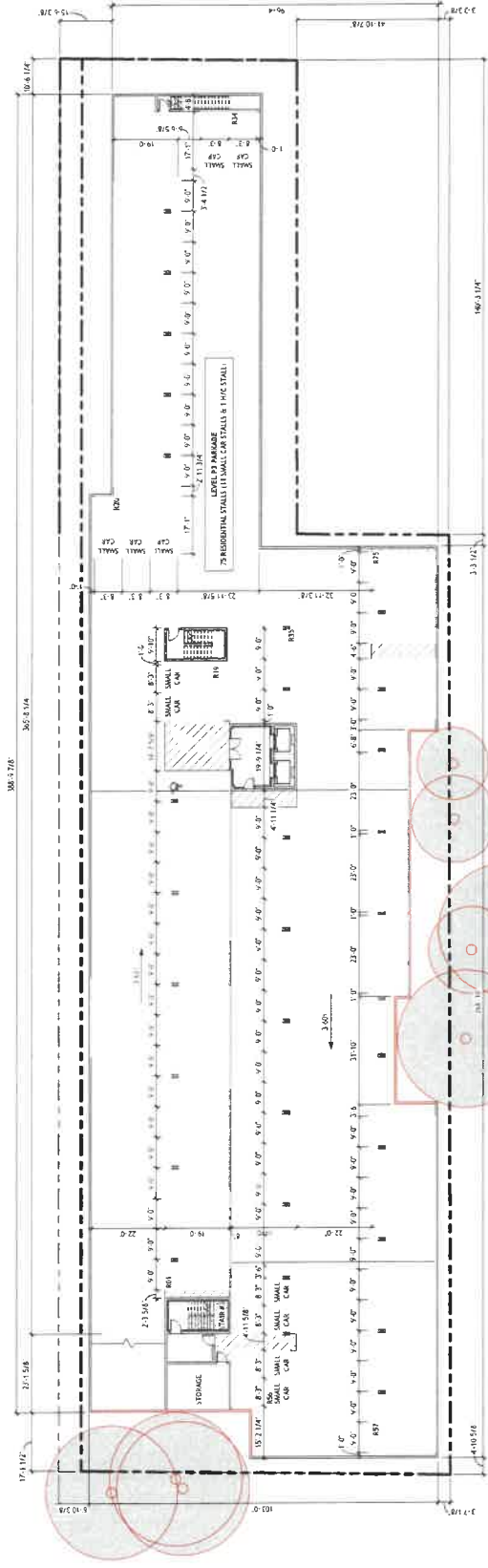
P1 LEVEL PLAN
 SCALE: 1/8" = 1'-0"



ISSUED FOR DEVELOPMENT PERMIT
 APPROVED BY: [Signature]
 PROJECT NUMBER: J-150



SD3-03



VIDAL STREET DEVELOPMENT
 411 STREET, WHITE ROCK, N.S.W.

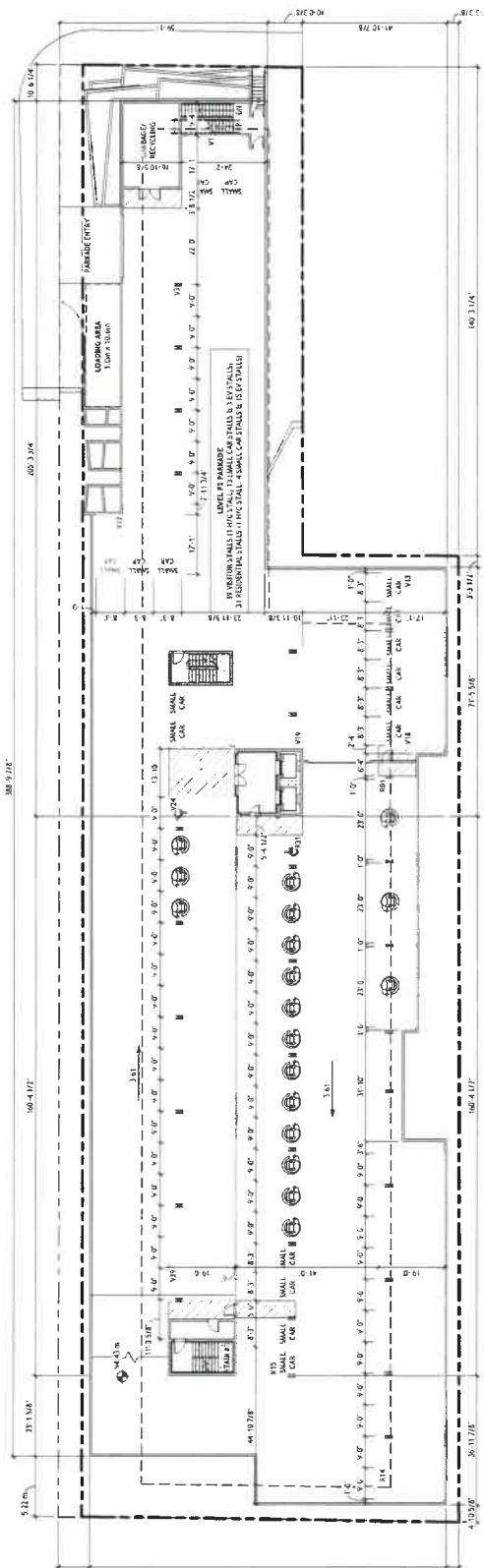
P3 LEVEL PLAN
 SCALE: 1/8" = 1'-0"



ISSUED FOR DEVELOPMENT PERMIT
 26 JULY 2019 REVISED #
 PROJECT NUMBER: 1117



SD3.01



VIDAL STREET DEVELOPMENT
 VIDAL STREET, PHASE 2, PROJECT #2

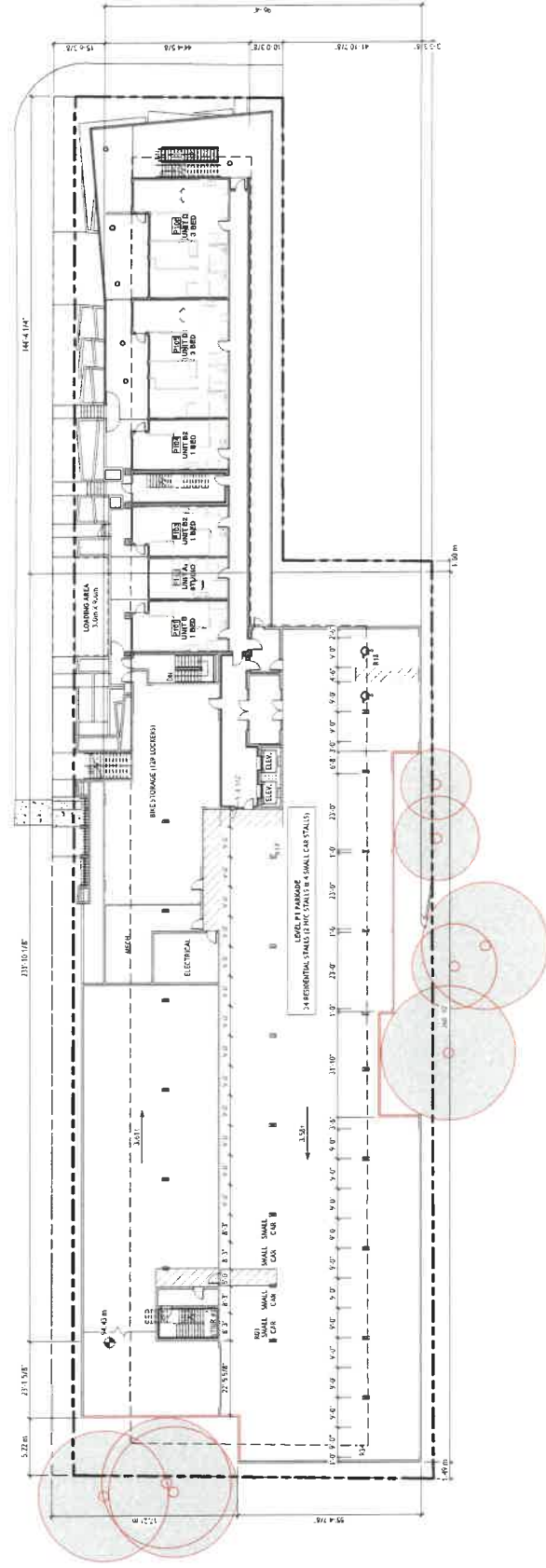
P2 LEVEL PLAN
 SCALE: 1/8" = 1'-0"



ISSUED FOR DEVELOPMENT PERMIT
 1,248' x 608' RELATION#
 PROJECT NUMBER: 1.1.17D



SD3-02



SD3.03



ISSUED FOR DEVELOPMENT PERMIT

10/01/2024 - 10/27/2024
PROJECT NUMBER: 11-170



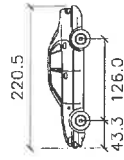
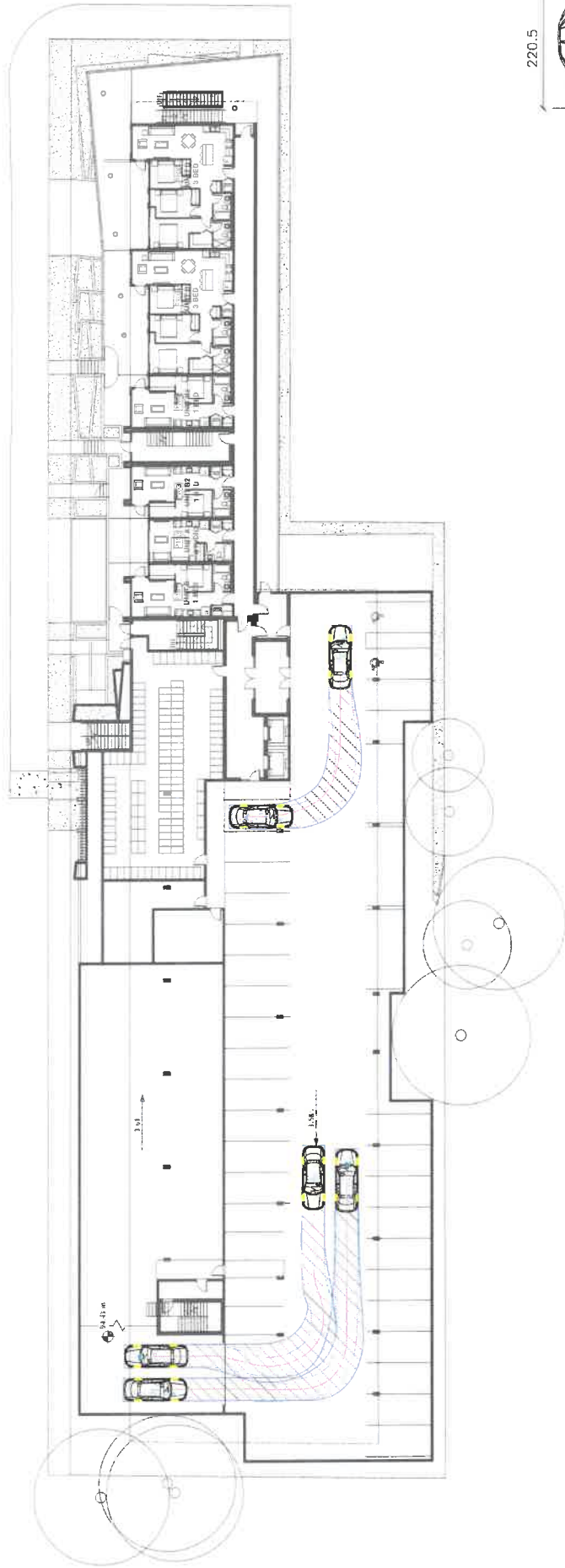
P1 LEVEL PLAN
SCALE: 1/8" = 1'-0"

VIDAL STREET DEVELOPMENT
1041 VIDAL STREET, WOOD BRIDGE, NJ



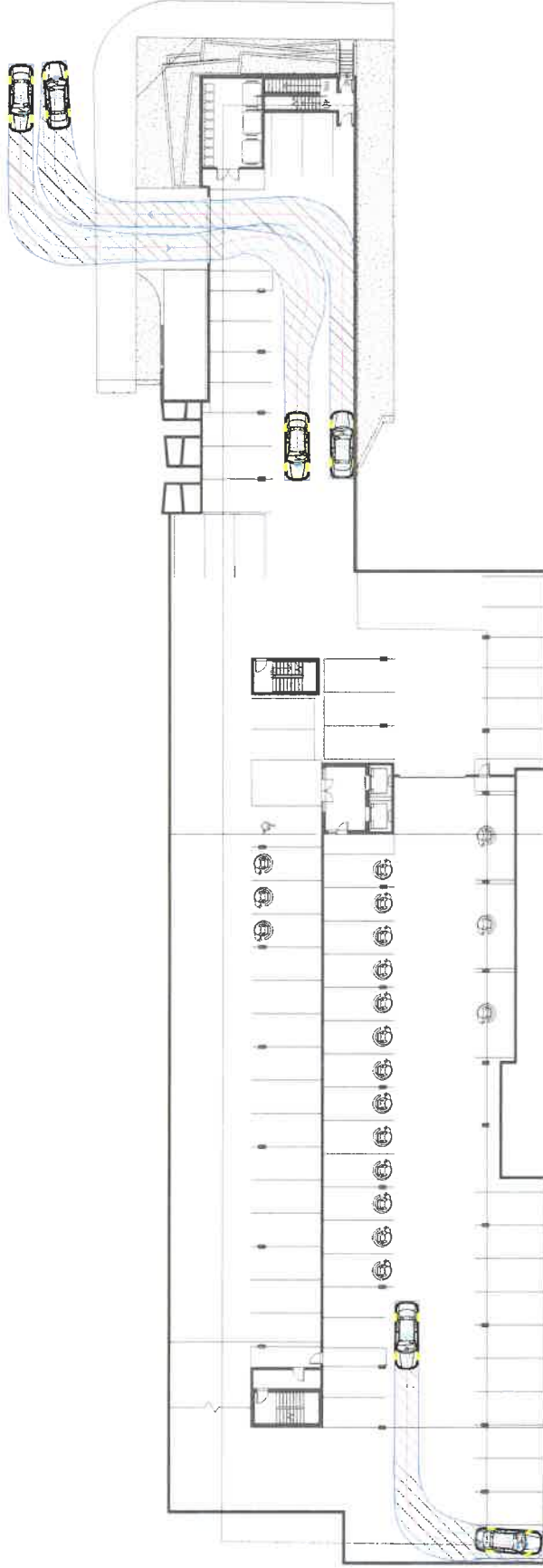
APPENDIX B

AUTOTURN SITE CIRCULATION ANALYSIS



inches
Width : 78.7
Track : 78.7
Lock to Lock Time : 6.0
Steering Angle : 35.9

	TITLE	PARKADE CIRCULATION LEVEL P1	DATE	6/26/2020
		AUTOTURN ANALYSIS	DWG. No.	01
		VIDAL STREET DEVELOPMENT, WHITE ROCK	SCALE	NOT TO SCALE



DATE: 6/26/2020

DWG. No.: 02

SCALE: NOT TO SCALE

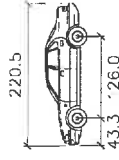
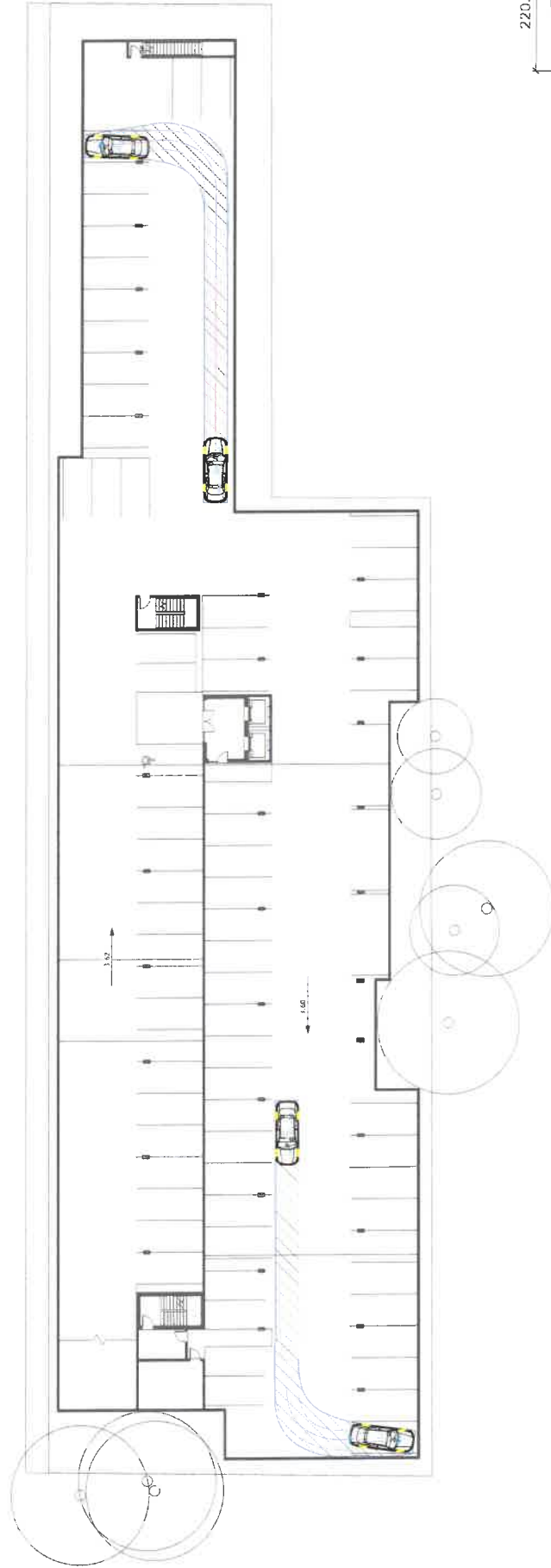
TITLE: PARKADE CIRCULATION LEVEL P2
AUTOTURN ANALYSIS
VIDAL STREET DEVELOPMENT, WHITE ROCK

BINNIE
The people behind your infrastructure.

CONFLICT

ACCOMMODATED

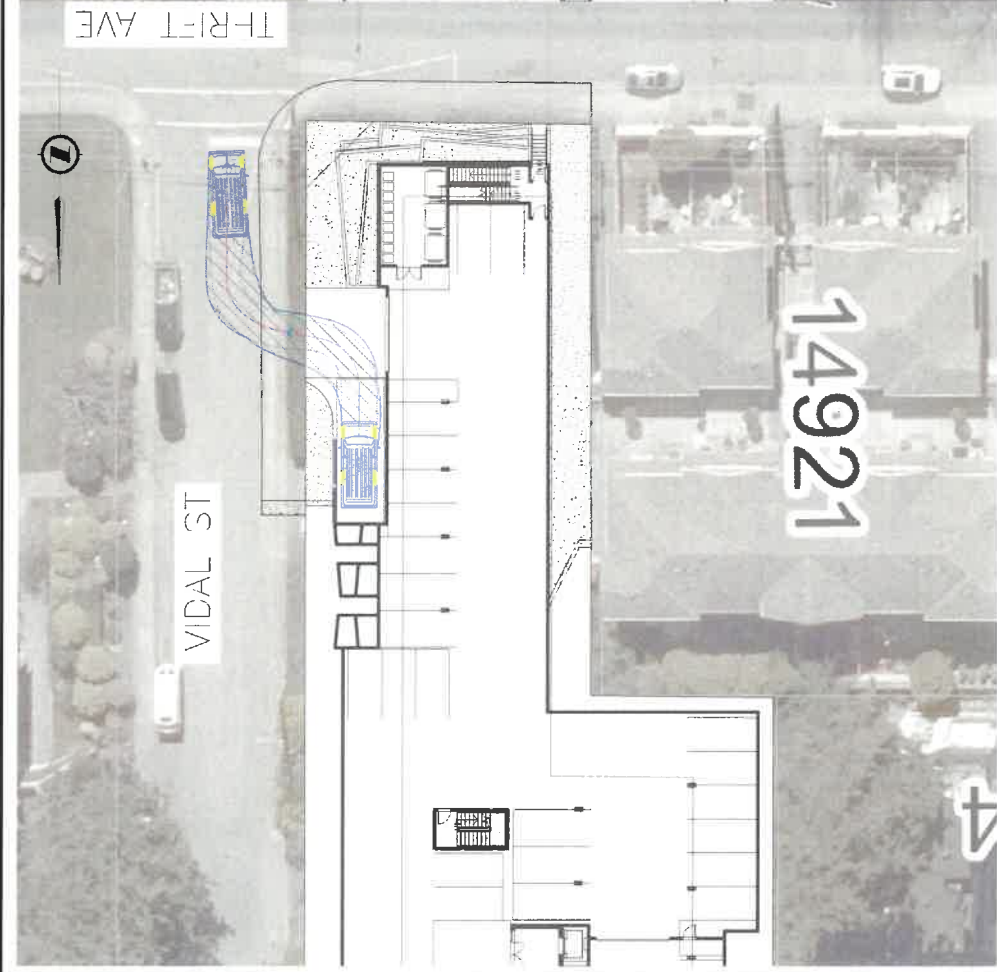
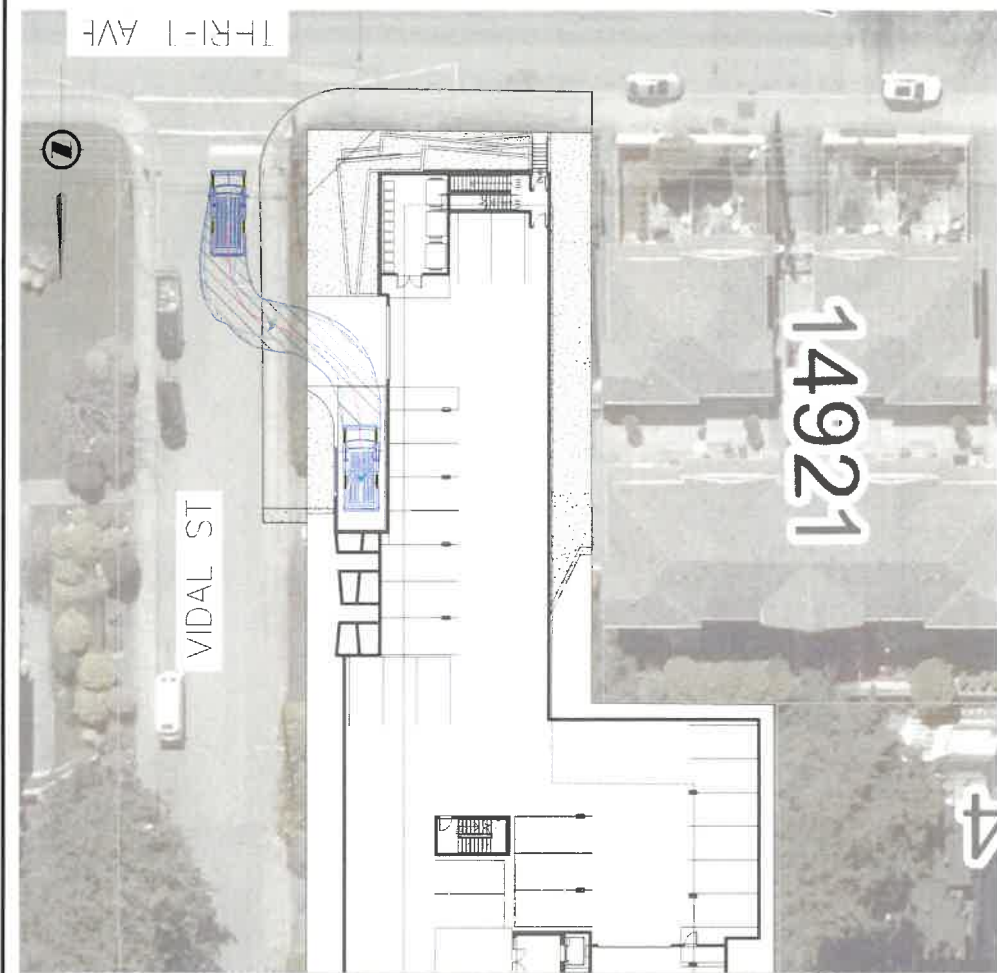




P

inches
Width : 78.7
Track : 78.7
Lock to Lock Time : 6.0
Steering Angle : 35.9

 The people behind your infrastructure.	TITLE	6/26/2020
	PARCADE CIRCULATION LEVEL P3	DWG. No. : 03
	AUTOTURN ANALYSIS	SCALE : NOT_TO_SCALE
	VIDAL STREET DEVELOPMENT, WHITE ROCK	

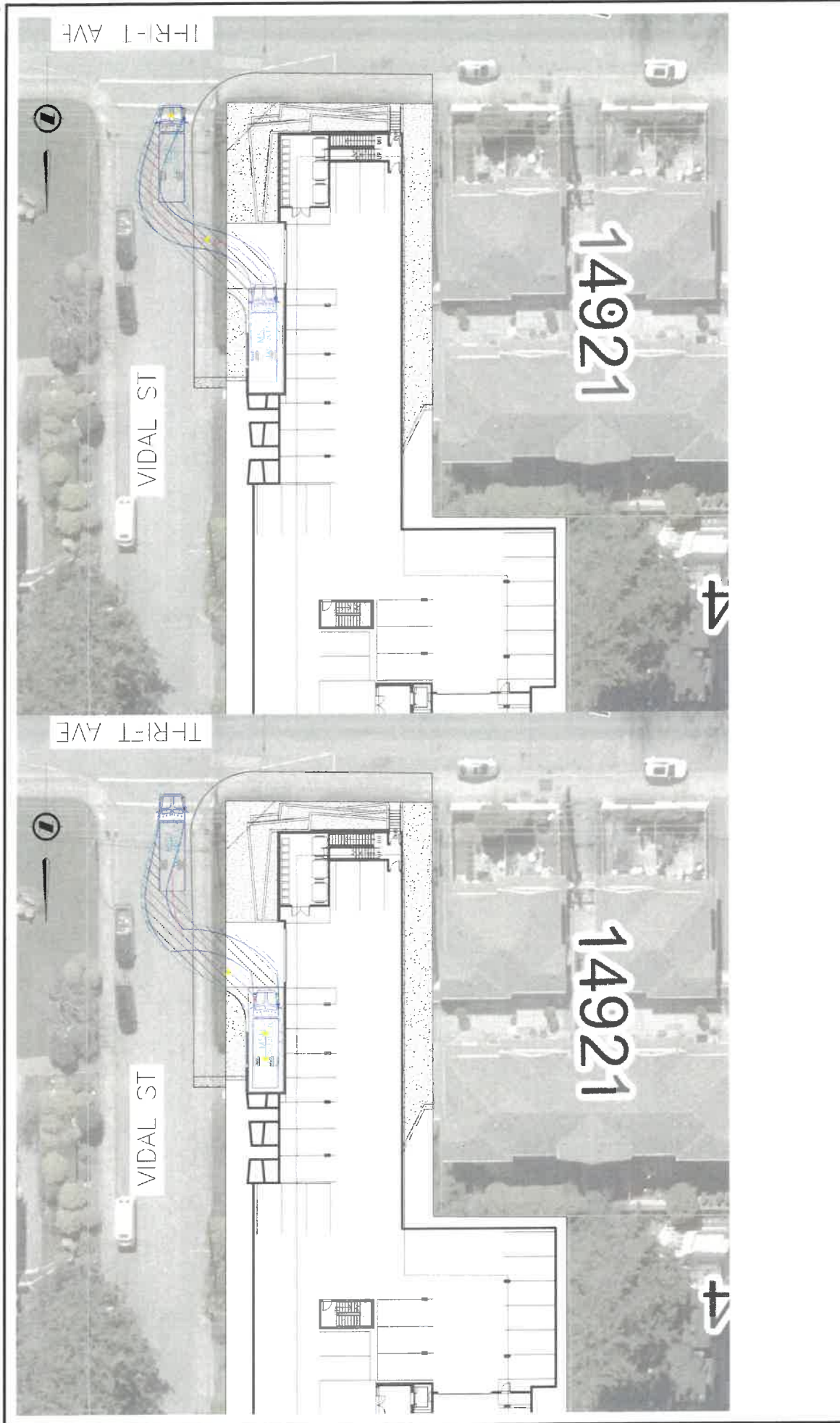


DATE: 6/26/2020
 DWG. No.: 04
 SCALE: NOT_TO_SCALE

TITLE: **LOADING BAY - LSU DESIGN VEHICLE**
 AUTOTURN ANALYSIS
 VIDAL STREET DEVELOPMENT, WHITE ROCK



ACCOMMODATED CONFLICT



DATE: 6/26/2020 DWS. No.: 05 SCALE: NOT TO SCALE	TITLE LOADING BAY - MSU DESIGN VEHICLE AUTOTURN ANALYSIS VIDAL STREET DEVELOPMENT, WHITE ROCK	 The people behind your infrastructure.	ACCOMMODATED <input type="radio"/> CONFLICT <input type="radio"/>
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APPENDIX C

ITE TRIP GENERATION REFERENCE

Land Use: 221

Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

**On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 53

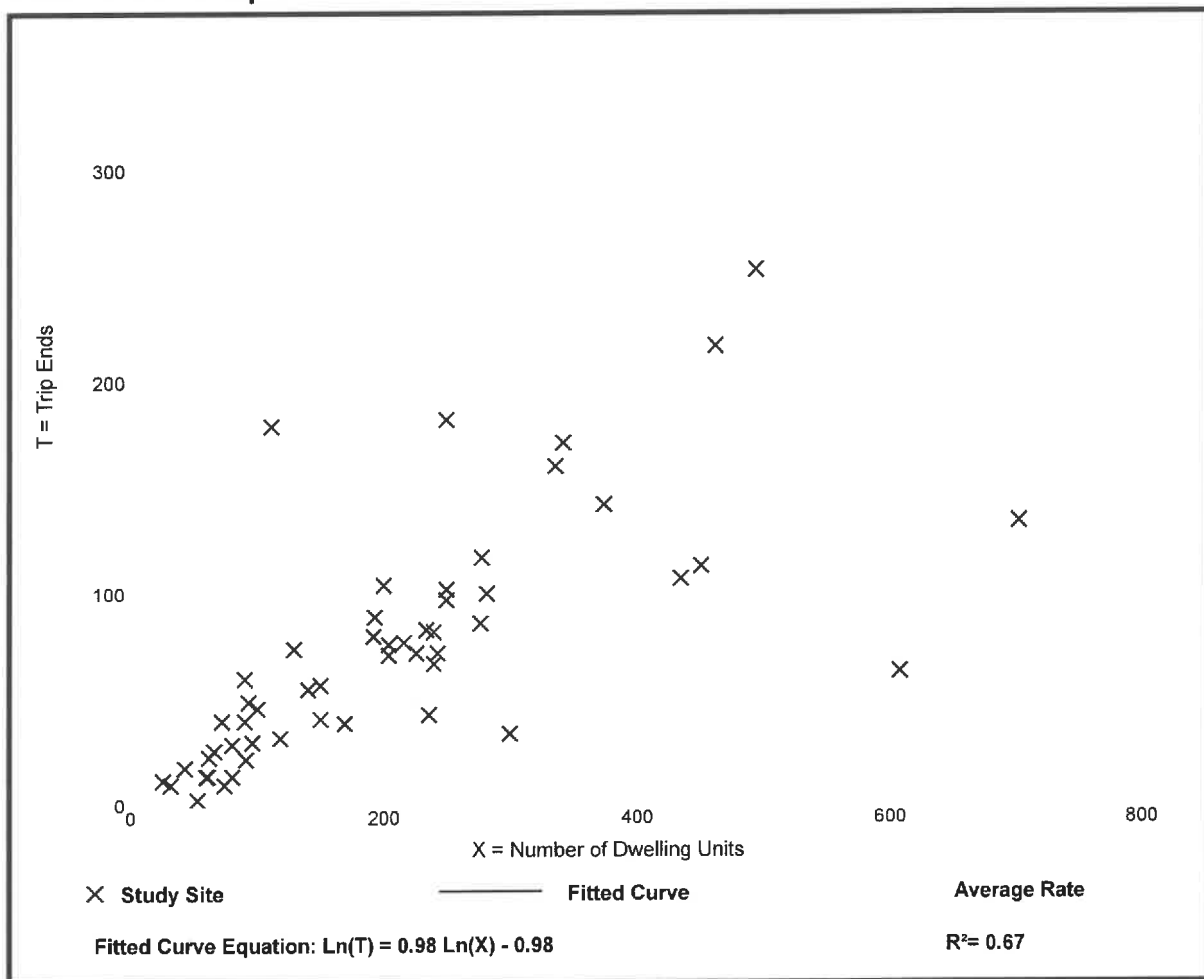
Avg. Num. of Dwelling Units: 207

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Multifamily Housing (Mid-Rise) (221)

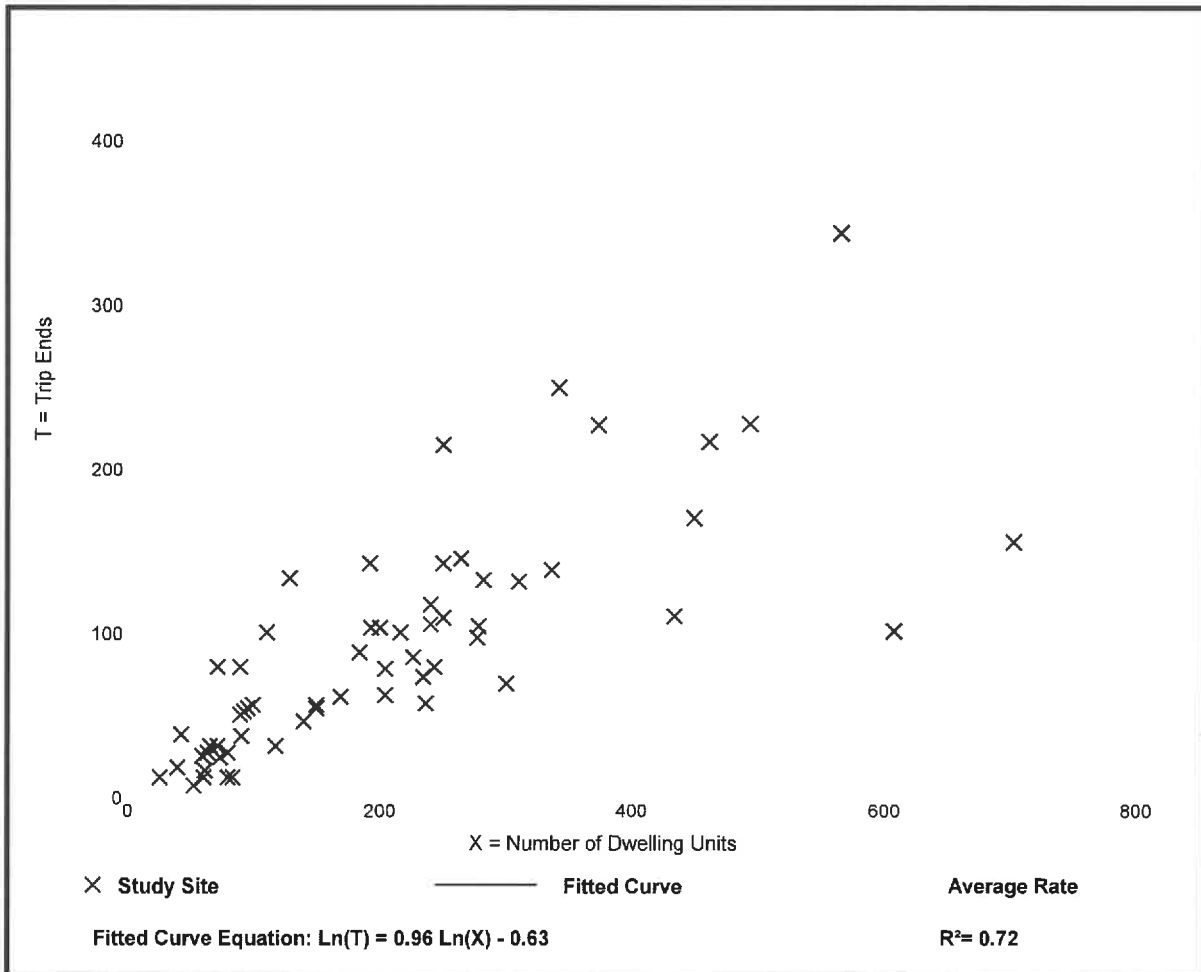
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban
 Number of Studies: 60
 Avg. Num. of Dwelling Units: 208
 Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

APPENDIX D

SYNCHRO ANALYSIS RESULTS

EXISTING 2019 AM
1: Oxford Street & Thrift Avenue

06/24/2020

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Volume (veh/h)	11	201	76	22	152	55
Future Volume (Veh/h)	11	201	76	22	152	55
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	218	83	24	165	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	485	95			107	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	485	95			107	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	77			89	
cM capacity (veh/h)	481	962			1484	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	230	107	225			
Volume Left	12	0	165			
Volume Right	218	24	0			
cSH	914	1700	1484			
Volume to Capacity	0.25	0.06	0.11			
Queue Length 95th (m)	7.6	0.0	2.8			
Control Delay (s)	10.3	0.0	5.9			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	5.9			
Approach LOS	B					
Intersection Summary						
Average Delay			6.6			
Intersection Capacity Utilization			37.7%	ICU Level of Service		A
Analysis Period (min)			15			

2: Evrall Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	171	1	7	200	19	2	0	7	12	2	10
Future Volume (Veh/h)	2	171	1	7	200	19	2	0	7	12	2	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	186	1	8	217	21	2	0	8	13	2	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	238			187			446	444	186	442	434	228
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	238			187			446	444	186	442	434	228
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	97	100	99
cM capacity (veh/h)	1329			1387			511	504	856	518	511	812
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	189	246	10	26								
Volume Left	2	8	2	13								
Volume Right	1	21	8	11								
cSH	1329	1387	754	611								
Volume to Capacity	0.00	0.01	0.01	0.04								
Queue Length 95th (m)	0.0	0.1	0.3	1.0								
Control Delay (s)	0.1	0.3	9.8	11.2								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.1	0.3	9.8	11.2								
Approach LOS			A	B								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			26.0%		ICU Level of Service				A			
Analysis Period (min)			15									













3: Vidal Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	190	0	1	204	6	10	0	12	10	2	12
Future Volume (Veh/h)	0	190	0	1	204	6	10	0	12	10	2	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	207	0	1	222	7	11	0	13	11	2	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	229			207			448	438	207	448	434	226
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	229			207			448	438	207	448	434	226
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	98	98	100	98
cM capacity (veh/h)	1339			1364			510	512	833	513	514	814
Direction Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	207	230	24	26								
Volume Left	0	1	11	11								
Volume Right	0	7	13	13								
cSH	1339	1364	646	629								
Volume to Capacity	0.00	0.00	0.04	0.04								
Queue Length 95th (m)	0.0	0.0	0.9	1.0								
Control Delay (s)	0.0	0.0	10.8	11.0								
Lane LOS		A	B	B								
Approach Delay (s)	0.0	0.0	10.8	11.0								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			21.9%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	200	8	2	197	4	7	6	6	12	2	7
Future Volume (Veh/h)	4	200	8	2	197	4	7	6	6	12	2	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	217	9	2	214	4	8	7	7	13	2	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	218			226			458	452	222	460	454	216
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	218			226			458	452	222	460	454	216
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	99	99	97	100	99
cM capacity (veh/h)	1352			1342			504	501	818	500	500	824
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	230	220	22	23								
Volume Left	4	2	8	13								
Volume Right	9	4	7	8								
cSH	1352	1342	573	579								
Volume to Capacity	0.00	0.00	0.04	0.04								
Queue Length 95th (m)	0.1	0.0	0.9	0.9								
Control Delay (s)	0.2	0.1	11.5	11.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	11.5	11.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			23.5%		ICU Level of Service				A			
Analysis Period (min)			15									

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	3	5	272	203	4
Future Volume (Veh/h)	12	3	5	272	203	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	5	296	221	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage veh						
Upstream signal (m)						
pX. platoon unblocked						
vC, conflicting volume	529	223	225			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu. unblocked vol	529	223	225			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	100	100			
cM capacity (veh/h)	508	817	1344			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	16	301	225			
Volume Left	13	5	0			
Volume Right	3	0	4			
cSH	547	1344	1700			
Volume to Capacity	0.03	0.00	0.13			
Queue Length 95th (m)	0.7	0.1	0.0			
Control Delay (s)	11.8	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.8	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			28.3%	ICU Level of Service	A	
Analysis Period (min)			15			

EXISTING 2019 PM
1: Oxford Street & Thrift Avenue














06/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑			↓
Traffic Volume (veh/h)	21	211	61	8	162	104
Future Volume (Veh/h)	21	211	61	8	162	104
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	229	66	9	176	113
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	536	70			75	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	536	70			75	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	77			88	
cM capacity (veh/h)	447	992			1524	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	252	75	289			
Volume Left	23	0	176			
Volume Right	229	9	0			
cSH	893	1700	1524			
Volume to Capacity	0.28	0.04	0.12			
Queue Length 95th (m)	8.8	0.0	3.0			
Control Delay (s)	10.6	0.0	5.0			
Lane LOS	B		A			
Approach Delay (s)	10.6	0.0	5.0			
Approach LOS	B					
Intersection Summary						
Average Delay			6.7			
Intersection Capacity Utilization			42.0%		ICU Level of Service	A
Analysis Period (min)			15			

















2: Evrall Street & Thrift Avenue

06/24/2020

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Volume (veh/h)	2	166	2	9	224	19	0	2	4	8	0	8	
Future Volume (Veh/h)	2	166	2	9	224	19	0	2	4	8	0	8	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	2	180	2	10	243	21	0	2	4	9	0	9	
Pedestrians													
Lane Width (m)													
Walking Speed (m/s)													
Percent Blockage													
Right turn flare (veh)													
Median type		None			None								
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	264			182			468	469	181	464	460	254	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	264			182			468	469	181	464	460	254	
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			99			100	100	100	98	100	99	
cM capacity (veh/h)	1300			1393			497	488	862	501	494	785	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	184	274	6	18									
Volume Left	2	10	0	9									
Volume Right	2	21	4	9									
cSH	1300	1393	686	612									
Volume to Capacity	0.00	0.01	0.01	0.03									
Queue Length 95th (m)	0.0	0.2	0.2	0.7									
Control Delay (s)	0.1	0.3	10.3	11.1									
Lane LOS	A	A	B	B									
Approach Delay (s)	0.1	0.3	10.3	11.1									
Approach LOS			B	B									
Intersection Summary													
Average Delay			0.8										
Intersection Capacity Utilization			32.7%		ICU Level of Service				A				
Analysis Period (min)			15										

3: Vidal Street & Thrift Avenue

06/24/2020

																								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Lane Configurations																								
Traffic Volume (veh/h)	4	168	6	10	232	8	6	2	6	8	0	14												
Future Volume (Veh/h)	4	168	6	10	232	8	6	2	6	8	0	14												
Sign Control		Free			Free			Stop			Stop													
Grade		0%			0%			0%			0%													
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92												
Hourly flow rate (vph)	4	183	7	11	252	9	7	2	7	9	0	15												
Pedestrians																								
Lane Width (m)																								
Walking Speed (m/s)																								
Percent Blockage																								
Right turn flare (veh)																								
Median type	None					None																		
Median storage (veh)																								
Upstream signal (m)																								
pX, platoon unblocked																								
vC, conflicting volume	261			190			488			478			186			481			476			256		
vC1, stage 1 conf vol																								
vC2, stage 2 conf vol																								
vCu, unblocked vol	261			190			488			478			186			481			476			256		
tC, single (s)	4.1			4.1			7.1			6.5			6.2			7.1			6.5			6.2		
tC, 2 stage (s)																								
tF (s)	2.2			2.2			3.5			4.0			3.3			3.5			4.0			3.3		
p0 queue free %	100			99			99			100			99			98			100			98		
cM capacity (veh/h)	1303			1384			477			481			856			486			482			782		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																				
Volume Total	194	272	16	24																				
Volume Left	4	11	7	9																				
Volume Right	7	9	7	15																				
cSH	1303	1384	592	636																				
Volume to Capacity	0.00	0.01	0.03	0.04																				
Queue Length 95th (m)	0.1	0.2	0.6	0.9																				
Control Delay (s)	0.2	0.4	11.2	10.9																				
Lane LOS	A	A	B	B																				
Approach Delay (s)	0.2	0.4	11.2	10.9																				
Approach LOS			B	B																				
Intersection Summary																								
Average Delay				1.1																				
Intersection Capacity Utilization				27.6%			ICU Level of Service			A														
Analysis Period (min)				15																				

4: Blackwood Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	180	0	8	236	8	0	2	0	20	8	14
Future Volume (Veh/h)	2	180	0	8	236	8	0	2	0	20	8	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	196	0	9	257	9	0	2	0	22	9	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	266			196			499	484	196	480	480	262
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266			196			499	484	196	480	480	262
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	96	98	98
cM capacity (veh/h)	1298			1377			463	479	845	491	482	777
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	198	275	2	46								
Volume Left	2	9	0	22								
Volume Right	0	9	0	15								
cSH	1298	1377	479	556								
Volume to Capacity	0.00	0.01	0.00	0.08								
Queue Length 95th (m)	0.0	0.2	0.1	2.0								
Control Delay (s)	0.1	0.3	12.6	12.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	12.6	12.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			33.5%		ICU Level of Service				A			
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↓	
Traffic Volume (veh/h)	11	3	6	266	263	8
Future Volume (Veh/h)	11	3	6	266	263	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	3	7	289	286	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	594	290	295			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	594	290	295			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	100	99			
cM capacity (veh/h)	465	749	1266			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	15	296	295			
Volume Left	12	7	0			
Volume Right	3	0	9			
cSH	503	1266	1700			
Volume to Capacity	0.03	0.01	0.17			
Queue Length 95th (m)	0.7	0.1	0.0			
Control Delay (s)	12.4	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.4	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			28.8%	ICU Level of Service	A	
Analysis Period (min)			15			

EXISTING 2022 AM

1: Oxford Street & Thrift Avenue

















06/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T			T
Traffic Volume (veh/h)	18	269	98	28	203	71
Future Volume (Veh/h)	18	269	98	28	203	71
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	292	107	30	221	77
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	641	122			137	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	641	122			137	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	69			85	
cM capacity (veh/h)	372	929			1447	
Direction Lane #	WB 1	NB 1	SB 1			
Volume Total	312	137	298			
Volume Left	20	0	221			
Volume Right	292	30	0			
cSH	848	1700	1447			
Volume to Capacity	0.37	0.08	0.15			
Queue Length 95th (m)	12.9	0.0	4.1			
Control Delay (s)	11.7	0.0	6.2			
Lane LOS	B		A			
Approach Delay (s)	11.7	0.0	6.2			
Approach LOS	B					
Intersection Summary						
Average Delay			7.4			
Intersection Capacity Utilization			49.5%		ICU Level of Service	A
Analysis Period (min)			15			













2: Evrall Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	231	1	9	263	25	3	0	9	16	3	13
Future Volume (Veh/h)	3	231	1	9	263	25	3	0	9	16	3	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	251	1	10	286	27	3	0	10	17	3	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	313			252			592	590	252	587	578	300
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	313			252			592	590	252	587	578	300
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	96	99	98
cM capacity (veh/h)	1247			1313			404	416	787	413	423	740
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	255	323	13	34								
Volume Left	3	10	3	17								
Volume Right	1	27	10	14								
cSH	1247	1313	646	506								
Volume to Capacity	0.00	0.01	0.02	0.07								
Queue Length 95th (m)	0.1	0.2	0.5	1.6								
Control Delay (s)	0.1	0.3	10.7	12.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	10.7	12.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			30.8%		ICU Level of Service				A			
Analysis Period (min)			15									

















3: Vidal Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	256	0	1	268	8	13	0	16	13	3	16
Future Volume (Veh/h)	0	256	0	1	268	8	13	0	16	13	3	16
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	278	0	1	291	9	14	0	17	14	3	17
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	300			278			594	580	278	592	576	296
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	300			278			594	580	278	592	576	296
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	100			100			97	100	98	97	99	98
cM capacity (veh/h)	1261			1285			405	425	761	408	428	744
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	278	301	31	34								
Volume Left	0	1	14	14								
Volume Right	0	9	17	17								
cSH	1261	1285	544	530								
Volume to Capacity	0.00	0.00	0.06	0.06								
Queue Length 95th (m)	0.0	0.0	1.4	1.6								
Control Delay (s)	0.0	0.0	12.0	12.3								
Lane LOS		A	B	B								
Approach Delay (s)	0.0	0.0	12.0	12.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			25.4%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	269	10	3	259	5	9	8	8	16	3	9
Future Volume (Veh/h)	5	269	10	3	259	5	9	8	8	16	3	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	292	11	3	282	5	10	9	9	17	3	10
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	287			303			610	600	298	612	604	284
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	287			303			610	600	298	612	604	284
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	98	99	96	99	99
cM capacity (veh/h)	1275			1258			397	412	742	392	410	754
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	308	290	28	30								
Volume Left	5	3	10	17								
Volume Right	11	5	9	10								
cSH	1275	1258	473	469								
Volume to Capacity	0.00	0.00	0.06	0.06								
Queue Length 95th (m)	0.1	0.1	1.4	1.6								
Control Delay (s)	0.2	0.1	13.1	13.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	13.1	13.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			27.8%		ICU Level of Service				A			
Analysis Period (min)			15									

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			L	R	
Traffic Volume (veh/h)	8	5	6	361	169	5
Future Volume (Veh/h)	8	5	6	361	169	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	5	7	392	184	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	592	186	189			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	592	186	189			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	99			
cM capacity (veh/h)	466	856	1385			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	14	399	189			
Volume Left	9	7	0			
Volume Right	5	0	5			
cSH	557	1385	1700			
Volume to Capacity	0.03	0.01	0.11			
Queue Length 95th (m)	0.6	0.1	0.0			
Control Delay (s)	11.6	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.6	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			33.8%	ICU Level of Service	A	
Analysis Period (min)			15			

EXISTING 2022 PM

1: Oxford Street & Thrift Avenue

06/24/2020















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Volume (veh/h)	27	279	79	10	216	135
Future Volume (Veh/h)	27	279	79	10	216	135
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	303	86	11	235	147
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	708	92			97	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	708	92			97	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	69			84	
cM capacity (veh/h)	338	966			1496	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	332	97	382
Volume Left	29	0	235
Volume Right	303	11	0
cSH	831	1700	1496
Volume to Capacity	0.40	0.06	0.16
Queue Length 95th (m)	14.7	0.0	4.2
Control Delay (s)	12.2	0.0	5.4
Lane LOS	B		A
Approach Delay (s)	12.2	0.0	5.4
Approach LOS	B		

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

2: Evrall Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	ESR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	221	3	12	299	25	0	3	5	10	0	10
Future Volume (Veh/h)	3	221	3	12	299	25	0	3	5	10	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	240	3	13	325	27	0	3	5	11	0	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	352			243			623	626	242	618	614	338
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	352			243			623	626	242	618	614	338
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	99	99	97	100	98
cM capacity (veh/h)	1207			1323			389	396	797	393	402	704
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	246	365	8	22								
Volume Left	3	13	0	11								
Volume Right	3	27	5	11								
cSH	1207	1323	578	504								
Volume to Capacity	0.00	0.01	0.01	0.04								
Queue Length 95th (m)	0.1	0.2	0.3	1.0								
Control Delay (s)	0.1	0.4	11.3	12.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.4	11.3	12.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			38.9%		ICU Level of Service				A			
Analysis Period (min)			15									

3: Vidal Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	223	8	13	309	10	8	3	8	10	0	18
Future Volume (Veh/h)	5	223	8	13	309	10	8	3	8	10	0	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	242	9	14	336	11	9	3	9	11	0	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	347			251			646	632	246	636	630	342
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	347			251			646	632	246	636	630	342
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	99	99	97	100	97
cM capacity (veh/h)	1212			1314			369	392	792	379	392	701
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	256	361	21	31								
Volume Left	5	14	9	11								
Volume Right	9	11	9	20								
cSH	1212	1314	484	539								
Volume to Capacity	0.00	0.01	0.04	0.06								
Queue Length 95th (m)	0.1	0.2	1.0	1.4								
Control Delay (s)	0.2	0.4	12.8	12.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.4	12.8	12.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			33.4%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	239	0	10	314	10	0	3	0	26	10	18
Future Volume (Veh/h)	3	239	0	10	314	10	0	3	0	26	10	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	260	0	11	341	11	0	3	0	28	11	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX. platoon unblocked												
vC, conflicting volume	352			260			660	640	260	636	634	346
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	352			260			660	640	260	636	634	346
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	99	100	93	97	97
cM capacity (veh/h)	1207			1304			355	389	779	385	392	697
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	263	363	3	59								
Volume Left	3	11	0	28								
Volume Right	0	11	0	20								
cSH	1207	1304	389	456								
Volume to Capacity	0.00	0.01	0.01	0.13								
Queue Length 95th (m)	0.1	0.2	0.2	3.4								
Control Delay (s)	0.1	0.3	14.3	14.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	14.3	14.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			39.5%		ICU Level of Service				A			
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	4	8	350	347	10
Future Volume (Veh/h)	14	4	8	350	347	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	4	9	380	377	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	780	382	388			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	780	382	388			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	361	665	1170			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	19	389	388			
Volume Left	15	9	0			
Volume Right	4	0	11			
cSH	399	1170	1700			
Volume to Capacity	0.05	0.01	0.23			
Queue Length 95th (m)	1.1	0.2	0.0			
Control Delay (s)	14.5	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.5	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			34.8%	ICU Level of Service	A	
Analysis Period (min)			15			

EXISTING 2032 AM
1: Oxford Street & Thrift Avenue













06/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			P
Traffic Volume (veh/h)	12	220	81	23	167	58
Future Volume (Veh/h)	12	220	81	23	167	58
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	239	88	25	182	63
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	528	100			113	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528	100			113	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	75			88	
cM capacity (veh/h)	448	955			1476	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	252	113	245			
Volume Left	13	0	182			
Volume Right	239	25	0			
cSH	902	1700	1476			
Volume to Capacity	0.28	0.07	0.12			
Queue Length 95th (m)	8.7	0.0	3.2			
Control Delay (s)	10.5	0.0	6.0			
Lane LOS	B		A			
Approach Delay (s)	10.5	0.0	6.0			
Approach LOS	B					
Intersection Summary						
Average Delay			6.8			
Intersection Capacity Utilization			39.9%		ICU Level of Service	A
Analysis Period (min)			15			













2: Evrall Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	191	1	7	216	20	2	0	7	13	2	11
Future Volume (Veh/h)	2	191	1	7	216	20	2	0	7	13	2	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	208	1	8	235	22	2	0	8	14	2	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	257			209			488	486	208	482	475	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	257			209			488	486	208	482	475	246
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	97	100	98
cM capacity (veh/h)	1308			1362			479	478	832	487	485	793
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	211	265	10	28								
Volume Left	2	8	2	14								
Volume Right	1	22	8	12								
cSH	1308	1362	725	583								
Volume to Capacity	0.00	0.01	0.01	0.05								
Queue Length 95th (m)	0.0	0.1	0.3	1.1								
Control Delay (s)	0.1	0.3	10.0	11.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	10.0	11.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			27.0%		ICU Level of Service				A			
Analysis Period (min)			15									













3: Vidal Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	212	0	1	220	6	11	0	13	11	2	13
Future Volume (Veh/h)	0	212	0	1	220	6	11	0	13	11	2	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	230	0	1	239	7	12	0	14	12	2	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	246			230			490	478	230	488	474	242
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	246			230			490	478	230	488	474	242
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	100	98	98	100	98
cM capacity (veh/h)	1320			1338			479	486	809	481	488	796
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	230	247	26	28								
Volume Left	0	1	12	12								
Volume Right	0	7	14	14								
cSH	1320	1338	614	601								
Volume to Capacity	0.00	0.00	0.04	0.05								
Queue Length 95th (m)	0.0	0.0	1.0	1.1								
Control Delay (s)	0.0	0.0	11.1	11.3								
Lane LOS		A	B	B								
Approach Delay (s)	0.0	0.0	11.1	11.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			22.7%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	222	8	2	213	4	7	6	6	13	2	7
Future Volume (Veh/h)	4	222	8	2	213	4	7	6	6	13	2	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	241	9	2	232	4	8	7	7	14	2	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	236			250			500	494	246	502	496	234
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	236			250			500	494	246	502	496	234
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	99	99	97	100	99
cM capacity (veh/h)	1331			1316			473	475	793	469	473	805
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	254	238	22	24								
Volume Left	4	2	8	14								
Volume Right	9	4	7	8								
cSH	1331	1316	543	545								
Volume to Capacity	0.00	0.00	0.04	0.04								
Queue Length 95th (m)	0.1	0.0	1.0	1.0								
Control Delay (s)	0.1	0.1	11.9	11.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.1	11.9	11.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			24.7%		ICU Level of Service				A			
Analysis Period (min)			15									

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	4	5	298	221	4
Future Volume (Veh/h)	6	4	5	298	221	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	4	5	324	240	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	576	242	244			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	242	244			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	477	797	1322			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	11	329	244			
Volume Left	7	5	0			
Volume Right	4	0	4			
cSH	559	1322	1700			
Volume to Capacity	0.02	0.00	0.14			
Queue Length 95th (m)	0.5	0.1	0.0			
Control Delay (s)	11.6	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.6	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization		29.7%		ICU Level of Service		A
Analysis Period (min)			15			

EXISTING 2032 PM

1: Oxford Street & Thrift Avenue













06/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕			↕
Traffic Volume (veh/h)	22	230	65	8	179	110
Future Volume (Veh/h)	22	230	65	8	179	110
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	250	71	9	195	120
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	586	76			80	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	586	76			80	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	75			87	
cM capacity (veh/h)	412	986			1518	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	274	80	315			
Volume Left	24	0	195			
Volume Right	250	9	0			
cSH	879	1700	1518			
Volume to Capacity	0.31	0.05	0.13			
Queue Length 95th (m)	10.2	0.0	3.4			
Control Delay (s)	10.9	0.0	5.2			
Lane LOS	B		A			
Approach Delay (s)	10.9	0.0	5.2			
Approach LOS	B					
Intersection Summary						
Average Delay			6.9			
Intersection Capacity Utilization		44.5%		ICU Level of Service		A
Analysis Period (min)			15			













2: Evrall Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	182	2	10	247	20	0	2	4	8	0	8
Future Volume (Veh/h)	2	182	2	10	247	20	0	2	4	8	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	198	2	11	268	22	0	2	4	9	0	9
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	290			200			513	515	199	509	505	279
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	290			200			513	515	199	509	505	279
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	98	100	99
cM capacity (veh/h)	1272			1372			463	459	842	467	465	760
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	202	301	6	18								
Volume Left	2	11	0	9								
Volume Right	2	22	4	9								
cSH	1272	1372	659	579								
Volume to Capacity	0.00	0.01	0.01	0.03								
Queue Length 95th (m)	0.0	0.2	0.2	0.7								
Control Delay (s)	0.1	0.4	10.5	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.4	10.5	11.4								
Approach LOS			B	B								
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			34.7%		ICU Level of Service				A			
Analysis Period (min)			15									

3: Vidal Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	184	6	11	255	8	6	2	6	8	0	15
Future Volume (Veh/h)	4	184	6	11	255	8	6	2	6	8	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	200	7	12	277	9	7	2	7	9	0	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	286			207			533	522	204	525	520	282
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	286			207			533	522	204	525	520	282
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	100	99	98	100	98
cM capacity (veh/h)	1276			1364			444	454	837	454	455	757
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	211	298	16	25								
Volume Left	4	12	7	9								
Volume Right	7	9	7	16								
cSH	1276	1364	561	610								
Volume to Capacity	0.00	0.01	0.03	0.04								
Queue Length 95th (m)	0.1	0.2	0.7	1.0								
Control Delay (s)	0.2	0.4	11.6	11.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.4	11.6	11.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			29.5%		ICU Level of Service					A		
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	197	0	8	259	8	0	2	0	21	8	15
Future Volume (Veh/h)	2	197	0	8	259	8	0	2	0	21	8	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	214	0	9	282	9	0	2	0	23	9	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	291			214			543	527	214	524	522	286
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	291			214			543	527	214	524	522	286
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	95	98	98
cM capacity (veh/h)	1271			1356			432	453	826	460	455	753
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	216	300	2	48								
Volume Left	2	9	0	23								
Volume Right	0	9	0	16								
cSH	1271	1356	453	527								
Volume to Capacity	0.00	0.01	0.00	0.09								
Queue Length 95th (m)	0.0	0.2	0.1	2.3								
Control Delay (s)	0.1	0.3	13.0	12.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	13.0	12.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			35.0%		ICU Level of Service				A			
Analysis Period (min)			15									

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↑	
Traffic Volume (veh/h)	12	3	6	289	286	8
Future Volume (Veh/h)	12	3	6	289	286	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	7	314	311	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	644	316	320			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	644	316	320			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	100	99			
cM capacity (veh/h)	435	725	1240			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	16	321	320			
Volume Left	13	7	0			
Volume Right	3	0	9			
cSH	470	1240	1700			
Volume to Capacity	0.03	0.01	0.19			
Queue Length 95th (m)	0.8	0.1	0.0			
Control Delay (s)	12.9	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.9	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization	30.0%		ICU Level of Service	A		
Analysis Period (min)	15					

EXISTING 2045 AM

1: Oxford Street & Thrift Avenue

06/24/2020



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		B			B
Traffic Volume (veh/h)	18	346	128	37	260	90
Future Volume (Veh/h)	18	346	128	37	260	90
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	376	139	40	283	98
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	823	159			179	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823	159			179	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	58			80	
cM capacity (veh/h)	274	886			1397	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	396	179	381
Volume Left	20	0	283
Volume Right	376	40	0
cSH	796	1700	1397
Volume to Capacity	0.50	0.11	0.20
Queue Length 95th (m)	21.4	0.0	5.8
Control Delay (s)	13.9	0.0	6.6
Lane LOS	B		A
Approach Delay (s)	13.9	0.0	6.6
Approach LOS	B		

Intersection Summary			
Average Delay		8.4	
Intersection Capacity Utilization		60.5%	ICU Level of Service B
Analysis Period (min)		15	













2: Evrall Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	296	2	12	339	32	3	0	12	20	3	17
Future Volume (Veh/h)	3	296	2	12	339	32	3	0	12	20	3	17
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	322	2	13	368	35	3	0	13	22	3	18
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	403			324			760	758	323	754	742	386
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	403			324			760	758	323	754	742	386
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	98	93	99	97
cM capacity (veh/h)	1156			1236			309	332	718	317	339	662
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	327	416	16	43								
Volume Left	3	13	3	22								
Volume Right	2	35	13	18								
cSH	1156	1236	575	408								
Volume to Capacity	0.00	0.01	0.03	0.11								
Queue Length 95th (m)	0.1	0.2	0.7	2.7								
Control Delay (s)	0.1	0.4	11.4	14.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.4	11.4	14.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			39.0%		ICU Level of Service				A			
Analysis Period (min)			15									

















3: Vidal Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	328	0	2	345	10	17	0	20	17	3	20
Future Volume (Veh/h)	0	328	0	2	345	10	17	0	20	17	3	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	357	0	2	375	11	18	0	22	18	3	22
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	386			357			765	747	357	764	742	380
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	386			357			765	747	357	764	742	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	100	97	94	99	97
cM capacity (veh/h)	1172			1202			307	341	687	310	343	667
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	357	388	40	43								
Volume Left	0	2	18	18								
Volume Right	0	11	22	22								
cSH	1172	1202	441	431								
Volume to Capacity	0.00	0.00	0.09	0.10								
Queue Length 95th (m)	0.0	0.0	2.3	2.5								
Control Delay (s)	0.0	0.1	14.0	14.3								
Lane LOS		A	B	B								
Approach Delay (s)	0.0	0.1	14.0	14.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilization			30.4%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

																								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Lane Configurations																								
Traffic Volume (veh/h)	7	345	13	3	334	7	12	10	10	20	3	12												
Future Volume (Veh/h)	7	345	13	3	334	7	12	10	10	20	3	12												
Sign Control		Free			Free			Stop			Stop													
Grade		0%			0%			0%			0%													
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92												
Hourly flow rate (vph)	8	375	14	3	363	8	13	11	11	22	3	13												
Pedestrians																								
Lane Width (m)																								
Walking Speed (m/s)																								
Percent Blockage																								
Right turn flare (veh)																								
Median type	None					None																		
Median storage veh																								
Upstream signal (m)																								
pX, platoon unblocked																								
vC, conflicting volume	371			389			786			775			382			788			778			367		
vC1, stage 1 conf vol																								
vC2, stage 2 conf vol																								
vCu, unblocked vol	371			389			786			775			382			788			778			367		
tC, single (s)	4.1			4.1			7.1			6.5			6.2			7.1			6.5			6.2		
tC, 2 stage (s)																								
tF (s)	2.2			2.2			3.5			4.0			3.3			3.5			4.0			3.3		
p0 queue free %	99			100			96			97			98			93			99			98		
cM capacity (veh/h)	1188			1170			300			326			665			294			325			678		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																				
Volume Total	397	374	35	38																				
Volume Left	8	3	13	22																				
Volume Right	14	8	11	13																				
cSH	1188	1170	374	368																				
Volume to Capacity	0.01	0.00	0.09	0.10																				
Queue Length 95th (m)	0.2	0.1	2.3	2.6																				
Control Delay (s)	0.2	0.1	15.6	15.9																				
Lane LOS	A	A	C	C																				
Approach Delay (s)	0.2	0.1	15.6	15.9																				
Approach LOS			C	C																				
Intersection Summary																								
Average Delay			1.5																					
Intersection Capacity Utilization			33.4%		ICU Level of Service				A															
Analysis Period (min)			15																					

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	7	9	474	345	7
Future Volume (Veh/h)	10	7	9	474	345	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	8	10	515	375	8
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	914	379	383			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	914	379	383			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	301	668	1175			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	19	525	383			
Volume Left	11	10	0			
Volume Right	8	0	8			
cSH	391	1175	1700			
Volume to Capacity	0.05	0.01	0.23			
Queue Length 95th (m)	1.2	0.2	0.0			
Control Delay (s)	14.7	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.7	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			42.2%	ICU Level of Service	A	
Analysis Period (min)			15			

EXISTING 2045 PM

1: Oxford Street & Thrift Avenue













06/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Traffic Volume (veh/h)	35	362	97	13	275	171
Future Volume (Veh/h)	35	362	97	13	275	171
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	393	105	14	299	186
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	896	112			119	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	896	112			119	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	58			80	
cM capacity (veh/h)	247	941			1469	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	431	119	485			
Volume Left	38	0	299			
Volume Right	393	14	0			
cSH	755	1700	1469			
Volume to Capacity	0.57	0.07	0.20			
Queue Length 95th (m)	27.8	0.0	5.8			
Control Delay (s)	15.9	0.0	5.7			
Lane LOS	C		A			
Approach Delay (s)	15.9	0.0	5.7			
Approach LOS	C					
Intersection Summary						
Average Delay			9.3			
Intersection Capacity Utilization		61.9%		ICU Level of Service		B
Analysis Period (min)			15			

2: Evrall Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	288	3	15	379	32	3	3	7	13	0	13
Future Volume (Veh/h)	3	288	3	15	379	32	3	3	7	13	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	313	3	16	412	35	3	3	8	14	0	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	447			316			796	800	314	792	784	430
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	447			316			796	800	314	792	784	430
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	99	99	95	100	98
cM capacity (veh/h)	1113			1244			295	313	726	298	320	626
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	319	463	14	28								
Volume Left	3	16	3	14								
Volume Right	3	35	8	14								
cSH	1113	1244	455	404								
Volume to Capacity	0.00	0.01	0.03	0.07								
Queue Length 95th (m)	0.1	0.3	0.7	1.7								
Control Delay (s)	0.1	0.4	13.2	14.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.4	13.2	14.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			41.4%		ICU Level of Service				A			
Analysis Period (min)			15									













3: Vidal Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	7	291	10	17	392	13	10	3	10	13	0	23
Future Volume (Veh/h)	7	291	10	17	392	13	10	3	10	13	0	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	316	11	18	426	14	11	3	11	14	0	25
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	440			327			832	814	322	819	812	433
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	440			327			832	814	322	819	812	433
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			96	99	98	95	100	96
cM capacity (veh/h)	1120			1233			272	306	719	283	306	623
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	335	458	25	39								
Volume Left	8	18	11	14								
Volume Right	11	14	11	25								
cSH	1120	1233	382	435								
Volume to Capacity	0.01	0.01	0.07	0.09								
Queue Length 95th (m)	0.2	0.3	1.6	2.2								
Control Delay (s)	0.3	0.5	15.1	14.1								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.3	0.5	15.1	14.1								
Approach LOS			C	B								
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilization			39.8%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	311	0	13	399	13	0	3	0	33	13	23
Future Volume (Veh/h)	3	311	0	13	399	13	0	3	0	33	13	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	338	0	14	434	14	0	3	0	36	14	25
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	448			338			845	820	338	814	813	441
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	448			338			845	820	338	814	813	441
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	99	100	88	95	96
cM capacity (veh/h)	1112			1221			259	305	704	291	308	616
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	341	462	3	75								
Volume Left	3	14	0	36								
Volume Right	0	14	0	25								
cSH	1112	1221	305	358								
Volume to Capacity	0.00	0.01	0.01	0.21								
Queue Length 95th (m)	0.1	0.3	0.2	5.9								
Control Delay (s)	0.1	0.4	16.9	17.7								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	0.4	16.9	17.7								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			47.3%		ICU Level of Service					A		
Analysis Period (min)			15									

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	5	10	467	446	13
Future Volume (Veh/h)	18	5	10	467	446	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	5	11	508	485	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1022	492	499			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1022	492	499			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	99	99			
cM capacity (veh/h)	259	577	1065			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	25	519	499			
Volume Left	20	11	0			
Volume Right	5	0	14			
cSH	291	1065	1700			
Volume to Capacity	0.09	0.01	0.29			
Queue Length 95th (m)	2.1	0.2	0.0			
Control Delay (s)	18.5	0.3	0.0			
Lane LOS	C	A				
Approach Delay (s)	18.5	0.3	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			42.6%	ICU Level of Service	A	
Analysis Period (min)			15			

2022 COMBINED AM

1: Oxford Street & Thrift Avenue

06/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			4
Traffic Volume (veh/h)	13	237	81	24	171	58
Future Volume (Veh/h)	13	237	81	24	171	58
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	258	88	26	186	63
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	536	101			114	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	536	101			114	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	73			87	
cM capacity (veh/h)	442	954			1475	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	272	114	249
Volume Left	14	0	186
Volume Right	258	26	0
cSH	901	1700	1475
Volume to Capacity	0.30	0.07	0.13
Queue Length 95th (m)	9.7	0.0	3.3
Control Delay (s)	10.7	0.0	6.1
Lane LOS	B		A
Approach Delay (s)	10.7	0.0	6.1
Approach LOS	B		

Intersection Summary			
Average Delay		7.0	
Intersection Capacity Utilization		41.2%	ICU Level of Service A
Analysis Period (min)		15	













2: Evrall Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	196	1	8	232	22	2	0	7	13	2	11
Future Volume (Veh/h)	2	196	1	8	232	22	2	0	7	13	2	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	213	1	9	252	24	2	0	8	14	2	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	276			214			512	512	214	508	500	264
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	276			214			512	512	214	508	500	264
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	97	100	98
cM capacity (veh/h)	1287			1356			460	462	827	468	469	775
Direction Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	216	285	10	28								
Volume Left	2	9	2	14								
Volume Right	1	24	8	12								
cSH	1287	1356	713	564								
Volume to Capacity	0.00	0.01	0.01	0.05								
Queue Length 95th (m)	0.0	0.2	0.3	1.2								
Control Delay (s)	0.1	0.3	10.1	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	10.1	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			28.6%		ICU Level of Service				A			
Analysis Period (min)			15									













3: Vidal Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	212	0	1	220	13	11	0	13	27	2	32
Future Volume (Veh/h)	5	212	0	1	220	13	11	0	13	27	2	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	230	0	1	239	14	12	0	14	29	2	35
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	253			230			524	495	230	502	488	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	253			230			524	495	230	502	488	246
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	100	98	94	100	96
cM capacity (veh/h)	1312			1338			440	474	809	470	478	793
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	235	254	26	66								
Volume Left	5	1	12	29								
Volume Right	0	14	14	35								
cSH	1312	1338	584	600								
Volume to Capacity	0.00	0.00	0.04	0.11								
Queue Length 95th (m)	0.1	0.0	1.1	2.8								
Control Delay (s)	0.2	0.0	11.5	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.0	11.5	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilization			25.9%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕			↕			↕			↕			
Traffic Volume (veh/h)	4	237	9	2	220	4	7	6	6	13	2	7		
Future Volume (Veh/h)	4	237	9	2	220	4	7	6	6	13	2	7		
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	4	258	10	2	239	4	8	7	7	14	2	8		
Pedestrians														
Lane Width (m)														
Walking Speed (m/s)														
Percent Blockage														
Right turn flare (veh)														
Median type	None				None									
Median storage veh														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	243				268				525	518	263	526	521	241
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	243				268				525	518	263	526	521	241
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100				100				98	98	99	97	100	99
cM capacity (veh/h)	1323				1296				455	460	776	451	458	798
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	272	245	22	24										
Volume Left	4	2	8	14										
Volume Right	10	4	7	8										
cSH	1323	1296	526	528										
Volume to Capacity	0.00	0.00	0.04	0.05										
Queue Length 95th (m)	0.1	0.0	1.0	1.1										
Control Delay (s)	0.1	0.1	12.1	12.1										
Lane LOS	A	A	B	B										
Approach Delay (s)	0.1	0.1	12.1	12.1										
Approach LOS			B	B										
Intersection Summary														
Average Delay			1.1											
Intersection Capacity Utilization			25.6%	ICU Level of Service	A									
Analysis Period (min)			15											

14: Vidal Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	12	6	26	0
Future Volume (Veh/h)	0	35	12	6	26	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	38	13	7	28	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	61	28	28			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61	28	28			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	99			
cM capacity (veh/h)	938	1047	1585			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	38	20	28			
Volume Left	0	13	0			
Volume Right	38	0	0			
cSH	1047	1585	1700			
Volume to Capacity	0.04	0.01	0.02			
Queue Length 95th (m)	0.9	0.2	0.0			
Control Delay (s)	8.6	4.8	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.6	4.8	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			17.6%	ICU Level of Service	A	
Analysis Period (min)			15			

15: Oxford Street

06/24/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	4	5	313	225	4
Future Volume (Veh/h)	6	4	5	313	225	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	4	5	340	245	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	597	247	249			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	597	247	249			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	100			
cM capacity (veh/h)	464	792	1317			
Direction: Lane #	EB 1	NB 1	SB 1			
Volume Total	11	345	249			
Volume Left	7	5	0			
Volume Right	4	0	4			
cSH	546	1317	1700			
Volume to Capacity	0.02	0.00	0.15			
Queue Length 95th (m)	0.5	0.1	0.0			
Control Delay (s)	11.7	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.7	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			30.5%	ICU Level of Service	A	
Analysis Period (min)			15			

2022 COMBINED PM

1: Oxford Street & Thrift Avenue

06/24/2020















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			F
Traffic Volume (veh/h)	19	372	479	11	230	135
Future Volume (Veh/h)	19	372	479	11	230	135
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	404	521	12	250	147
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1174	527			533	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1174	527			533	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	27			76	
cM capacity (veh/h)	161	551			1035	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	425	533	397
Volume Left	21	0	250
Volume Right	404	12	0
cSH	492	1700	1035
Volume to Capacity	0.86	0.31	0.24
Queue Length 95th (m)	69.2	0.0	7.2
Control Delay (s)	43.2	0.0	7.0
Lane LOS	E		A
Approach Delay (s)	43.2	0.0	7.0
Approach LOS	E		

Intersection Summary			
Average Delay		15.6	
Intersection Capacity Utilization		79.8%	ICU Level of Service D
Analysis Period (min)		15	













2: Evrall Street & Thrift Avenue

06/24/2020

																								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Lane Configurations		↕			↕			↕			↕													
Traffic Volume (veh/h)	3	236	3	12	310	26	0	3	5	11	0	10												
Future Volume (Veh/h)	3	236	3	12	310	26	0	3	5	11	0	10												
Sign Control		Free			Free			Stop			Stop													
Grade		0%			0%			0%			0%													
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92												
Hourly flow rate (vph)	3	257	3	13	337	28	0	3	5	12	0	11												
Pedestrians																								
Lane Width (m)																								
Walking Speed (m/s)																								
Percent Blockage																								
Right turn flare (veh)																								
Median type	None					None																		
Median storage (veh)																								
Upstream signal (m)																								
pX, platoon unblocked																								
vC, conflicting volume	365			260			652			656			258			648			643			351		
vC1, stage 1 conf vol																								
vC2, stage 2 conf vol																								
vCu, unblocked vol	365			260			652			656			258			648			643			351		
tC, single (s)	4.1			4.1			7.1			6.5			6.2			7.1			6.5			6.2		
tC, 2 stage (s)																								
tF (s)	2.2			2.2			3.5			4.0			3.3			3.5			4.0			3.3		
p0 queue free %	100			99			100			99			99			97			100			98		
cM capacity (veh/h)	1194			1304			371			381			780			375			387			692		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																				
Volume Total	263	378	8	23																				
Volume Left	3	13	0	12																				
Volume Right	3	28	5	11																				
cSH	1194	1304	560	480																				
Volume to Capacity	0.00	0.01	0.01	0.05																				
Queue Length 95th (m)	0.1	0.2	0.3	1.1																				
Control Delay (s)	0.1	0.4	11.5	12.9																				
Lane LOS	A	A	B	B																				
Approach Delay (s)	0.1	0.4	11.5	12.9																				
Approach LOS			B	B																				
Intersection Summary																								
Average Delay			0.8																					
Intersection Capacity Utilization			39.7%		ICU Level of Service				A															
Analysis Period (min)			15																					

3: Vidal Street & Thrift Avenue

06/24/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	20	184	6	11	255	26	6	2	6	18	0	27
Future Volume (Veh/h)	20	184	6	11	255	26	6	2	6	18	0	27
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	200	7	12	277	28	7	2	7	20	0	29
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	305			207			592	576	204	570	566	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	305			207			592	576	204	570	566	291
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			98	100	99	95	100	96
cM capacity (veh/h)	1256			1364			394	416	837	418	422	748
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	229	317	16	49								
Volume Left	22	12	7	20								
Volume Right	7	28	7	29								
cSH	1256	1364	517	566								
Volume to Capacity	0.02	0.01	0.03	0.09								
Queue Length 95th (m)	0.4	0.2	0.7	2.2								
Control Delay (s)	0.9	0.4	12.2	12.0								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.9	0.4	12.2	12.0								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			28.3%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/24/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	249	0	10	332	10	0	3	0	26	10	18
Future Volume (Veh/h)	3	249	0	10	332	10	0	3	0	26	10	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	271	0	11	361	11	0	3	0	28	11	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	372			271			691	671	271	667	666	366
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	372			271			691	671	271	667	666	366
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	99	100	92	97	97
cM capacity (veh/h)	1186			1292			338	373	768	367	376	679
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	274	383	3	59								
Volume Left	3	11	0	28								
Volume Right	0	11	0	20								
cSH	1186	1292	373	437								
Volume to Capacity	0.00	0.01	0.01	0.14								
Queue Length 95th (m)	0.1	0.2	0.2	3.5								
Control Delay (s)	0.1	0.3	14.7	14.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	14.7	14.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			40.5%		ICU Level of Service				A			
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	34	14	23	1
Future Volume (Veh/h)	0	22	34	14	23	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	24	37	15	25	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	114	26	26			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	114	26	26			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	98			
cM capacity (veh/h)	861	1050	1588			
Direction: Lane #	EB 1	NB 1	SB 1			
Volume Total	24	52	26			
Volume Left	0	37	0			
Volume Right	24	0	1			
cSH	1050	1588	1700			
Volume to Capacity	0.02	0.02	0.02			
Queue Length 95th (m)	0.5	0.5	0.0			
Control Delay (s)	8.5	5.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.5	5.3	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (veh/h)	14	4	8	360	361	10
Future Volume (Veh/h)	14	4	8	360	361	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	4	9	391	392	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	806	398	403			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806	398	403			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	348	652	1156			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	19	400	403			
Volume Left	15	9	0			
Volume Right	4	0	11			
cSH	386	1156	1700			
Volume to Capacity	0.05	0.01	0.24			
Queue Length 95th (m)	1.2	0.2	0.0			
Control Delay (s)	14.8	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.8	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			35.4%	ICU Level of Service	A	
Analysis Period (min)			15			

2032 COMBINED AM

1: Oxford Street & Thrift Avenue













06/26/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	284	98	29	207	71
Future Volume (Veh/h)	15	284	98	29	207	71
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	309	107	32	225	77
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	650	123			139	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	650	123			139	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	67			84	
cM capacity (veh/h)	366	928			1445	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	325	139	302			
Volume Left	16	0	225			
Volume Right	309	32	0			
cSH	863	1700	1445			
Volume to Capacity	0.38	0.08	0.16			
Queue Length 95th (m)	13.4	0.0	4.2			
Control Delay (s)	11.7	0.0	6.3			
Lane LOS	B		A			
Approach Delay (s)	11.7	0.0	6.3			
Approach LOS	B					
Intersection Summary						
Average Delay			7.4			
Intersection Capacity Utilization		50.5%		ICU Level of Service		A
Analysis Period (min)			15			













2: Evrall Street & Thrift Avenue

06/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	236	1	10	379	27	3	0	9	16	3	13
Future Volume (Veh/h)	3	236	1	10	379	27	3	0	9	16	3	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	257	1	11	412	29	3	0	10	17	3	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	441			258			728	726	258	722	712	426
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	441			258			728	726	258	722	712	426
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	95	99	98
cM capacity (veh/h)	1119			1307			327	347	781	335	353	628
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	261	452	13	34								
Volume Left	3	11	3	17								
Volume Right	1	29	10	14								
cSH	1119	1307	591	417								
Volume to Capacity	0.00	0.01	0.02	0.08								
Queue Length 95th (m)	0.1	0.2	0.5	2.0								
Control Delay (s)	0.1	0.3	11.2	14.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	11.2	14.4								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			37.6%		ICU Level of Service				A			
Analysis Period (min)			15									













3: Vidal Street & Thrift Avenue

06/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	256	0	1	268	15	13	0	16	29	3	35
Future Volume (Veh/h)	5	256	0	1	268	15	13	0	16	29	3	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	278	0	1	291	16	14	0	17	32	3	38
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	307			278			628	597	278	606	589	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	307			278			628	597	278	606	589	299
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	100	98	92	99	95
cM capacity (veh/h)	1254			1285			371	414	761	398	419	741
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	283	308	31	73								
Volume Left	5	1	14	32								
Volume Right	0	16	17	38								
cSH	1254	1285	516	526								
Volume to Capacity	0.00	0.00	0.06	0.14								
Queue Length 95th (m)	0.1	0.0	1.5	3.6								
Control Delay (s)	0.2	0.0	12.4	12.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.0	12.4	12.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			28.7%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	284	11	3	266	5	9	8	8	16	3	9
Future Volume (Veh/h)	5	284	11	3	266	5	9	8	8	16	3	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	309	12	3	289	5	10	9	9	17	3	10
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	294			321			634	625	315	636	628	292
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	294			321			634	625	315	636	628	292
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	98	99	95	99	99
cM capacity (veh/h)	1268			1239			382	399	725	377	397	748
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	326	297	28	30								
Volume Left	5	3	10	17								
Volume Right	12	5	9	10								
cSH	1268	1239	458	455								
Volume to Capacity	0.00	0.00	0.06	0.07								
Queue Length 95th (m)	0.1	0.1	1.5	1.6								
Control Delay (s)	0.2	0.1	13.4	13.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.1	13.4	13.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			28.7%		ICU Level of Service				A			
Analysis Period (min)			15									

14: Vidal Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↓	
Traffic Volume (veh/h)	0	35	12	8	32	0
Future Volume (Veh/h)	0	35	12	8	32	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	38	13	9	35	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	70	35	35			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70	35	35			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	99			
cM capacity (veh/h)	927	1038	1576			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	38	22	35			
Volume Left	0	13	0			
Volume Right	38	0	0			
cSH	1038	1576	1700			
Volume to Capacity	0.04	0.01	0.02			
Queue Length 95th (m)	0.9	0.2	0.0			
Control Delay (s)	8.6	4.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.6	4.3	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization		17.8%		ICU Level of Service		A
Analysis Period (min)			15			

15: Oxford Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	
Traffic Volume (veh/h)	8	5	9	376	273	5
Future Volume (Veh/h)	8	5	9	376	273	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	5	10	409	297	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	728	300	302			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	728	300	302			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	99			
cM capacity (veh/h)	387	740	1259			
Direction: Lane #						
	EB 1	NB 1	SB 1			
Volume Total	14	419	302			
Volume Left	9	10	0			
Volume Right	5	0	5			
cSH	467	1259	1700			
Volume to Capacity	0.03	0.01	0.18			
Queue Length 95th (m)	0.7	0.2	0.0			
Control Delay (s)	13.0	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.0	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			37.0%	ICU Level of Service	A	
Analysis Period (min)			15			

2032 COMBINED PM

1: Oxford Street & Thrift Avenue

06/26/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		B			R
Traffic Volume (veh/h)	19	372	79	11	230	135
Future Volume (Veh/h)	19	372	79	11	230	135
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	404	86	12	250	147
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	739	92			98	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739	92			98	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	58			83	
cM capacity (veh/h)	320	965			1495	
Direction: Lane #						
	WB 1	NB 1	SB 1			
Volume Total	425	98	397			
Volume Left	21	0	250			
Volume Right	404	12	0			
cSH	878	1700	1495			
Volume to Capacity	0.48	0.06	0.17			
Queue Length 95th (m)	20.4	0.0	4.6			
Control Delay (s)	12.9	0.0	5.5			
Lane LOS	B		A			
Approach Delay (s)	12.9	0.0	5.5			
Approach LOS	B					
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization			57.2%		ICU Level of Service	B
Analysis Period (min)			15			













2: Evrall Street & Thrift Avenue

06/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	236	3	12	310	26	0	3	5	11	0	10
Future Volume (Veh/h)	3	236	3	12	310	26	0	3	5	11	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	257	3	13	337	28	0	3	5	12	0	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	365			260			652	656	258	648	643	351
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	365			260			652	656	258	648	643	351
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	99	99	97	100	98
cM capacity (veh/h)	1194			1304			371	381	780	375	387	692
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	263	378	8	23								
Volume Left	3	13	0	12								
Volume Right	3	28	5	11								
cSH	1194	1304	560	480								
Volume to Capacity	0.00	0.01	0.01	0.05								
Queue Length 95th (m)	0.1	0.2	0.3	1.1								
Control Delay (s)	0.1	0.4	11.5	12.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.4	11.5	12.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			39.7%		ICU Level of Service				A			
Analysis Period (min)			15									

3: Vidal Street & Thrift Avenue

06/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	21	223	8	13	309	28	8	3	8	20	0	30
Future Volume (Veh/h)	21	223	8	13	309	28	8	3	8	20	0	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	242	9	14	336	30	9	3	9	22	0	33
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX. platoon unblocked												
vC, conflicting volume	366			251			704	686	246	682	676	351
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	366			251			704	686	246	682	676	351
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			97	99	99	94	100	95
cM capacity (veh/h)	1193			1314			327	359	792	349	364	692
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	274	380	21	55								
Volume Left	23	14	9	22								
Volume Right	9	30	9	33								
cSH	1193	1314	445	497								
Volume to Capacity	0.02	0.01	0.05	0.11								
Queue Length 95th (m)	0.4	0.2	1.1	2.8								
Control Delay (s)	0.8	0.4	13.5	13.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.8	0.4	13.5	13.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilization			31.5%		ICU Level of Service				A			
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	249	0	10	332	10	0	3	0	26	10	18
Future Volume (Veh/h)	3	249	0	10	332	10	0	3	0	26	10	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	271	0	11	361	11	0	3	0	28	11	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	372			271			691	671	271	667	666	366
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	372			271			691	671	271	667	666	366
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	99	100	92	97	97
cM capacity (veh/h)	1186			1292			338	373	768	367	376	679
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	274	383	3	59								
Volume Left	3	11	0	28								
Volume Right	0	11	0	20								
cSH	1186	1292	373	437								
Volume to Capacity	0.00	0.01	0.01	0.14								
Queue Length 95th (m)	0.1	0.2	0.2	3.5								
Control Delay (s)	0.1	0.3	14.7	14.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.3	14.7	14.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			40.5%		ICU Level of Service				A			
Analysis Period (min)			15									

14: Vidal Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↖	↗	
Traffic Volume (veh/h)	0	22	34	18	28	1
Future Volume (Veh/h)	0	22	34	18	28	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	24	37	20	30	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	124	30	31			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	30	31			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	98			
cM capacity (veh/h)	850	1044	1582			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	24	57	31			
Volume Left	0	37	0			
Volume Right	24	0	1			
cSH	1044	1582	1700			
Volume to Capacity	0.02	0.02	0.02			
Queue Length 95th (m)	0.5	0.5	0.0			
Control Delay (s)	8.5	4.8	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.5	4.8	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			19.5%	ICU Level of Service	A	
Analysis Period (min)			15			

15: Oxford Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1	
Traffic Volume (veh/h)	14	4	8	360	361	10
Future Volume (Veh/h)	14	4	8	360	361	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	4	9	391	392	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	806	398	403			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806	398	403			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	348	652	1156			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	19	400	403			
Volume Left	15	9	0			
Volume Right	4	0	11			
cSH	386	1156	1700			
Volume to Capacity	0.05	0.01	0.24			
Queue Length 95th (m)	1.2	0.2	0.0			
Control Delay (s)	14.8	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.8	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			35.4%	ICU Level of Service	A	
Analysis Period (min)			15			

2045 COMBINED AM
1: Oxford Street & Thrift Avenue

06/26/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Volume (veh/h)	19	361	128	38	264	92
Future Volume (Veh/h)	19	361	128	38	264	92
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	392	139	41	287	100
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	834	160			180	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834	160			180	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	56			79	
cM capacity (veh/h)	269	886			1396	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	413	180	387
Volume Left	21	0	287
Volume Right	392	41	0
cSH	793	1700	1396
Volume to Capacity	0.52	0.11	0.21
Queue Length 95th (m)	23.3	0.0	5.9
Control Delay (s)	14.4	0.0	6.6
Lane LOS	B		A
Approach Delay (s)	14.4	0.0	6.6
Approach LOS	B		

Intersection Summary			
Average Delay		8.7	
Intersection Capacity Utilization		61.9%	ICU Level of Service B
Analysis Period (min)		15	














2: Evrall Street & Thrift Avenue

06/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	301	2	13	355	34	3	0	12	20	3	17
Future Volume (Veh/h)	3	301	2	13	355	34	3	0	12	20	3	17
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	327	2	14	386	37	3	0	13	22	3	18
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	423			329			786	785	328	780	768	404
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	423			329			786	785	328	780	768	404
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	98	93	99	97
cM capacity (veh/h)	1136			1231			296	320	713	304	328	646
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	332	437	16	43								
Volume Left	3	14	3	22								
Volume Right	2	37	13	18								
cSH	1136	1231	564	393								
Volume to Capacity	0.00	0.01	0.03	0.11								
Queue Length 95th (m)	0.1	0.3	0.7	2.8								
Control Delay (s)	0.1	0.4	11.6	15.3								
Lane LOS	A	A	B	C								
Approach Delay (s)	0.1	0.4	11.6	15.3								
Approach LOS			B	C								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			40.6%		ICU Level of Service				A			
Analysis Period (min)			15									













3: Vidal Street & Thrift Avenue

06/26/2020

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Volume (veh/h)	5	328	0	2	345	17	17	0	20	33	3	39	
Future Volume (Veh/h)	5	328	0	2	345	17	17	0	20	33	3	39	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	5	357	0	2	375	18	18	0	22	36	3	42	
Pedestrians													
Lane Width (m)													
Walking Speed (m/s)													
Percent Blockage													
Right turn flare (veh)													
Median type		None			None								
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	393			357			798	764	357	777	755	384	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	393			357			798	764	357	777	755	384	
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			100			94	100	97	88	99	94	
cM capacity (veh/h)	1166			1202			281	332	687	303	336	664	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	362	395	40	81									
Volume Left	5	2	18	36									
Volume Right	0	18	22	42									
cSH	1166	1202	417	424									
Volume to Capacity	0.00	0.00	0.10	0.19									
Queue Length 95th (m)	0.1	0.0	2.4	5.3									
Control Delay (s)	0.2	0.1	14.6	15.5									
Lane LOS	A	A	B	C									
Approach Delay (s)	0.2	0.1	14.6	15.5									
Approach LOS			B	C									
Intersection Summary													
Average Delay			2.2										
Intersection Capacity Utilization			32.8%		ICU Level of Service				A				
Analysis Period (min)			15										

4: Blackwood Street & Thrift Avenue

06/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	7	360	14	3	341	7	12	10	10	20	3	12
Future Volume (Veh/h)	7	360	14	3	341	7	12	10	10	20	3	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	391	15	3	371	8	13	11	11	22	3	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	379			406			810	800	398	812	803	375
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	379			406			810	800	398	812	803	375
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	97	98	92	99	98
cM capacity (veh/h)	1179			1153			288	315	651	283	314	671
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	414	382	35	38								
Volume Left	8	3	13	22								
Volume Right	15	8	11	13								
cSH	1179	1153	361	356								
Volume to Capacity	0.01	0.00	0.10	0.11								
Queue Length 95th (m)	0.2	0.1	2.4	2.7								
Control Delay (s)	0.2	0.1	16.0	16.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.1	16.0	16.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			34.3%		ICU Level of Service				A			
Analysis Period (min)			15									

14: Vidal Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	35	12	10	40	0
Future Volume (Veh/h)	0	35	12	10	40	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	38	13	11	43	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
			None	None		
Median storage veh						
Upstream signal (m)						
pX. platoon unblocked						
vC, conflicting volume	80	43	43			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	80	43	43			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	99			
cM capacity (veh/h)	915	1027	1566			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	38	24	43			
Volume Left	0	13	0			
Volume Right	38	0	0			
cSH	1027	1566	1700			
Volume to Capacity	0.04	0.01	0.03			
Queue Length 95th (m)	0.9	0.2	0.0			
Control Delay (s)	8.6	4.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.6	4.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			17.9%	ICU Level of Service	A	
Analysis Period (min)			15			

15: Oxford Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Volume (veh/h)	10	7	9	480	349	7
Future Volume (Veh/h)	10	7	9	480	349	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	8	10	522	379	8
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	925	383	387			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	925	383	387			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	296	664	1171			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	19	532	387			
Volume Left	11	10	0			
Volume Right	8	0	8			
cSH	386	1171	1700			
Volume to Capacity	0.05	0.01	0.23			
Queue Length 95th (m)	1.2	0.2	0.0			
Control Delay (s)	14.8	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.8	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			42.5%	ICU Level of Service	A	
Analysis Period (min)			15			

2045 COMBINED PM

1: Oxford Street & Thrift Avenue

06/26/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Volume (veh/h)	19	361	128	38	264	92
Future Volume (Veh/h)	19	361	128	38	264	92
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	392	139	41	287	100
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (m)						
pX. platoon unblocked						
vC, conflicting volume	834	160			180	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834	160			180	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	56			79	
cM capacity (veh/h)	269	886			1396	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	413	180	387			
Volume Left	21	0	287			
Volume Right	392	41	0			
cSH	793	1700	1396			
Volume to Capacity	0.52	0.11	0.21			
Queue Length 95th (m)	23.3	0.0	5.9			
Control Delay (s)	14.4	0.0	6.6			
Lane LOS	B		A			
Approach Delay (s)	14.4	0.0	6.6			
Approach LOS	B					
Intersection Summary						
Average Delay			8.7			
Intersection Capacity Utilization		61.9%		ICU Level of Service		B
Analysis Period (min)			15			

2: Evrall Street & Thrift Avenue

06/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Lane Configurations		↕			↕			↕			↕													
Traffic Volume (veh/h)	3	301	2	13	355	34	3	0	12	20	3	17												
Future Volume (Veh/h)	3	301	2	13	355	34	3	0	12	20	3	17												
Sign Control		Free			Free			Stop			Stop													
Grade		0%			0%			0%			0%													
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92												
Hourly flow rate (vph)	3	327	2	14	386	37	3	0	13	22	3	18												
Pedestrians																								
Lane Width (m)																								
Walking Speed (m/s)																								
Percent Blockage																								
Right turn flare (veh)																								
Median type	None					None																		
Median storage (veh)																								
Upstream signal (m)																								
pX, platoon unblocked																								
vC, conflicting volume	423			329			786			785			328			780			768			404		
vC1, stage 1 conf vol																								
vC2, stage 2 conf vol																								
vCu, unblocked vol	423			329			786			785			328			780			768			404		
tC, single (s)	4.1			4.1			7.1			6.5			6.2			7.1			6.5			6.2		
tC, 2 stage (s)																								
tF (s)	2.2			2.2			3.5			4.0			3.3			3.5			4.0			3.3		
p0 queue free %	100			99			99			100			98			93			99			97		
cM capacity (veh/h)	1136			1231			296			320			713			304			328			646		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																				
Volume Total	332	437	16	43																				
Volume Left	3	14	3	22																				
Volume Right	2	37	13	18																				
cSH	1136	1231	564	393																				
Volume to Capacity	0.00	0.01	0.03	0.11																				
Queue Length 95th (m)	0.1	0.3	0.7	2.8																				
Control Delay (s)	0.1	0.4	11.6	15.3																				
Lane LOS	A	A	B	C																				
Approach Delay (s)	0.1	0.4	11.6	15.3																				
Approach LOS			B	C																				
Intersection Summary																								
Average Delay			1.3																					
Intersection Capacity Utilization			40.6%		ICU Level of Service				A															
Analysis Period (min)			15																					

















3: Vidal Street & Thrift Avenue

06/26/2020

Movement	EBL	EBT	ESR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	23	291	10	17	392	31	10	3	10	23	0	35
Future Volume (Veh/h)	23	291	10	17	392	31	10	3	10	23	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	316	11	18	426	34	11	3	11	25	0	38
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	460			327			888	868	322	863	856	443
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	460			327			888	868	322	863	856	443
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			95	99	98	90	100	94
cM capacity (veh/h)	1101			1233			241	280	719	261	284	615
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	352	478	25	63								
Volume Left	25	18	11	25								
Volume Right	11	34	11	38								
cSH	1101	1233	349	400								
Volume to Capacity	0.02	0.01	0.07	0.16								
Queue Length 95th (m)	0.5	0.3	1.8	4.2								
Control Delay (s)	0.8	0.5	16.1	15.7								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.8	0.5	16.1	15.7								
Approach LOS			C	C								
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			38.0%		ICU Level of Service					A		
Analysis Period (min)			15									

4: Blackwood Street & Thrift Avenue

06/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	360	14	3	341	7	12	10	10	20	3	12
Future Volume (Veh/h)	7	360	14	3	341	7	12	10	10	20	3	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	391	15	3	371	8	13	11	11	22	3	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	379			406			810	800	398	812	803	375
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	379			406			810	800	398	812	803	375
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	97	98	92	99	98
cM capacity (veh/h)	1179			1153			288	315	651	283	314	671
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	414	382	35	38								
Volume Left	8	3	13	22								
Volume Right	15	8	11	13								
cSH	1179	1153	361	356								
Volume to Capacity	0.01	0.00	0.10	0.11								
Queue Length 95th (m)	0.2	0.1	2.4	2.7								
Control Delay (s)	0.2	0.1	16.0	16.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.1	16.0	16.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			34.3%		ICU Level of Service				A			
Analysis Period (min)			15									

14: Vidal Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	34	23	36	1
Future Volume (Veh/h)	0	22	34	23	36	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	24	37	25	39	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
			None	None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	138	40	40			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	138	40	40			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	98			
cM capacity (veh/h)	835	1032	1570			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	24	62	40			
Volume Left	0	37	0			
Volume Right	24	0	1			
cSH	1032	1570	1700			
Volume to Capacity	0.02	0.02	0.02			
Queue Length 95th (m)	0.5	0.6	0.0			
Control Delay (s)	8.6	4.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.6	4.5	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			19.8%	ICU Level of Service	A	
Analysis Period (min)			15			

15: Oxford Street

06/26/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	2	
Traffic Volume (veh/h)	10	7	9	480	349	7
Future Volume (Veh/h)	10	7	9	480	349	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	8	10	522	379	8
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	925	383	387			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	925	383	387			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	296	664	1171			
Direction: Lane #						
	EB 1	NB 1	SB 1			
Volume Total	19	532	387			
Volume Left	11	10	0			
Volume Right	8	0	8			
cSH	386	1171	1700			
Volume to Capacity	0.05	0.01	0.23			
Queue Length 95th (m)	1.2	0.2	0.0			
Control Delay (s)	14.8	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.8	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		42.5%		ICU Level of Service		A
Analysis Period (min)			15			

