673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT WINDSOR, ON

TRAFFIC IMPACT / PARKING STUDY

RC SPENCER ASSOCIATES INC.
Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6

File No.: 24-1603 January 2025

673 WELLINGTON AVENUE (COMMERCIAL DEVELOPMENT), WINDSOR, ON

TRAFFIC IMPACT / PARKING STUDY (JANUARY 2025)

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INTRODUCTION AND BACKGROUND

A commercial development is proposed as a redevelopment of 673 Wellington Avenue, in Windsor, Ontario. As illustrated on **Figure 1**, the development site is located on the west side of Wellington Avenue, south of Wyandotte Street West and north of Elliott Street West. The study area is defined on **Figure 2**; it includes Wellington Avenue and its intersections with Wyandotte Street West, the proposed site accesses, Elliott Street West, and College Avenue, as well as the intersection of Elliott Street West at Crawford Avenue. Wellington Avenue is a two-lane, north / south collector roadway which runs from University Avenue West at the north to its terminus just north of Tecumseh Road West. Wyandotte Street West is an arterial roadway which provides access across the north end of the Windsor, from west of Huron Church Road to Banwell Road at the east. Elliott Street West, a two-block long local roadway, connects Wellington Avenue to Crawford Avenue. Crawford Avenue is a collector roadway between Riverside Drive West and Tecumseh Road West. College Avenue is an east / west collector roadway between Prince Road and Crawford Avenue.

The site plan is provided on **Figure 3**; the proposed development consists of a 19,187 sq. ft. grocery store within the refurbished existing building. A total of 43 parking spaces (including two accessible spaces) and four bicycle parking spaces will be provided for the entire site. An existing loading bay will remain for deliveries. Vehicles entering the site will use the existing northerly site access at Wellington Avenue; the southerly access will be used for egress only.

The purpose of this traffic impact / parking study is to examine the potential implications of the proposed redevelopment on area traffic operations, particularly on nearby intersections. Additionally, because the proposed parking supply is less than the City's by-law requirements demand, a variance is required for the parking supply. All pertinent correspondence with the City of Windsor is included in **Appendix A**.

TRAFFIC DATA COLLECTION

As provided in **Appendix B**, on 14 May and 1 June 2024, RC Spencer Associates Inc. collected weekday / weekend turning movement counts at the following intersections:

- Wyandotte Street West at Wellington Avenue;
- Elliott Street West at Wellington Avenue;
- College Avenue at Wellington Avenue; and
- Elliott Street West at Crawford Avenue.

METHODOLOGY

The baseline traffic data provided the basis for industry-standard traffic operations analysis; the software package utilized for the analysis (Synchro 11) calculates various parameters of intersection performance, such as level of service (LOS), intersection capacity utilization (ICU), control delay, and queue lengths on individual approaches. The traffic modelling is based on the Highway Capacity Manual (6th Edition).

Signalized level of service results are reported based on the following industry standard:

Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 - 20	Stable Flow (slight delays)
C	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

Unsignalized level of service results are reported based on the following industry standard:

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

TRIP GENERATION AND DISTRIBUTION

Trip generation for the redevelopment was estimated from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). The dataset's average rate was used because the fitted curve equation was not provided for the AM peak hour; the General Urban / Suburban setting was also applied. Per **Appendix C**, ITE Land Use Code 850 – Supermarket is the most appropriate code for the proposed 19,187 sq. ft. grocery store; it provides generation rates of 2.86 trips per 1000 Sq. Ft. GFA in the AM peak hour, with 59% entering and 41% exiting, 8.95 trips per 1000 Sq. Ft. GFA in the PM peak hour, with 50% entering and 50% exiting, and 10.10 trips per 1000 Sq. Ft. GFA in the Saturday peak hour, with 50% entering and 50% exiting.

Accordingly, the total trips generated by the proposed development are estimated to be 32 entering and 22 exiting during the AM peak hour, 85 entering and 85 exiting during the PM peak hour, and 96 entering and 96 exiting during the Saturday peak hour.

Although this report conservatively considers the "worst-case" traffic demand scenarios (with respect to trip generation, modal split, and assignment), it is likely that the number of "new" on-street auto trips will be much lower than estimated. Given the development's proximity to other significant retail / commercial land uses, particularly along Wyandotte Street West, the traffic impact of the subject development on Wellington Avenue may be significantly reduced. If modal split reductions were applied, the "additional" trips generated by the proposed development are expected to be considerably lower during the respective peak hours. Per the City of Windsor's Active Transportation Master Plan (page 35), modal split for the site could be approximately 16% within a ten-year horizon (if the target for walking, cycling, and transit is reached); currently, it is assumed to be approximately 8%. Sidewalks are already provided on both sides of Wyandotte Street West and on the west side of Wellington Avenue. No dedicated bike lanes are provided on Wyandotte Street West or Wellington Avenue; however, there are bike lanes on College Avenue. Windsor Transit also provides a few routes within the study area. Route 2 provides a stop on Wyandotte Street West at the corner of Wellington Avenue, less than 100m from the site; connections to other routes are also available on Crawford Avenue.

Site generated traffic was distributed to and from the site in accordance with origin-destination matrices derived from the adjacent intersection turning movement counts. The resulting site generated turning movements are illustrated on **Figure 4**.

CAPACITY AND LEVEL OF SERVICE ANALYSIS

Detailed Synchro 11 analyses were carried out with respect to the following traffic scenarios:

- Existing Traffic;
- Total Traffic 2029 (Background Traffic 2029 + Site Generated Traffic);
- Total Traffic 2034 (Background Traffic 2034 + Site Generated Traffic).

To be conservative, the analysis was carried out assuming full build-out conditions for the 2029 and 2034 horizon years. As requested by the City of Windsor, background traffic was increased by 1.7% per year, compounded annually, for the 2029 and 2034 horizon forecasts. Current signal timings provided by the City of Windsor were applied to all signalized intersection scenarios. **Figures 5 to 7** summarize existing and total traffic estimates that result from adding site generated traffic to 2029 and 2034 horizon year forecasts; the effect of adding site generated traffic and background traffic growth at each intersection can be found in **Appendix D**.

The resulting Synchro 11 simulation reports are provided in **Appendix E**; the results are summarized as follows:

Wyandotte Street West at Wellington Avenue

The intersection of Wyandotte Street West at Wellington Avenue is currently signalized. The northbound and southbound legs consist of a shared left turn / through / right turn lane, while the eastbound and westbound legs consist of a four-lane cross-section (with a shared left turn / through lane and a shared through / right turn lane). Based on the level of service results provided in **Tables 1 and 2**, the intersection is currently operating at good levels of service during each peak hour. Accordingly, it is anticipated that the addition of site generated traffic will have a nominal impact on horizon traffic operations; all approaches remain satisfactory.

Table 1: Overall Signalized Intersection Level of Service – Wyandotte Street W. at Wellington Avenue

Scenario	Wyandotte Street West at Wellington Avenue		
	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Existing Traffic	A	A	A
Total Traffic 2029	A	B	B
Total Traffic 2034	A	B	B

Table 2: Level of Service by Approach – Wyandotte Street West at Wellington Avenue

Scenario	Wyandotte Street West at Wellington Avenue											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	A	A	B	B	A	A	B	C	A	A	B	B
Total Traffic 2029	A	A	B	B	A	B	C	C	A	B	C	B
Total Traffic 2034	A	A	B	C	A	B	C	C	A	B	C	B

Northerly Site Access at Wellington Avenue

The proposed northerly site access at Wellington Avenue will be comprised of a 6.0m-wide ingress lane. Based on the level of service results provided in **Table 3**, it is anticipated that this access will operate at a good level of service in all horizon traffic scenarios.

Table 3: Level of Service by Approach – Northerly Site Access at Wellington Avenue

Scenario	Northerly Site Access at Wellington Avenue											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Total Traffic 2029	-	-	A	A	-	-	A	A	-	-	A	A
Total Traffic 2034	-	-	A	A	-	-	A	A	-	-	A	A

Site Egress at Wellington Avenue

The proposed site egress at Wellington Avenue will be stop-controlled on the eastbound approach, with a 6.0m egress lane. Based on the level of service results provided in **Table 4**, it is anticipated that this access will operate at a good level of service in all horizon traffic scenarios.

Table 4: Level of Service by Approach – Site Egress at Wellington Avenue

Scenario	Site Egress at Wellington Avenue											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Total Traffic 2029	A	-	A	A	A	-	A	A	B	-	A	A
Total Traffic 2034	A	-	A	A	B	-	A	A	B	-	A	A

Elliott Street West at Wellington Avenue

Elliott Street West at Wellington Avenue is stop-controlled on the westbound approach, with shared lanes on all approaches. Based on the level of service results provided in **Table 5**, the intersection is expected to operate at a good level of service in all horizon traffic scenarios; the addition of site generated traffic will have a nominal impact on horizon traffic operations.

Table 5: Level of Service by Approach – Elliott Street West at Wellington Avenue

Scenario	Elliott Street West at Wellington Avenue											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	-	A	A	A	-	A	A	A	-	A	A	A
Total Traffic 2029	-	A	A	A	-	B	A	A	-	B	A	A
Total Traffic 2034	-	A	A	A	-	B	A	A	-	B	A	A

College Avenue at Wellington Avenue

The intersection of College Avenue at Wellington Avenue is currently signalized. The eastbound and westbound legs each consist of a dedicated left turn lane and a through / right turn lane, while the northbound and southbound legs consist of a shared lane on both approaches. The intersection is currently operating at a good level of service. Based on the level of service results provided in **Tables 6 and 7**, the addition of site generated traffic and background traffic growth will have a nominal impact on horizon traffic operations. Even in the most critical traffic scenario, the level of service results will remain satisfactory on the minor street approaches (and the overall intersection level of service will remain at a LOS A). Accordingly, signal timing improvements are not recommended.

Table 6: Overall Signalized Intersection Level of Service – College Avenue at Wellington Avenue

Scenario	College Avenue at Wellington Avenue		
	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Existing Traffic	A	A	A
Total Traffic 2029	A	A	A
Total Traffic 2034	A	A	A

Table 7: Level of Service by Approach – College Avenue at Wellington Avenue

Scenario	College Avenue at Wellington Avenue											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	A	A	C	B	A	A	C	B	A	A	C	B
Total Traffic 2029	A	A	C	B	A	A	C	B	A	A	C	B
Total Traffic 2034	A	A	C	B	A	A	C	B	A	A	C	B

Elliott Street West at Crawford Avenue

Elliott Street West at Crawford Avenue is stop-controlled on the eastbound approach, with shared lanes on all approaches. Based on the level of service results provided in **Table 8**, the intersection is expected to operate at a satisfactory level of service in all horizon traffic scenarios; the addition of site generated traffic and background traffic growth will have a nominal impact on horizon traffic operations.

Table 8: Level of Service by Approach – Elliott Street West at Crawford Avenue

Scenario	Elliott Street West at Crawford Avenue											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	B	-	A	A	C	-	A	A	B	-	A	A
Total Traffic 2029	C	-	A	A	C	-	A	A	C	-	A	A
Total Traffic 2034	C	-	A	A	C	-	A	A	C	-	A	A

SIGHT LINE ANALYSIS

A sight line analysis was completed for the proposed site egress at Wellington Avenue; the review was completed in accordance with the TAC Geometric Design Guide for Canadian Roads (2017). A design speed of 60 km/h was assumed based on the posted speed limit of 50 km/h. The design vehicle, a combination truck (delivery vehicle), was positioned at 4.4m from the edge of the nearest travel lane, as recommended by the TAC guideline.

As calculated in **Appendix F**, the intersection sight distance was determined to be 192m for the worst-case left turn egress maneuver, while intersection sight distance for a right turn egress maneuver was determined to be 175m. Based on the resulting sight lines illustrated on **Figure 8**, it is the engineers' opinion that there is sufficient sight distance in both directions for safe egress from the proposed site egress; the proposed site egress poses no undue hazard to the safety of traffic operations at this location.

ITE PARKING GENERATION MANUAL VS. WINDSOR BYLAW REQUIREMENTS

A total of 43 parking spaces (including two accessible spaces) and four bicycle parking spaces are proposed to accommodate the commercial redevelopment. The City of Windsor bylaw states that 1 parking space per 36 sq. m. (387.5 sq. ft) is required for the proposed commercial land use. Therefore, the City's zoning by-law requires a minimum of 49 parking spaces; effectively, the bylaw requires six more parking spaces than the currently proposed parking supply.

To evaluate whether the proposed parking supply can accommodate the anticipated peak parking demand, the ITE Parking Generation Manual (6th Edition) was consulted. According to the ITE manual, peak parking demand for supermarkets is estimated based on the building's square footage. Land Use Code 850 (Supermarket - Dense Multi-Use Urban) is the most appropriate code for the proposed grocery store. According to the ITE, a dense multi-use urban area is a fully (or nearly) developed area, with diverse and interacting complementary land uses, good pedestrian connectivity, and convenient frequent transit; this setting provides a more realistic approach to the parking estimates. The subject land use code provides a peak parking demand rate of 2.01 spaces per 1,000 Sq. Ft. GFA (gross floor area) on a Monday to Thursday, as well as a peak parking demand rate of 2.36 spaces per 1,000 Sq. Ft. GFA on a Saturday. As provided in **Appendix G**, for a 19,187 sq. ft. grocery building, the ITE references suggest that a minimum of 36 parking spaces should be sufficient to meet the regular weekday peak parking demand, while a minimum of 45 parking spaces should be sufficient to meet the Saturday peak parking demand. This leaves a potential deficiency of only two parking spaces for the Saturday peak.

Transit and active transportation options were also evaluated. Currently, Windsor Transit Route 2 provides a stop near the development (at the intersection of Wyandotte Street West at Wellington Avenue). Other transit routes are also provided within the surrounding area. The following figure shows the transit routes located around the subject site:

Active transportation facilities are also provided within the study area; sidewalks are provided on both sides of Wyandotte Street West and College Avenue, on the west side of Wellington Avenue and Crawford Avenue, and on the east side of Crawford Avenue north of Elliott Street West; none are provided on Elliott Street West. Area walkability is good, and several destinations are within walking distance of the development (such as coffee shops, fast-food venues, and commercial establishments, etc.); the site is located close to numerous residential areas which would encourage pedestrian patronage. Accordingly, increased pedestrian activity could result in an increased modal split (further minimizing the need for on-site parking).

Although not required by the City of Windsor, the developer is proposing four on-site bicycle parking spaces to supplement the on-site vehicle parking; this provision should encourage increased resident use of alternative active transportation options.

Realistically, the proposed parking supply is in keeping with current sustainability policies intended to encourage non-auto modes of travel, particularly within built-out and mature neighbourhoods. Furthermore, by limiting the availability of on-site vehicle parking, the developer is effectively encouraging an increased modal split for the subject area.

Finally, it must be noted that some on-street parking is permitted within the area. Parking is permitted on the east side of Wellington Avenue near the site; although parking appears to be prohibited on the west side (alongside the site), further south, no signs prohibit on-street parking.

Therefore, based on the area transportation considerations, it is the engineers' opinion that the proposed development's parking supply (of 43 on-site surface parking spaces) could adequately accommodate the subject development's peak parking demand.

SUMMARY AND CONCLUSIONS

A commercial development is proposed to redevelop 673 Wellington Avenue, in Windsor, Ontario. The development site is located on the west side of Wellington Avenue, south of Wyandotte Street West and north of Elliott Street West. The study area includes Wellington Avenue and its intersections with Wyandotte Street West, the proposed site accesses, Elliott Street West, and College Avenue, as well as the intersection of Elliott Street West at Crawford Avenue. The proposed development consists of a 19,187 sq. ft. grocery store within the refurbished existing building. A total of 43 parking spaces (including two accessible spaces) and four bicycle parking spaces will be provided for the entire site. An existing loading bay will remain for deliveries. Vehicles entering the site will use the existing northerly site access at Wellington Avenue; the southerly access will be used for egress only.

Using recently obtained turning movement counts and applying the best available trip generation and distribution data and methodologies, an analysis was completed to measure the operational impact of the proposed development on area traffic operations. Upon completion of the analysis, it was concluded that:

- The existing signalized intersection of Wyandotte Street West at Wellington Avenue is currently operating at a good level of service; the addition of site generated traffic will have a nominal impact on horizon traffic operations;
- The proposed site ingress at Wellington Street is expected to operate at good levels of service in all horizon scenarios;
- The proposed site egress at Wellington Street is expected to operate at good levels of service in all horizon scenarios;
- The proposed westbound stop-controlled intersection of Elliott Street West at Wellington Avenue is expected to operate at a good level of service in all horizon scenarios;

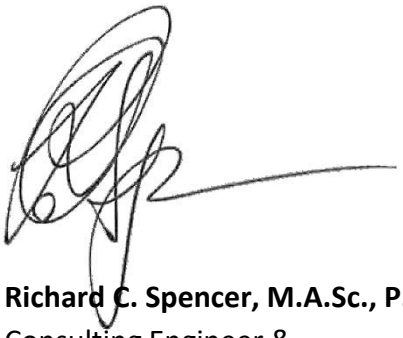
- The existing signalized intersection of College Avenue at Wellington Avenue is currently operating at a good level of service; the addition of site generated traffic will have a nominal impact on horizon traffic operations;
- The existing eastbound stop-controlled intersection of Elliott Street West at Crawford Avenue is currently operating at a satisfactory level of service; the addition of site generated traffic will have a nominal impact on horizon traffic operations;
- There is sufficient sight distance in both directions for safe egress from the site; the proposed access poses no undue hazard to the safety of traffic operations at this location;
- The proposed development's parking supply (of 43 on-site surface parking spaces) could adequately accommodate the subject development's peak parking demand.

Therefore, based on the results of the technical work, it is the engineers' opinion that the proposed development will not adversely impact area traffic operations; the proposed 43-space parking supply could adequately accommodate the subject development's peak parking demand.

All of which is respectfully submitted,

RC Spencer Associates Inc.

Aaron D. Blata, M.Eng., P.Eng., PTOE, RSP1
Consulting Engineer, Road Safety Professional &
Professional Traffic Operations Engineer
Associate / Leamington Office Manager



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Professional Engineers Ontario

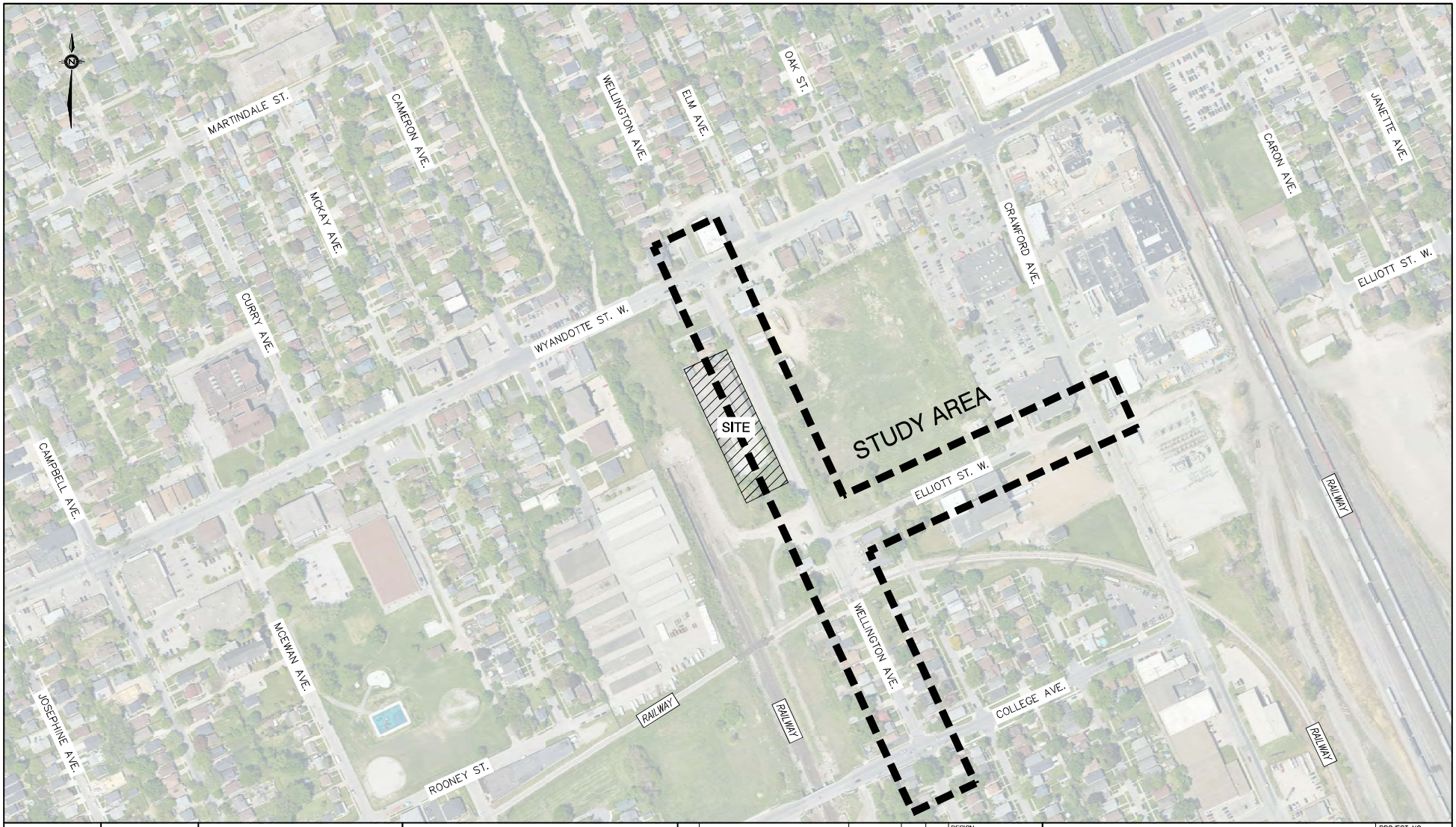
NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	30 JAN 2025	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	08 JULY 2024	L.D.	A.D.B.

DESIGN L.D.
CHECKED A.D.B.
DRAWN L.D.
CHECKED A.D.B.
DATE JULY 2024
SCALE N.T.S.

673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

AREA PLAN

PROJECT NO. 24-1603
FIGURE NO. 1
OF 8



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673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

STUDY AREA

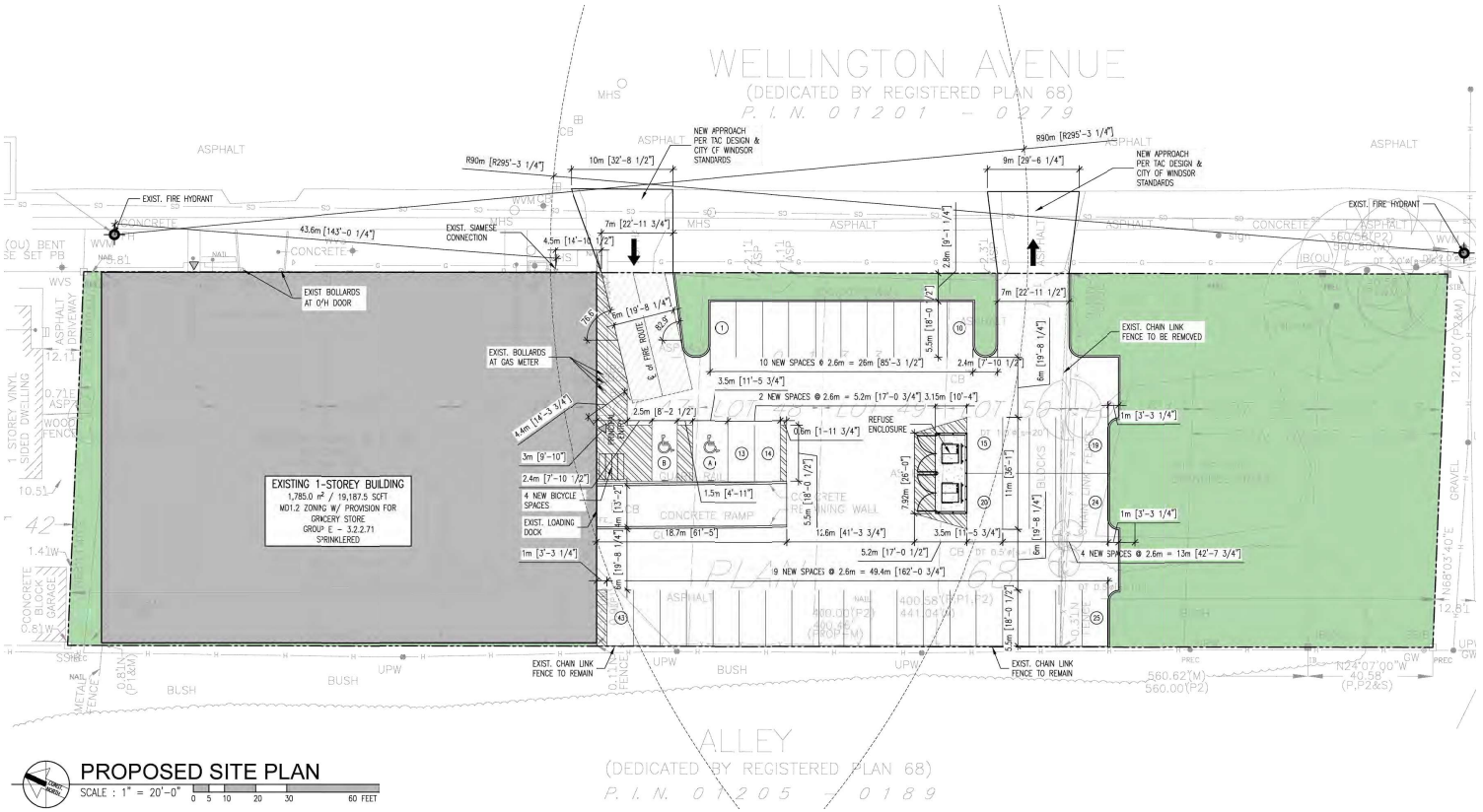
PROJECT NO. 24-1603
FIGURE NO. 2
OF 8

ITEM	SITE DATA MATRIX						OBC REFERENCE
1	PROJECT DESCRIPTION JRAGIT MARKET WAREHOUSE CONVERSION TO GORCERY STORE		☐ NEW ☐ ADDITION ☐ ALTERATION ☒ CHANGE OF USE				☒ PART 3 ☐ PART 9 ☒ PART 11
2	ZONING DESIGNATION:		MD1.2 W/ NEW PROVISION FOR GROCERY STORE				
3	EXISTING LAND USE:		MD1.2 – WAREHOUSE				
4	MAJOR OCCUPANCY(S):		RETAIL STORE – GROCERY				
5	BUILDING CLASSIFICATION:		GROUP E, 3.2.2.71				
6	SITE AREA		BUILDING AREA		GROSS AREA		
	EXISTING:	4,951.7 m²	EXISTING:	1,785.0 m²	EXISTING:	1,785.0 m²	
	PROPOSED:	N/A	PROPOSED:	N/A	PROPOSED:	N/A	
	TOTAL:	4,951.7 m²	TOTAL:	1,785.0 m²	TOTAL:	1,785.0 m²	
7	LOT COVERAGE		MINIMUM LOT WIDTH		BUILDING HEIGHT		
	MAXIMUM:	N/A	REQUIRED:	N/A	MAXIMUM:	N/A	
	PROVIDED:	N/A	PROVIDED:	N/A	PROVIDED:	N/A	
8	MINIMUM FRONT YARD DEPTH		MINIMUM REAR YARD DEPTH		MINIMUM SIDE YARD DEPTH		
	REQUIRED:	N/A	REQUIRED:	N/A	REQUIRED:	N/A	
	PROVIDED:	N/A	PROVIDED:	N/A	PROVIDED:	N/A	
9	PARKING						
	USE CLASSIFICATION:						
	VEHICLES SPACES (2.5m x 5.5m)		BICYCLE SPACES (0.6m x 2.5m)		LOADING SPACES (3.5m x 7.5m)		
	EXISTING:	0 SPACES	EXISTING:	0 SPACES	EXISTING:	1 SPACES	
	PROPOSED:	43 SPACES	PROPOSED:	4 SPACES	PROPOSED:	0 SPACES	
	REQUIRED:	80 SPACES	REQUIRED:	4 SPACES	REQUIRED:	1 SPACES	
	TOTAL:	43 SPACES (INCLUDING ACCESSIBLE)	TOTAL:	4 SPACES	TOTAL:	1 SPACES	
	ACCESSIBLE TYPE A 3.5m (3.5m x 5.5m)		ACCESSIBLE TYPE B (2.5m x 5.5m)				
	EXISTING:	0 SPACES	EXISTING:	0 SPACES			
	PROPOSED:	1 SPACES	PROPOSED:	1 SPACES			
	REQUIRED:	1 SPACES	REQUIRED:	1 SPACES			
	TOTAL:	1 SPACES	TOTAL:	1 SPACES			
10	LANDSCAPED AREA		CURBING LENGTH		SCREENING FENCE LENGTH		
	EXISTING:	1372.4 m²	EXISTING:	37.4 m	EXISTING:	34.4 m	
	PROPOSED:	60.7 m² 1.2 %	PROPOSED:	99.6 m	PROPOSED:	N/A m	
	REQUIRED:	15.0 %	TOTAL:	137.0 m	TOTAL:	34.4 m	
	TOTAL:	1,433.1m² 28.9 %					

Should archaeological deposits be found during construction activities, all work in the area must stop immediately and the City's Manager of Cultural Affairs and the Ontario Ministry of Tourism, Culture and Sport must be notified, and clearance given by the Ministry.

In the event that human remains are encountered during construction, all work in that area must be stopped immediately and the site secured. The local police or coroner must be contacted to determine whether or not the skeletal remains are human, and whether the remains constitute a part of a crime scene. The Ontario Ministry of Tourism, Culture and Sport and the Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer Services must then be notified, and clearance be given by the Ministry of Tourism, Culture and Sport.

A building shall not be located beneath existing above ground electrical conductors. Where a building is to be constructed in proximity to above ground electrical conductors, horizontal clearances between buildings and conductors shall comply with Subsection 3.1.19. of the Ontario Building Code.



PROPOSED SITE PLAN

SCALE : 1" = 20'-0" 0 5 10 20 30 60 FEET

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SCALE	N.T.S.

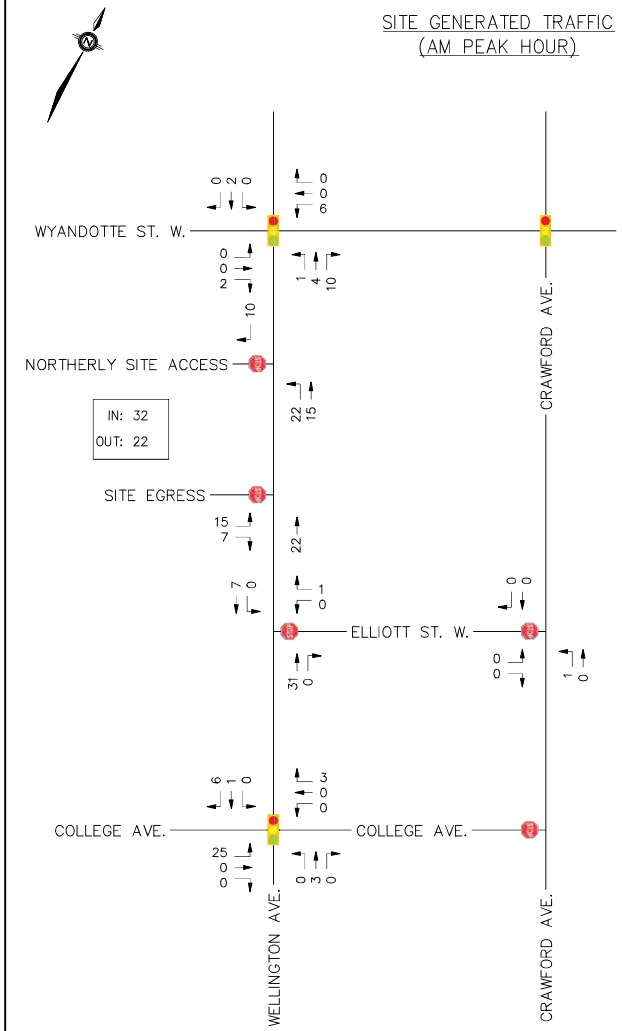
673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

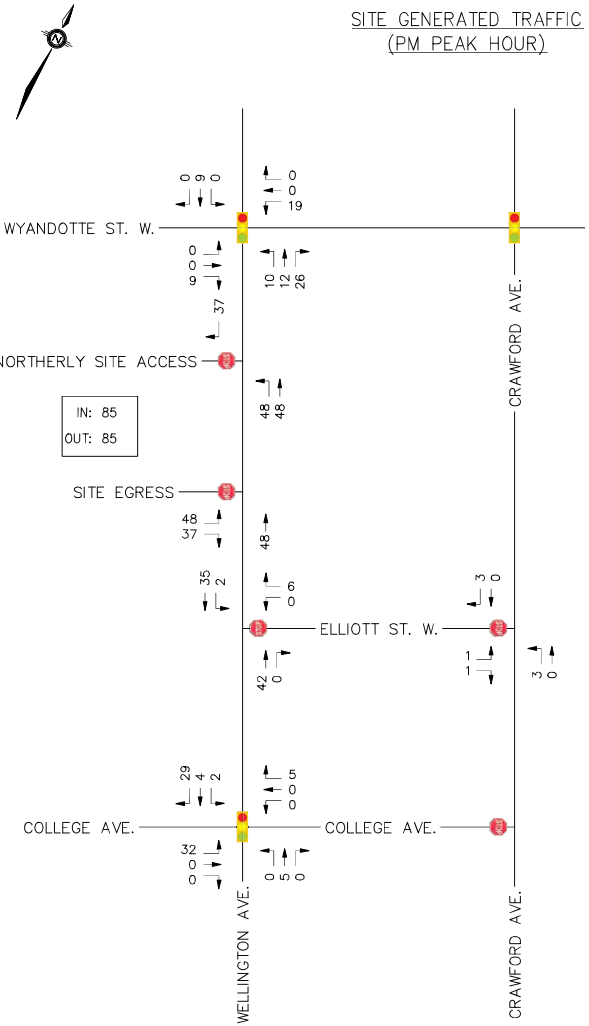
SITE PLAN

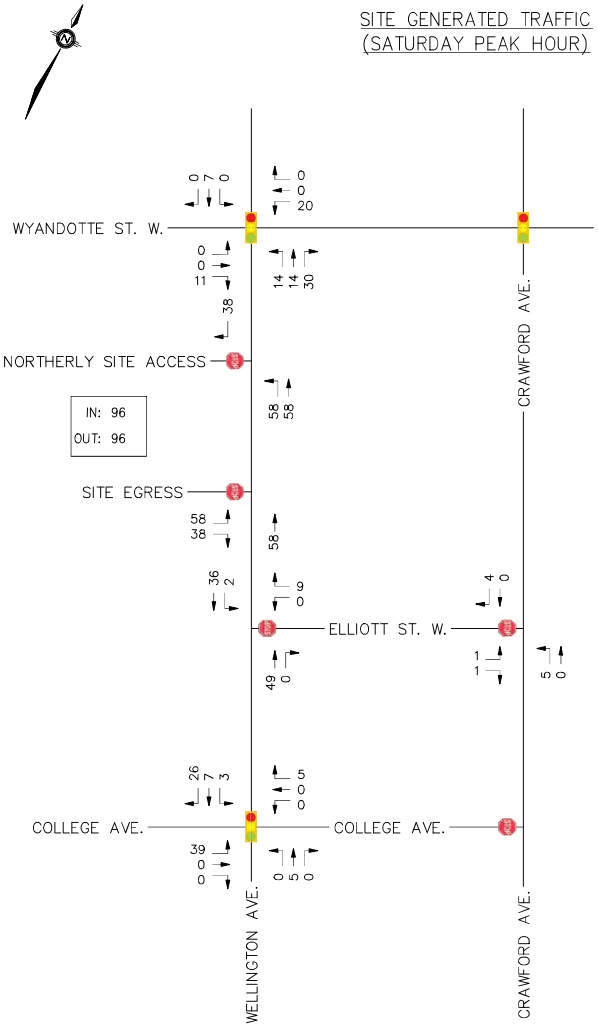
PROJECT NO. 24-1603

FIGURE NO. 3

OF 8







RC SPENCER ASSOCIATES INC.
Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6
Professional Engineers Ontario

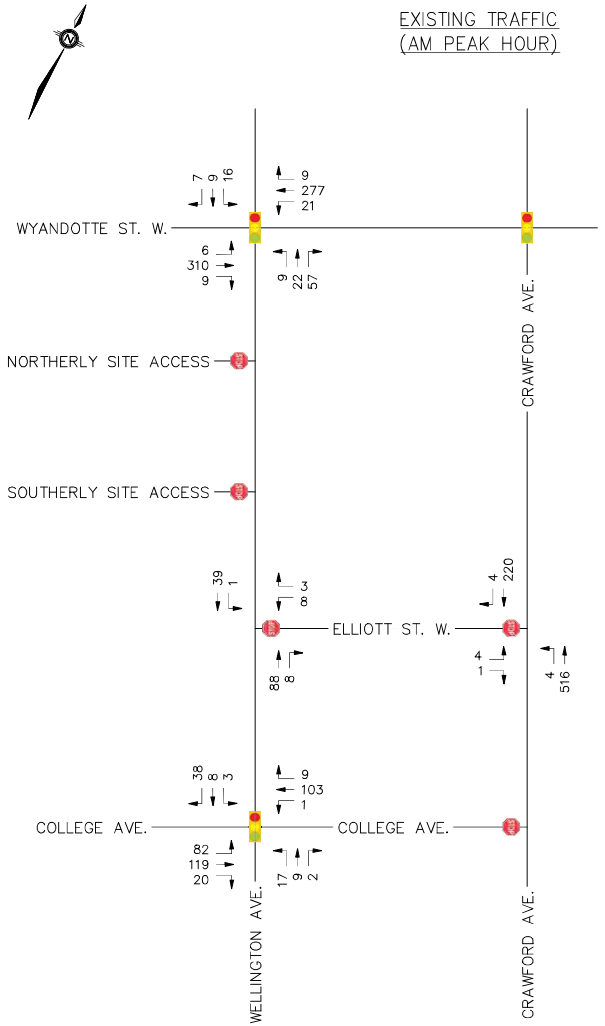
NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	30 JAN 2025	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	08 JULY 2024	L.D.	A.D.B.

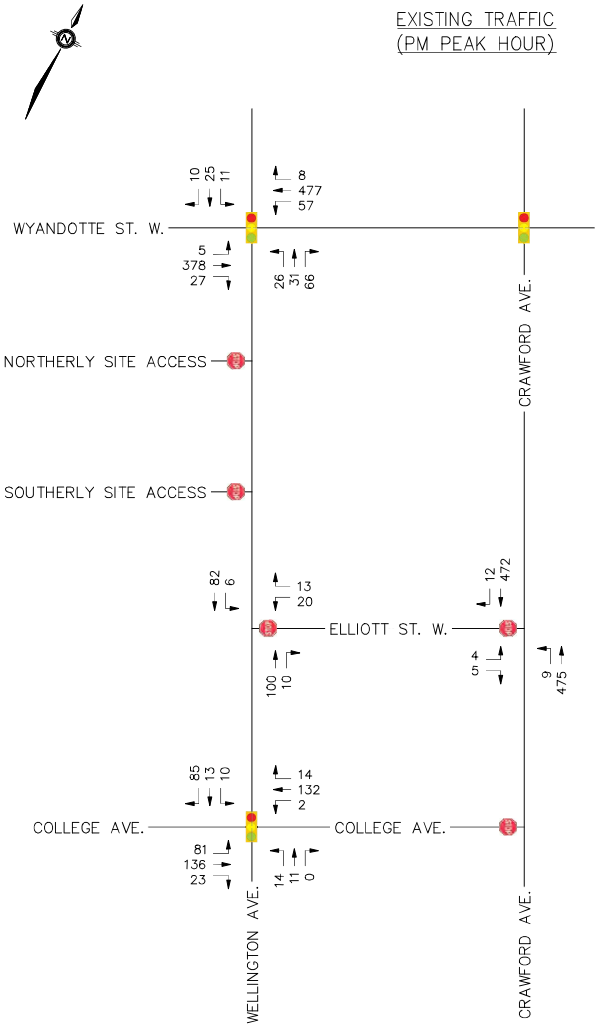
DESIGN L.D.
CHECKED A.D.B.
DRAWN L.D.
CHECKED A.D.B.
DATE JULY 2024
SCALE N.T.S.

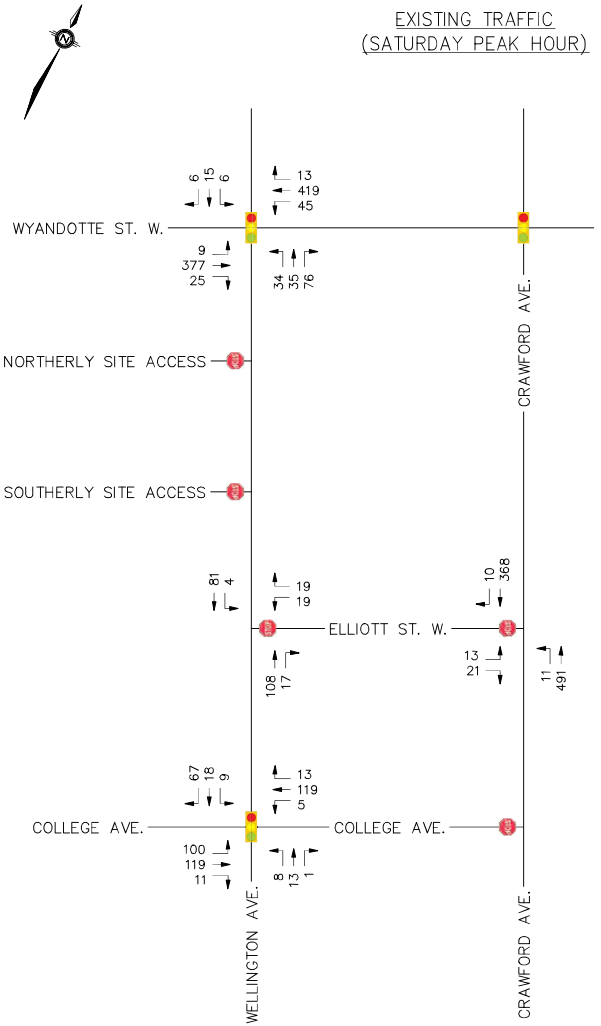
673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

SITE GENERATED TRAFFIC (AM/PM/SATURDAY PEAK HOUR)

PROJECT NO. 24-1603
FIGURE NO. 4
OF 8







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Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6
Professional Engineers Ontario

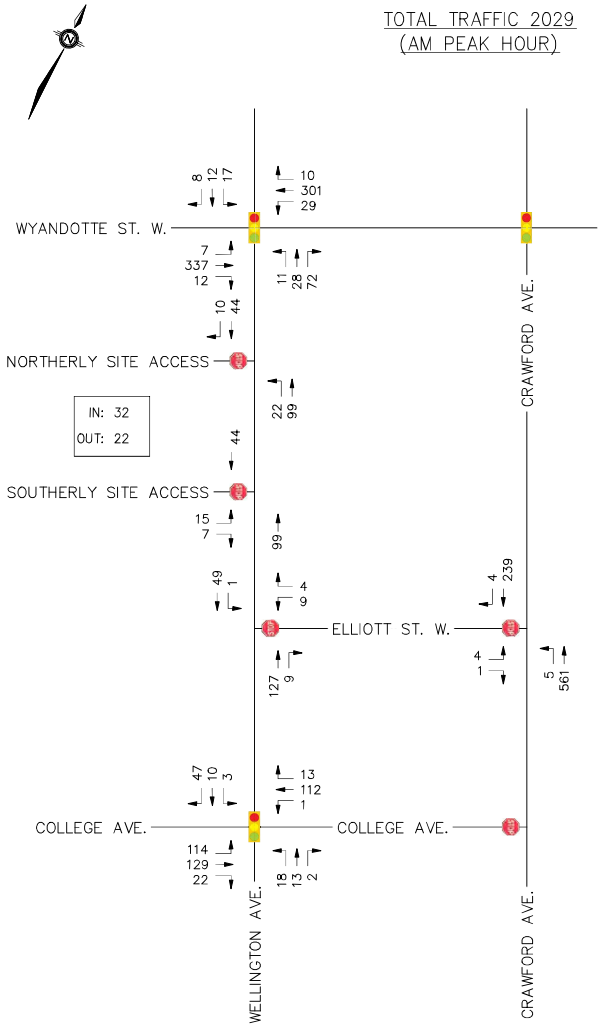
NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	30 JAN 2025	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	08 JULY 2024	L.D.	A.D.B.

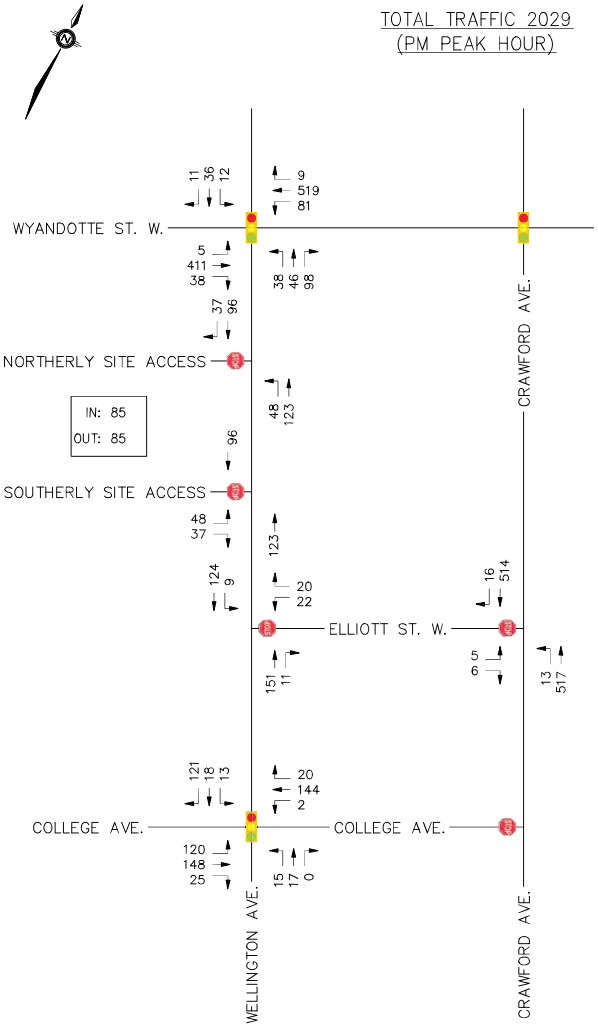
DESIGN L.D.
CHECKED A.D.B.
DRAWN L.D.
CHECKED A.D.B.
DATE JULY 2024
SCALE N.T.S.

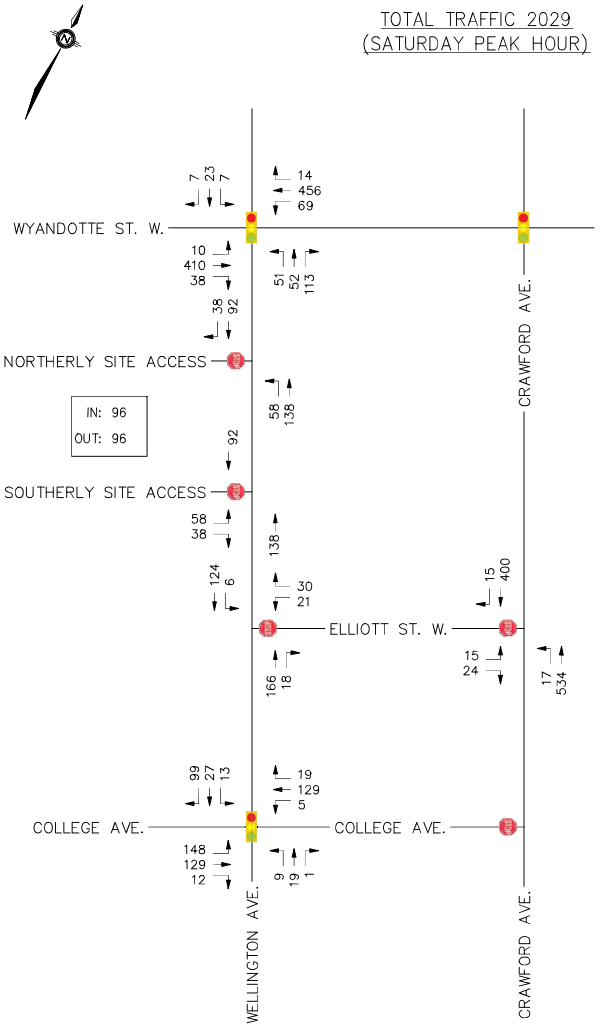
673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

EXISTING TRAFFIC (AM/PM/SATURDAY PEAK HOUR)

PROJECT NO. 24-1603
FIGURE NO. 5
OF 8







RC SPENCER ASSOCIATES INC.
Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6
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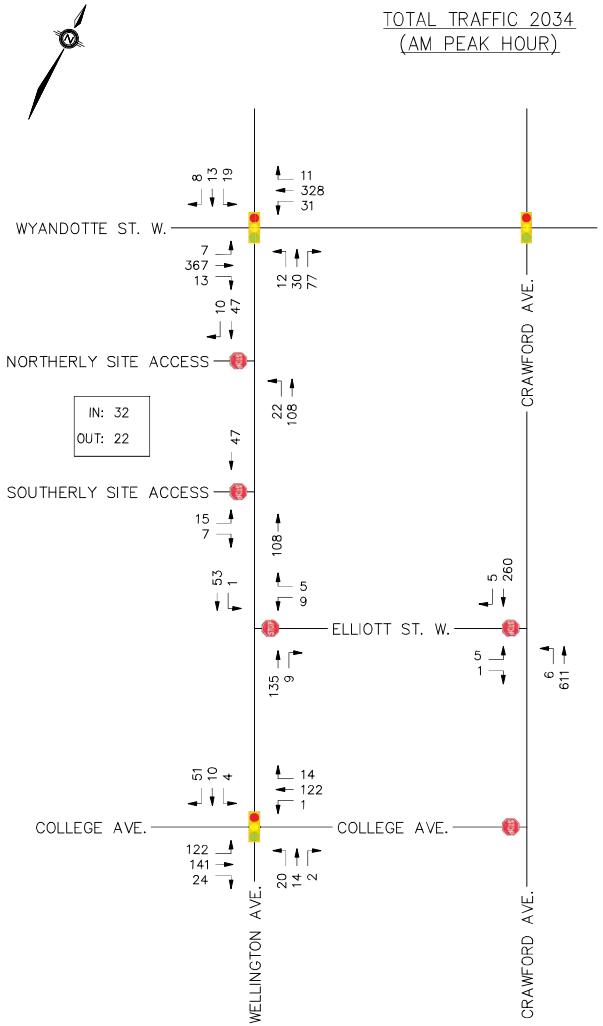
NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	30 JAN 2025	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	08 JULY 2024	L.D.	A.D.B.

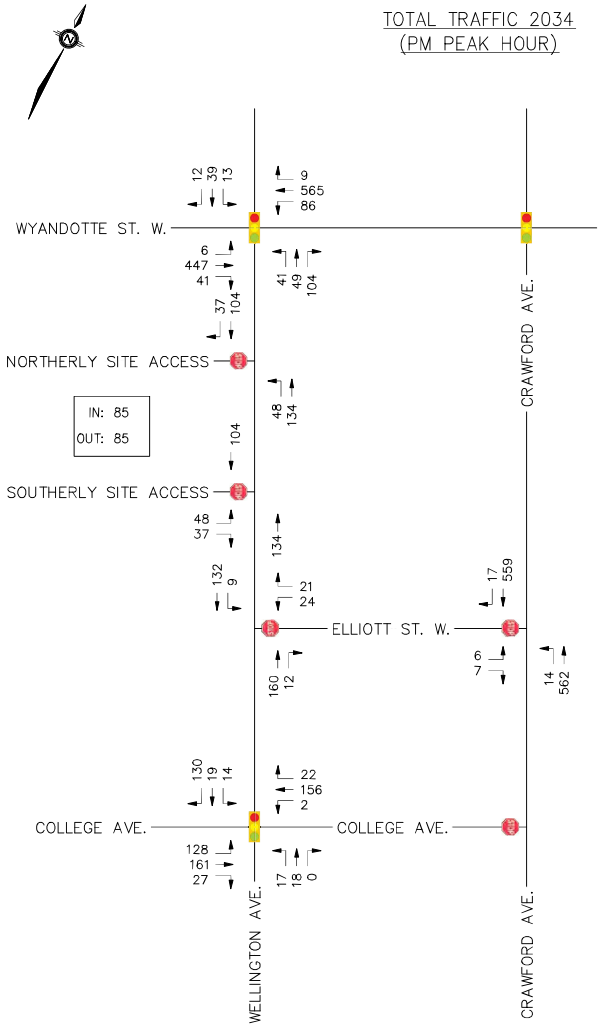
DESIGN L.D.
CHECKED A.D.B.
DRAWN L.D.
CHECKED A.D.B.
DATE JULY 2024
SCALE N.T.S.

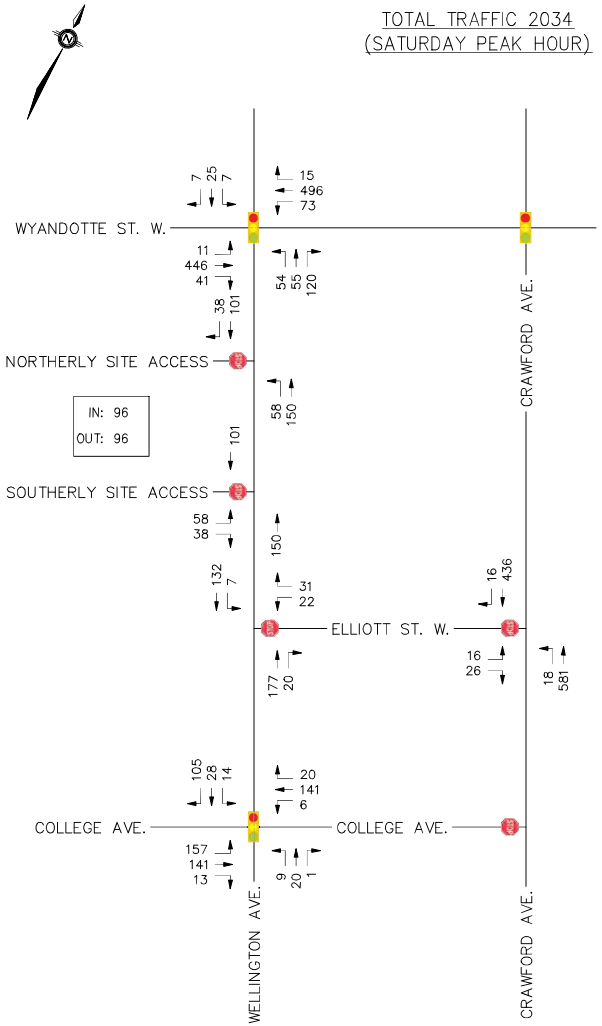
673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

TOTAL TRAFFIC 2029 (AM/PM/SATURDAY PEAK HOUR)

PROJECT NO. 24-1603
FIGURE NO. 6
OF 8







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Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6
Professional Engineers Ontario

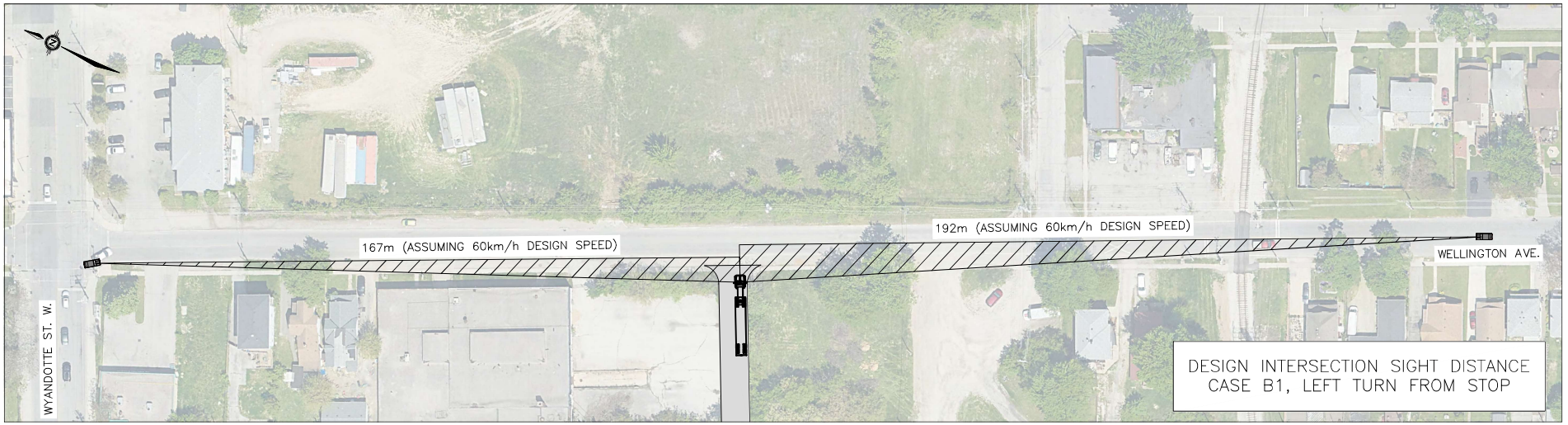
NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	30 JAN 2025	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	08 JULY 2024	L.D.	A.D.B.

DESIGN L.D.
CHECKED A.D.B.
DRAWN L.D.
CHECKED A.D.B.
DATE JULY 2024
SCALE N.T.S.

673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

TOTAL TRAFFIC 2034 (AM/PM/SATURDAY PEAK HOUR)

PROJECT NO. 24-1603
FIGURE NO. 7
OF 8



RC SPENCER ASSOCIATES INC.
Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6
Professional Engineers Ontario

NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	30 JAN 2025	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	08 JULY 2024	L.D.	A.D.B.

DESIGN L.D.
CHECKED A.D.B.
DRAWN L.D.
CHECKED A.D.B.
DATE JULY 2024
SCALE N.T.S.

673 WELLINGTON AVENUE COMMERCIAL DEVELOPMENT T.I.S. WINDSOR, ON

SIGHT LINE ANALYSIS: SITE EGRESS AT WELLINGTON AVE.

PROJECT NO. 24-1603
FIGURE NO. 8
OF 8

Appendix A

CORRESPONDENCE WITH ROAD AUTHORITY

From: Mehrilou, Elara
To: "cmorden@rcspencer.ca"
Subject: RE: TIS TOR for 673 Wellington Avenue, Windsor
Date: May 28, 2024 2:08:29 PM

Hi Cheryl,

Thank you for patience. Please use %1.7 projected growth rate for downtown areas.

Sincerely,

Elara Mehr. L (Ellie)
Elara MehriLou MEng. | Transportation Planner I

THE CITY OF WINDSOR
ONTARIO, CANADA

OFFICE OF COMMISSIONER OF INFRASTRUCTURE SERVICES
Public Work Operation - Transportaion Planning
350 City Hall SquareWest | Suit 320 | Windsor, ON | N9A 7K6
519-255-6100 ext. 6037
EMehrilou@citywindsor.ca
www.citywindsor.ca

Think GREEN before printing this email!

From: Transportation <Transportation@citywindsor.ca>
Sent: Friday, May 17, 2024 11:41 AM
To: Mehrilou, Elara <EMehrilou@citywindsor.ca>; 'cmorden@rcspencer.ca' <cmorden@rcspencer.ca>
Cc: Transportation <Transportation@citywindsor.ca>; Sayyadi, Gholamreza (Ray) <GSayyadi@citywindsor.ca>; 'ablata@rcspencer.ca' <ablata@rcspencer.ca>; 'Robert Brown' <RBrown@oakviewlup.ca>; 'rcspencer@rcspencer.ca' <rcspencer@rcspencer.ca>
Subject: FW: TIS TOR for 673 Wellington Avenue, Windsor

Good morning Cheryl,

I am no longer the Transportation Planner I so I am forwarding your email to Ellie (cc'd) who will be able to assist you with your email.

Thank you,

CLARE AMICARELLI, EIT, CAPM | TRANSPORTATION PLANNING COORDINATOR

THE CITY OF WINDSOR
ONTARIO, CANADA

Transportation Planning Services
350 City Hall Square | Suite 320 | Windsor, ON | N9A 7K6
(519)-255-6100 ext. 6463
www.citywindsor.ca

From: cmorden@rcspencer.ca [mailto:cmorden@rcspencer.ca]
Sent: May 17, 2024 9:30 AM
To: Amicarelli, Clare <CAmicarelli@citywindsor.ca>
Cc: Transportation <Transportation@citywindsor.ca>; Sayyadi, Gholamreza (Ray) <GSayyadi@citywindsor.ca>; ablata@rcspencer.ca; 'Robert Brown' <RBrown@oakviewlup.ca>; rcspencer@rcspencer.ca
Subject: TIS TOR for 673 Wellington Avenue, Windsor

Good day, Clare.

RC Spencer Associates Inc. has been tasked with undertaking a Traffic Impact Study for the above-mentioned site. The site plan (which is not quite finalized) is a redevelopment of the subject site to accommodate a grocery store. The existing building of approximately 18,000 sq. ft. will be repurposed, and the existing parking area will be slightly expanded. The background information / comments from the City are attached for your reference.

Also attached, please find the ITE trip generation estimates for the development. Our proposed approach is to evaluate the "worst-case" scenario of all trips being vehicle trips, with a note that modal split is probable. The proposed parking supply is below the City's requirements; therefore, a supplementary parking supply / demand study will also be provided.

The following is our proposed Scope of Services for the study:

- Correspondence with Officials;
- **Weekday / weekend** traffic data collection at the following four intersections:
    - Wyandotte Street West at Wellington Street;
    - Wellington Street at Elliott Street;
    - Crawford Avenue at Elliott Street; and
    - College Avenue at Wellington Street.
- Trip generation for the proposed site using ITE trip generation data;
- Traffic distribution and assignment of site generated traffic onto the road network;
- Baseline traffic network modelling and development of total traffic projections for existing and future **weekday / weekend** conditions, accounting for possible growth of background traffic;

- Capacity and level of service analyses using the Synchro 11 analysis program;
- Geometric and sight line analysis for the development site access;
- Review of land-use specific ITE peak parking demand data for a standard weekday / weekend;
- Identification of applicable improvements for future consideration.

Previous correspondence with the City (attached email) confirms the City's requirement for study of four (4) area intersections.

Could you please provide us with your preferred growth rate for this part of the City? Historically, we have used 1.7% for downtown areas.

We would appreciate your confirmation / comments as soon as possible.

Thank you,

Cheryl Morden
Executive Assistant to Aaron D. Blata
RC SPENCER ASSOCIATES INC.
18 Talbot St. W. | Leamington, ON N8H 1M4
Office: (519) 324-0606 ext. 1143

From: Robert Brown
To: ablata@rcspencer.ca
Cc: Anthony Pipolo
Subject: Fw: 673 Wellington Ave Traffic Impact Study Scope
Date: March 28, 2024 3:40:12 PM
Attachments: image008.png
Outlook-p4Td1s5f.png

Aaron

Looks like the City is sticking with their original request.

Robert Brown H. Ba, MCIP, RPP
Oakview Land Use Planning
E-Mail: rbrown@oakviewlup.ca
Web: www.oakviewlup.ca
519-809-4539

From: Transportation <Transportation@citywindsor.ca>
Sent: Thursday, March 28, 2024 1:40 PM
To: Robert Brown <RBrown@oakviewlup.ca>; Transportation <Transportation@citywindsor.ca>; Amicarelli, Clare <CAmicarelli@citywindsor.ca>
Cc: Anthony Pipolo <ap.nufusion@gmail.com>
Subject: RE: 673 Wellington Ave Traffic Impact Study Scope

Hi Robert,

After reviewing your request with the team here, we find the original scope of the 4 intersections to be appropriate.

Regards,

Chris Gerardi, P.Eng. | Policy Analyst

cid:image001.jpg@01D89213.8901CC60

Transportation Planning
350 City Hall Sq. W., Suite 320 | Windsor, ON | N9A 6S1
519 255 6100 ext. 6830 | email: cgerardi@citywindsor.ca

www.citywindsor.ca

From: Robert Brown <RBrown@oakviewlup.ca>
Sent: Thursday, March 28, 2024 11:13 AM
To: Transportation <Transportation@citywindsor.ca>; Amicarelli, Clare <CAmicarelli@citywindsor.ca>
Cc: Anthony Pipolo <ap.nufusion@gmail.com>
Subject: Fw: 673 Wellington Ave Traffic Impact Study Scope

Chris

Below is feedback from our traffic consultant. The main issue appears to the number of intersections to review.

Please let us know if there is any agreement on this rationale.

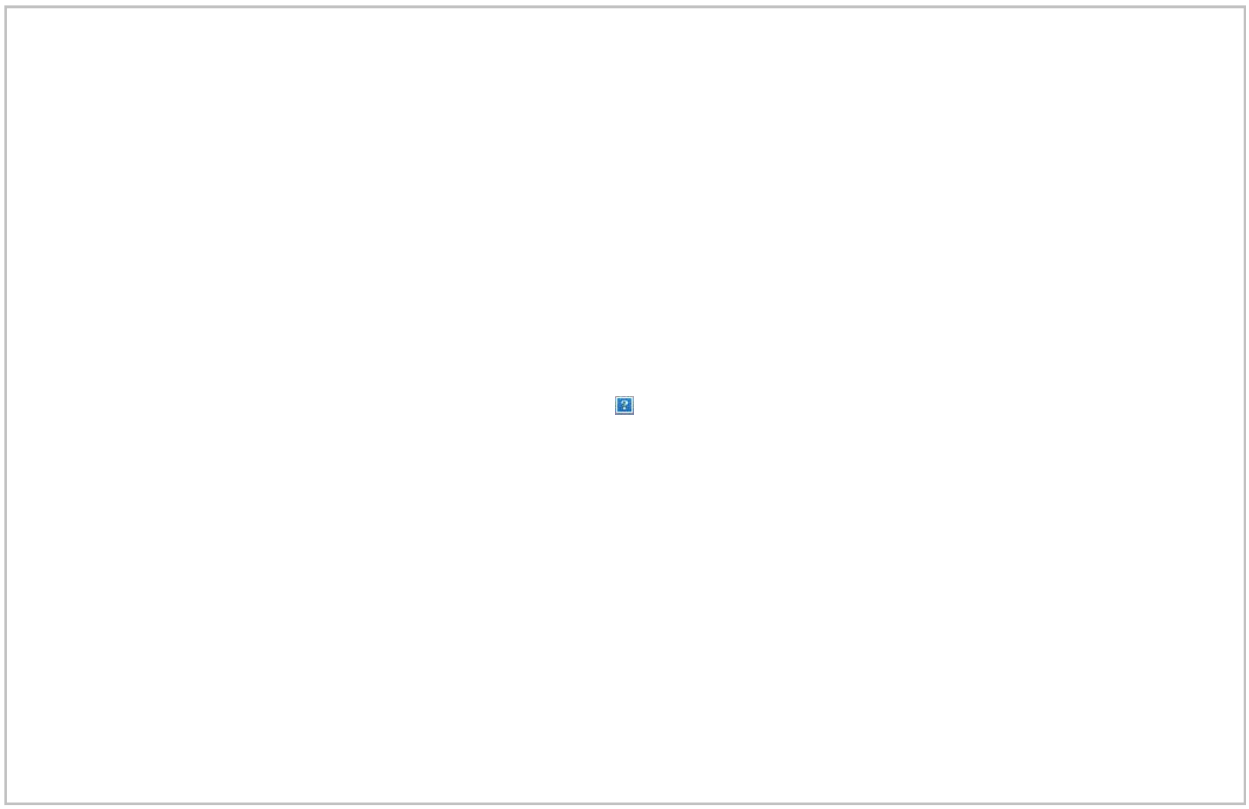
Thanks

Robert Brown H. Ba, MCIP, RPP
Oakview Land Use Planning
E-Mail: rbrown@oakviewlup.ca
Web: www.oakviewlup.ca
519-809-4539

From: ablata@rcspencer.ca <ablata@rcspencer.ca>
Sent: Thursday, March 28, 2024 11:08 AM
To: Robert Brown <RBrown@oakviewlup.ca>
Cc: cmorden@rcspencer.ca <cmorden@rcspencer.ca>; rcspencer@rcspencer.ca <rcspencer@rcspencer.ca>
Subject: RE: 673 Wellington Ave Traffic Impact Study Scope

Robert,

The City is asking for four area intersections to be reviewed, but the first two on Wellington should suffice:



Beyond the first intersection on either side of the intersection, we expect the traffic to be diluted to the point where the “additional” traffic will be imperceptible. Reducing the study area will reduce our costs to collect, model, analyze, and report the respective traffic operations metrics.

Warm regards,

Aaron D. Blata, M.Eng., P.Eng., PTOE, RSP1
Consulting Engineer
Associate / Professional Traffic Operations Engineer /
Road Safety Professional / Leamington Office Manager
RC SPENCER ASSOCIATES INC.
18 Talbot St. W. | Leamington, ON N8H 1M4
Office: (519) 324-0606 ext. 1141

From: Robert Brown <RBrown@oakviewlup.ca>
Sent: Thursday, March 28, 2024 10:04 AM
To: ablata@rcspencer.ca
Subject: Fw: 673 Wellington Ave Traffic Impact Study Scope

Aaron

You had noted in our discussion several days ago that the scope of the TIS for this development was rather significant. Would you be able to discuss the scope with Chris to determine if it can be reduced in any way?

Thanks

Robert Brown H. Ba, MCIP, RPP
Oakview Land Use Planning
E-Mail: rbrown@oakviewlup.ca
Web: www.oakviewlup.ca
519-809-4539

From: Transportation <Transportation@citywindsor.ca>
Sent: Wednesday, March 27, 2024 4:36 PM
To: Robert Brown <RBrown@oakviewlup.ca>
Cc: Anthony Pipolo <ap.nufusion@gmail.com>; Amicarelli, Clare <CAmicarelli@citywindsor.ca>
Subject: RE: 673 Wellington Ave Traffic Impact Study Scope

Hi Robert,

Could you state some of the concerns with the previously provide scope. Also, It would helpful if you could provide the proposed use of the development as that does affect the projected development.

Regards,

Chris Gerardi, P.Eng. | Policy Analyst

Transportation Planning
350 City Hall Sq. W., Suite 320 | Windsor, ON | N9A 6S1
519 255 6100 ext. 6830 | email: cgerardi@citywindsor.ca

www.citywindsor.ca

From: Robert Brown <RBrown@oakviewlup.ca>
Sent: Monday, March 25, 2024 2:29 PM
To: Dhiman, Siddharth <SDhiman@citywindsor.ca>
Cc: Anthony Pipolo <ap.nufusion@gmail.com>
Subject: 673 Wellington Ave Traffic Impact Study Scope

Siddharth

I've been brought onto the team looking to redevelop the property at 673 Wellington. You had provided comment has part of the Stage 1 consultation process and the need for a TIS.

We have been in touch with a traffic engineer to complete the work however would like to review the requirements to see if there is anything that is not necessary as what has been requested is proving rather costly to complete.

If you could review the requirements in the November letter and suggest a possible time to talk with myself and our traffic engineer that would be greatly appreciated.

For ease of reference I've attached the letter from the City.

Regards,

Robert Brown H. Ba, MCIP, RPP
Oakview Land Use Planning
E-Mail: rbrown@oakviewlup.ca
Web: www.oakviewlup.ca
519-809-4539

Appendix B

TRAFFIC DATA COLLECTION

Wyandotte Street West at Wellington Avenue
Elliott Street West at Wellington Avenue
College Avenue at Wellington Avenue
Elliott Street West at Crawford Avenue

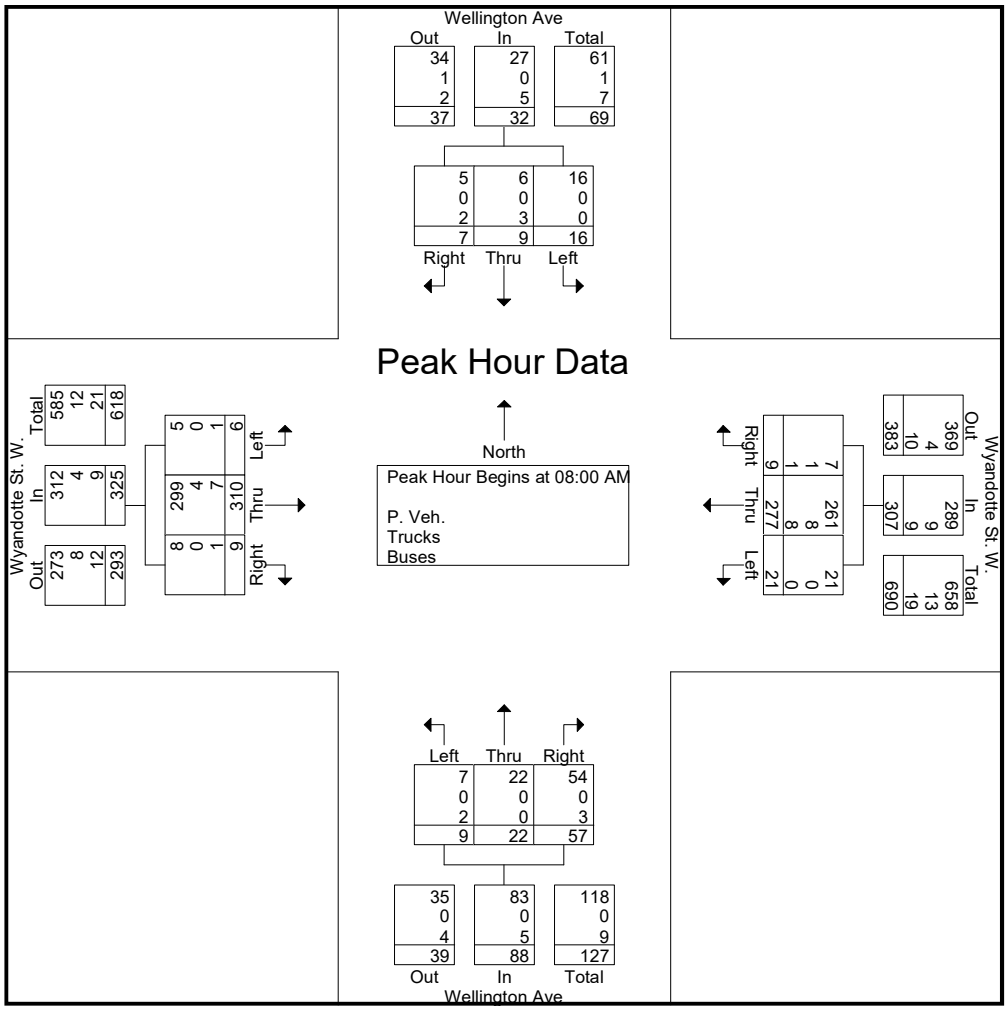
RC SPENCER ASSOCIATES INC.
Consulting Engineers

Date: 14 May 2024
Counted By: Erick R. (CAM 4)
Weather Conditions: Overcast
Wellington Ave at Wyandotte St. W.

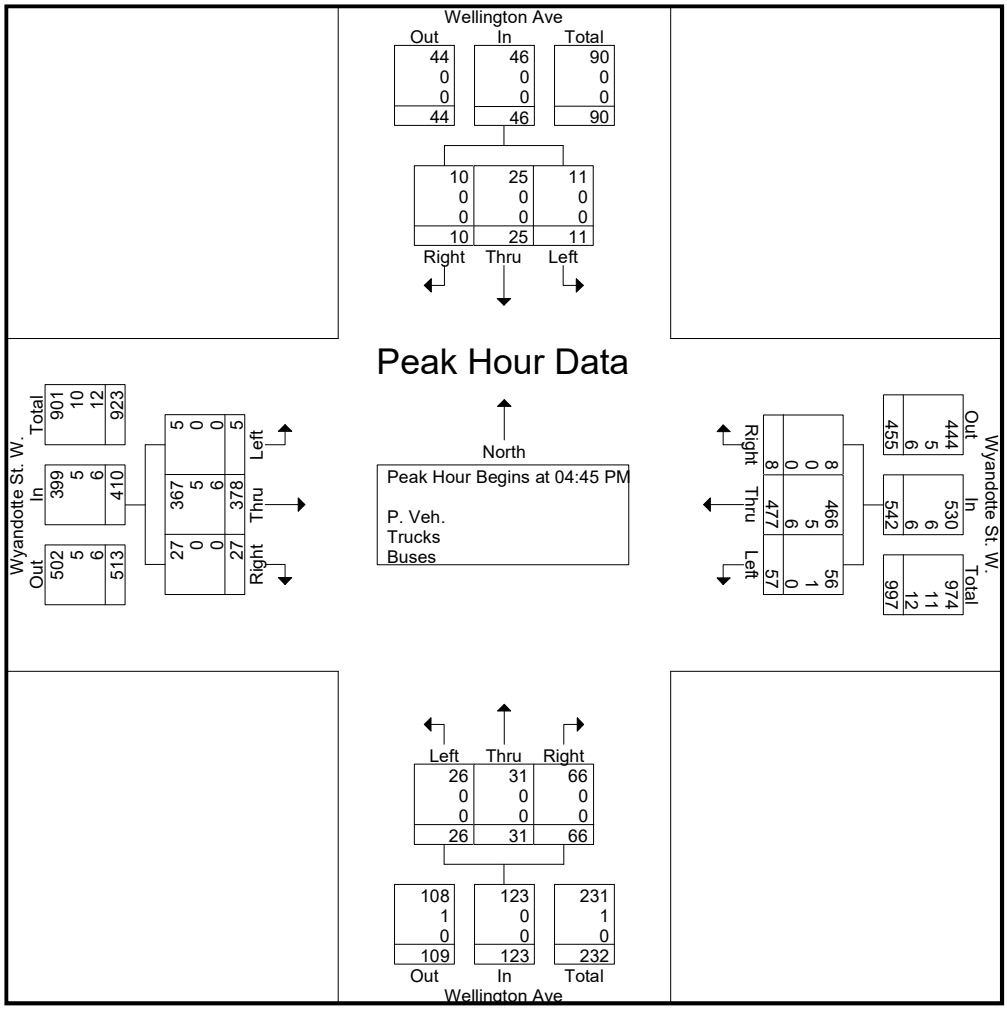
Groups Printed- P. Veh. - Trucks - Buses

	Wyandotte St. W. E/B					Wyandotte St. W. W/B					Wellington Ave N/B					Wellington Ave S/B							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	31	1	(1)	33	1	40	0	(0)	41	0	3	7	(3)	10	1	1	1	(2)	3	6	87	93
07:15 AM	1	39	1	(1)	41	1	47	1	(2)	49	1	2	4	(2)	7	1	1	1	(2)	3	7	100	107
07:30 AM	1	66	0	(2)	67	5	67	3	(2)	75	0	4	13	(5)	17	4	2	1	(2)	7	11	166	177
07:45 AM	1	67	3	(2)	71	5	57	1	(1)	63	1	5	16	(7)	22	2	2	0	(3)	4	13	160	173
Total	4	203	5	(6)	212	12	211	5	(5)	228	2	14	40	(17)	56	8	6	3	(9)	17	37	513	550
08:00 AM	2	56	1	(0)	59	5	56	1	(0)	62	1	8	9	(5)	18	2	2	1	(2)	5	7	144	151
08:15 AM	2	68	2	(0)	72	6	72	1	(0)	79	2	6	18	(12)	26	7	3	4	(2)	14	14	191	205
08:30 AM	2	105	2	(3)	109	6	49	5	(0)	60	3	3	13	(16)	19	5	2	1	(3)	8	22	196	218
08:45 AM	0	81	4	(0)	85	4	100	2	(0)	106	3	5	17	(3)	25	2	2	1	(3)	5	6	221	227
Total	6	310	9	(3)	325	21	277	9	(0)	307	9	22	57	(36)	88	16	9	7	(10)	32	49	752	801
*** BREAK ***																							
04:00 PM	3	108	10	(4)	121	15	120	6	(2)	141	5	10	17	(10)	32	2	2	1	(2)	5	18	299	317
04:15 PM	2	100	2	(6)	104	13	104	1	(2)	118	4	5	15	(11)	24	0	10	0	(4)	10	23	256	279
04:30 PM	1	90	7	(7)	98	9	114	3	(3)	126	5	6	12	(9)	23	2	7	1	(6)	10	25	257	282
04:45 PM	2	108	4	(7)	114	12	116	1	(2)	129	4	4	16	(11)	24	5	10	4	(6)	19	26	286	312
Total	8	406	23	(24)	437	49	454	11	(9)	514	18	25	60	(41)	103	9	29	6	(18)	44	92	1098	1190
05:00 PM	2	88	12	(4)	102	19	130	1	(0)	150	7	8	18	(7)	33	2	7	3	(5)	12	16	297	313
05:15 PM	0	84	5	(8)	89	17	102	4	(0)	123	9	10	19	(5)	38	2	3	1	(3)	6	16	256	272
05:30 PM	1	98	6	(4)	105	9	129	2	(0)	140	6	9	13	(11)	28	2	5	2	(11)	9	26	282	308
05:45 PM	1	109	4	(5)	114	7	95	1	(1)	103	2	7	21	(6)	30	0	7	1	(7)	8	19	255	274
Total	4	379	27	(21)	410	52	456	8	(1)	516	24	34	71	(29)	129	6	22	7	(26)	35	77	1090	1167
Grand Total	22	1298	64	(54)	1384	134	1398	33	(15)	1565	53	95	228	({\fs1 5 123})	376	39	66	23	(63)	128	255	3453	3708
Apprch %	1.6	93.8	4.6			8.6	89.3	2.1			14.1	25.3	60.6			30.5	51.6	18					
Total %	0.6	37.6	1.9		40.1	3.9	40.5	1		45.3	1.5	2.8	6.6		10.9	1.1	1.9	0.7		3.7	6.9	93.1	
P. Veh.	20	1257	62		1393	127	1336	31		1509	50	94	221		488	39	60	21		183	0	0	3573
% P. Veh.	90.9	96.8	96.9	100	96.9	94.8	95.6	93.9	100	95.5	94.3	98.9	96.9	100	97.8	100	90.9	91.3	100	95.8	0	0	96.4
Trucks	0	16	1		17	2	31	1		34	1	0	2		3	0	1	0		1	0	0	55
% Trucks	0	1.2	1.6	0	1.2	1.5	2.2	3	0	2.2	1.9	0	0.9	0	0.6	0	1.5	0	0	0.5	0	0	1.5
Buses	2	25	1		28	5	31	1		37	2	1	5		8	0	5	2		7	0	0	80
% Buses	9.1	1.9	1.6	0	1.9	3.7	2.2	3	0	2.3	3.8	1.1	2.2	0	1.6	0	7.6	8.7	0	3.7	0	0	2.2

	Wyandotte St. W. E/B				Wyandotte St. W. W/B				Wellington Ave N/B				Wellington Ave S/B				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**2**	56	1	59	5	56	1	62	1	**8**	9	18	2	2	1	5	144
08:15 AM	2	68	2	72	**6**	72	1	79	2	6	**18**	**26**	**7**	**3**	**4**	**14**	191
08:30 AM	2	**105**	2	**109**	6	49	**5**	60	**3**	3	13	19	5	2	1	8	196
08:45 AM	0	81	**4**	85	4	**100**	2	**106**	3	5	17	25	2	2	1	5	**221**
Total Volume	6	310	9	325	21	277	9	307	9	22	57	88	16	9	7	32	752
% App. Total	1.8	95.4	2.8		6.8	90.2	2.9		10.2	25	64.8		50	28.1	21.9		
PHF	.750	.738	.563	.745	.875	.693	.450	.724	.750	.688	.792	.846	.571	.750	.438	.571	.851
P. Veh.	5	299	8	312	21	261	7	289	7	22	54	83	16	6	5	27	711
% P. Veh.	83.3	96.5	88.9	96.0	100	94.2	77.8	94.1	77.8	100	94.7	94.3	100	66.7	71.4	84.4	94.5
Trucks	0	4	0	4	0	8	1	9	0	0	0	0	0	0	0	0	13
% Trucks	0	1.3	0	1.2	0	2.9	11.1	2.9	0	0	0	0	0	0	0	0	1.7
Buses	1	7	1	9	0	8	1	9	2	0	3	5	0	3	2	5	28
% Buses	16.7	2.3	11.1	2.8	0	2.9	11.1	2.9	22.2	0	5.3	5.7	0	33.3	28.6	15.6	3.7



	Wyandotte St. W. E/B				Wyandotte St. W. W/B				Wellington Ave N/B				Wellington Ave S/B				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	**108**	4	**114**	12	116	1	129	4	4	16	24	**5**	**10**	**4**	**19**	286
05:00 PM	2	88	**12**	102	**19**	**130**	1	**150**	7	8	18	33	2	7	3	12	**297**
05:15 PM	0	84	5	89	17	102	**4**	123	**9**	**10**	**19**	**38**	2	3	1	6	256
05:30 PM	1	98	6	105	9	129	2	140	6	9	13	28	2	5	2	9	282
Total Volume	5	378	27	410	57	477	8	542	26	31	66	123	11	25	10	46	1121
% App. Total	1.2	92.2	6.6		10.5	88	1.5		21.1	25.2	53.7		23.9	54.3	21.7		
PHF	.625	.875	.563	.899	.750	.917	.500	.903	.722	.775	.868	.809	.550	.625	.625	.605	.944
P. Veh.	5	367	27	399	56	466	8	530	26	31	66	123	11	25	10	46	1098
% P. Veh.	100	97.1	100	97.3	98.2	97.7	100	97.8	100	100	100	100	100	100	100	100	97.9
Trucks	0	5	0	5	1	5	0	6	0	0	0	0	0	0	0	0	11
% Trucks	0	1.3	0	1.2	1.8	1.0	0	1.1	0	0	0	0	0	0	0	0	1.0
Buses	0	6	0	6	0	6	0	6	0	0	0	0	0	0	0	0	12
% Buses	0	1.6	0	1.5	0	1.3	0	1.1	0	0	0	0	0	0	0	0	1.1



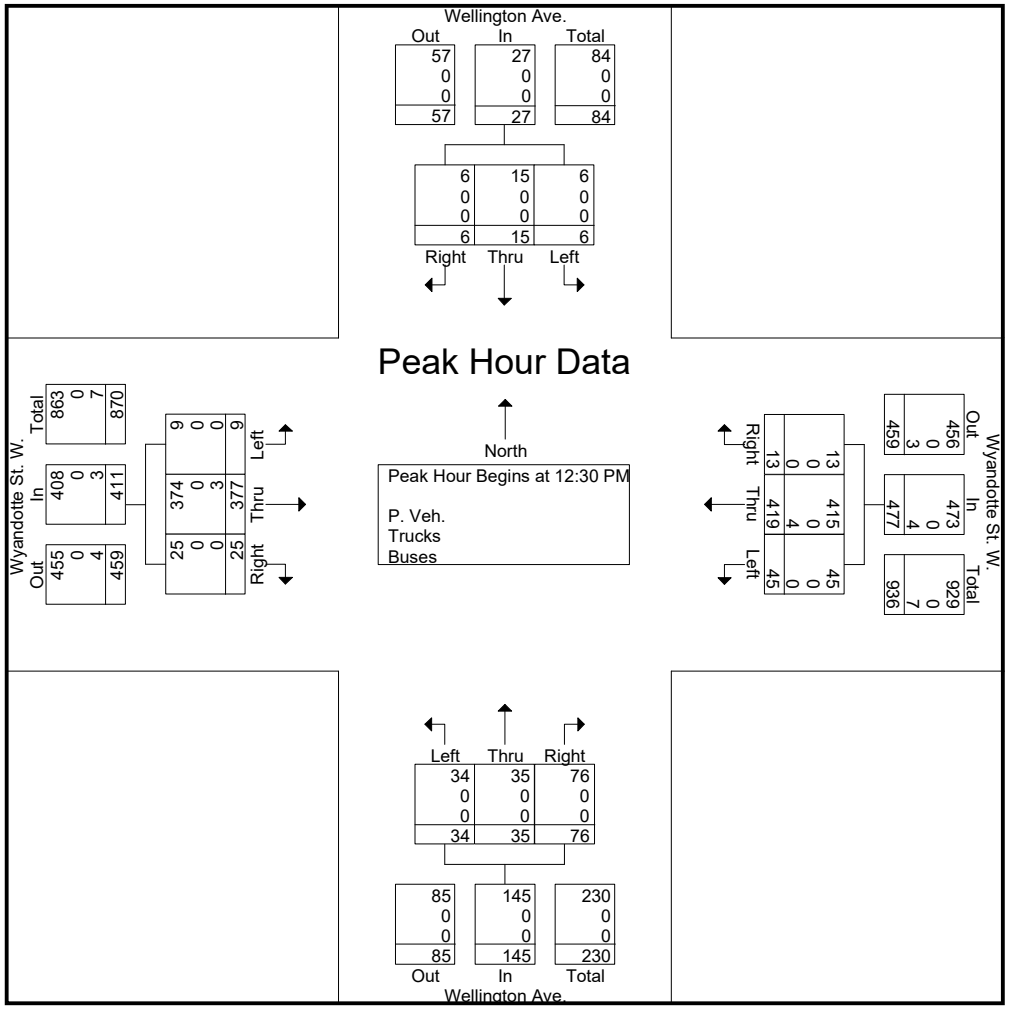
RC SPENCER ASSOCIATES INC.
Consulting Engineers

Date: 1 June 2024
Counted By: Mary K. (CAM4)
Weather Conditions: Clear
Wellington Ave. at Wyandotte St. W.

Groups Printed- P. Veh. - Trucks - Buses

	Wyandotte St. W. E/B					Wyandotte St. W. W/B					Wellington Ave. N/B					Wellington Ave. S/B							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
10:00 AM	0	73	1	(1)	74	3	62	1	(0)	66	1	4	12	(6)	17	2	3	2	(9)	7	16	164	180
10:15 AM	0	73	2	(0)	75	9	69	1	(1)	79	2	6	12	(3)	20	0	7	3	(5)	10	9	184	193
10:30 AM	1	76	6	(2)	83	6	63	1	(3)	70	6	7	16	(14)	29	1	6	2	(6)	9	25	191	216
10:45 AM	4	76	9	(4)	89	7	85	1	(3)	93	5	11	15	(6)	31	2	6	1	(6)	9	19	222	241
Total	5	298	18	(7)	321	25	279	4	(7)	308	14	28	55	(29)	97	5	22	8	(26)	35	69	761	830
11:00 AM	4	73	6	(5)	83	15	80	3	(4)	98	2	6	14	(17)	22	2	6	4	(6)	12	32	215	247
11:15 AM	1	83	8	(2)	92	13	82	3	(0)	98	9	5	11	(15)	25	0	3	1	(3)	4	20	219	239
11:30 AM	2	99	7	(3)	108	11	70	3	(1)	84	8	7	10	(12)	25	2	1	1	(6)	4	22	221	243
11:45 AM	3	81	6	(2)	90	8	85	3	(3)	96	4	5	17	(15)	26	2	8	2	(10)	12	30	224	254
Total	10	336	27	(12)	373	47	317	12	(8)	376	23	23	52	(59)	98	6	18	8	(25)	32	104	879	983
12:00 PM	4	78	9	(6)	91	7	90	2	(1)	99	8	6	12	(15)	26	3	3	0	(3)	6	25	222	247
12:15 PM	3	76	5	(2)	84	10	107	2	(3)	119	7	11	19	(16)	37	2	9	1	(12)	12	33	252	285
12:30 PM	2	88	6	(5)	96	19	102	2	(2)	123	5	9	19	(11)	33	2	4	0	(14)	6	32	258	290
12:45 PM	3	104	4	(0)	111	14	120	4	(1)	138	7	8	21	(16)	36	1	2	2	(4)	5	21	290	311
Total	12	346	24	(13)	382	50	419	10	(7)	479	27	34	71	(58)	132	8	18	3	(33)	29	111	1022	1133
01:00 PM	1	90	6	(7)	97	8	89	6	(0)	103	7	8	21	(13)	36	1	3	2	(7)	6	27	242	269
01:15 PM	3	95	9	(3)	107	4	108	1	(1)	113	15	10	15	(13)	40	2	6	2	(6)	10	23	270	293
01:30 PM	1	84	5	(9)	90	14	81	4	(0)	99	6	8	11	(14)	25	0	11	2	(6)	13	29	227	256
01:45 PM	2	103	3	(6)	108	9	97	2	(0)	108	6	7	10	(18)	23	1	6	0	(9)	7	33	246	279
Total	7	372	23	(25)	402	35	375	13	(1)	423	34	33	57	(58)	124	4	26	6	(28)	36	112	985	1097
Grand Total	34	1352	92	(57)	1478	157	1390	39	(23)	1586	98	118	235	({\fs15 204})	451	23	84	25	({\fs15 112})	132	396	3647	4043
Apprch %	2.3	91.5	6.2			9.9	87.6	2.5			21.7	26.2	52.1			17.4	63.6	18.9					
Total %	0.9	37.1	2.5		40.5	4.3	38.1	1.1		43.5	2.7	3.2	6.4		12.4	0.6	2.3	0.7		3.6	9.8	90.2	
P. Veh.	34	1338	92		1521	157	1376	39		1595	98	118	235		655	23	84	25		244	0	0	4015
% P. Veh.	100	99	100	100	99.1	100	99	100	100	99.1	100	100	100	100	100	100	100	100	100	100	0	0	99.3
Trucks	0	3	0		3	0	4	0		4	0	0	0		0	0	0	0		0	0	0	7
% Trucks	0	0.2	0	0	0.2	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Buses	0	11	0		11	0	10	0		10	0	0	0		0	0	0	0		0	0	0	21
% Buses	0	0.8	0	0	0.7	0	0.7	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.5

	Wyandotte St. W. E/B				Wyandotte St. W. W/B				Wellington Ave. N/B				Wellington Ave. S/B				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	2	88	6	96	**19**	102	2	123	5	9	19	33	**2**	4	0	6	258
12:45 PM	**3**	**104**	4	**111**	14	**120**	4	**138**	7	8	**21**	36	1	2	**2**	5	**290**
01:00 PM	1	90	6	97	8	89	**6**	103	7	8	21	36	1	3	2	6	242
01:15 PM	3	95	**9**	107	4	108	1	113	**15**	**10**	15	**40**	2	**6**	2	**10**	270
Total Volume	9	377	25	411	45	419	13	477	34	35	76	145	6	15	6	27	1060
% App. Total	2.2	91.7	6.1		9.4	87.8	2.7		23.4	24.1	52.4		22.2	55.6	22.2		
PHF	.750	.906	.694	.926	.592	.873	.542	.864	.567	.875	.905	.906	.750	.625	.750	.675	.914
P. Veh.	9	374	25	408	45	415	13	473	34	35	76	145	6	15	6	27	1053
% P. Veh.	100	99.2	100	99.3	100	99.0	100	99.2	100	100	100	100	100	100	100	100	99.3
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	3	0	3	0	4	0	4	0	0	0	0	0	0	0	0	7
% Buses	0	0.8	0	0.7	0	1.0	0	0.8	0	0	0	0	0	0	0	0	0.7



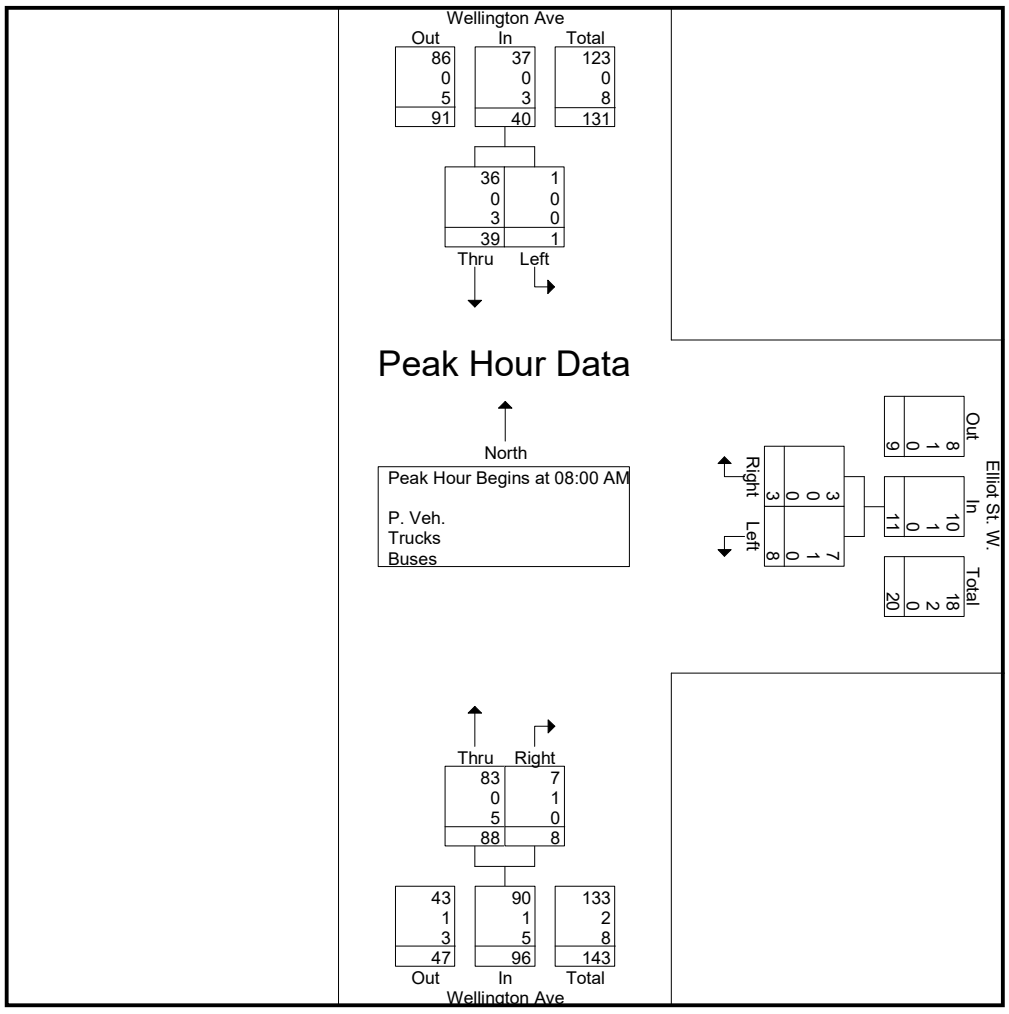
Date: 14 May 2024
Counted By: Erick R. (CAM 4)
Weather Conditions: Cloudy
Elliott St. W. at Wellington Ave

RC SPENCER ASSOCIATES INC.
Consulting Engineers

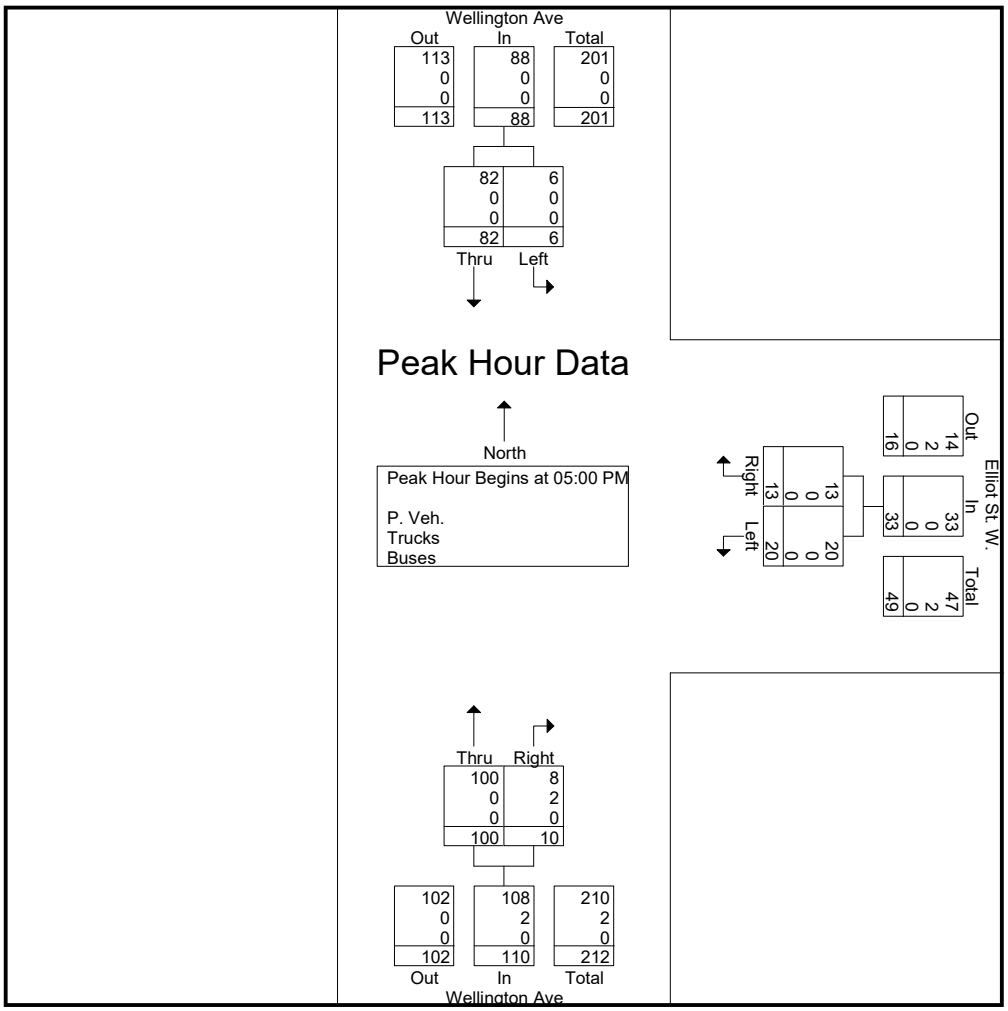
Groups Printed- P. Veh. - Trucks - Buses

	Elliott St. W. W/B				Wellington Ave N/B				Wellington Ave S/B						
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	(0)	0	9	1	(0)	10	0	4	(0)	4	0	14	14
07:15 AM	1	1	(0)	2	5	2	(0)	7	0	2	(0)	2	0	11	11
07:30 AM	1	2	(0)	3	15	2	(0)	17	0	9	(0)	9	0	29	29
07:45 AM	1	1	(0)	2	21	1	(0)	22	0	10	(0)	10	0	34	34
Total	3	4	(0)	7	50	6	(0)	56	0	25	(0)	25	0	88	88
08:00 AM	1	0	(0)	1	19	1	(0)	20	0	10	(0)	10	0	31	31
08:15 AM	1	1	(1)	2	24	2	(0)	26	0	11	(0)	11	1	39	40
08:30 AM	4	0	(0)	4	21	3	(0)	24	0	9	(0)	9	0	37	37
08:45 AM	2	2	(1)	4	24	2	(0)	26	1	9	(0)	10	1	40	41
Total	8	3	(2)	11	88	8	(0)	96	1	39	(0)	40	2	147	149
*** BREAK ***															
04:00 PM	6	3	(0)	9	24	4	(0)	28	0	24	(0)	24	0	61	61
04:15 PM	3	3	(1)	6	24	2	(0)	26	4	26	(2)	30	3	62	65
04:30 PM	1	3	(0)	4	16	3	(0)	19	0	22	(0)	22	0	45	45
04:45 PM	4	2	(0)	6	22	1	(0)	23	1	21	(0)	22	0	51	51
Total	14	11	(1)	25	86	10	(0)	96	5	93	(2)	98	3	219	222
05:00 PM	2	5	(0)	7	22	3	(3)	25	1	25	(0)	26	3	58	61
05:15 PM	8	6	(0)	14	30	5	(0)	35	0	25	(0)	25	0	74	74
05:30 PM	5	0	(0)	5	21	1	(0)	22	2	16	(0)	18	0	45	45
05:45 PM	5	2	(1)	7	27	1	(0)	28	3	16	(1)	19	2	54	56
Total	20	13	(1)	33	100	10	(3)	110	6	82	(1)	88	5	231	236
Grand Total	45	31	(4)	76	324	34	(3)	358	12	239	(3)	251	10	685	695
Apprch %	59.2	40.8			90.5	9.5			4.8	95.2					
Total %	6.6	4.5		11.1	47.3	5		52.3	1.8	34.9		36.6	1.4	98.6	
P. Veh.	44	31		79	314	31		348	12	228		243	0	0	670
% P. Veh.	97.8	100	100	98.8	96.9	91.2	100	96.4	100	95.4	100	95.7	0	0	96.4
Trucks	1	0		1	2	3		5	0	1		1	0	0	7
% Trucks	2.2	0	0	1.2	0.6	8.8	0	1.4	0	0.4	0	0.4	0	0	1
Buses	0	0		0	8	0		8	0	10		10	0	0	18
% Buses	0	0	0	0	2.5	0	0	2.2	0	4.2	0	3.9	0	0	2.6

	Elliott St. W. W/B			Wellington Ave N/B			Wellington Ave S/B			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	1	0	1	19	1	20	0	10	10	31
08:15 AM	1	1	2	**24**	2	**26**	0	**11**	**11**	39
08:30 AM	**4**	0	**4**	21	**3**	24	0	9	9	37
08:45 AM	2	**2**	4	24	2	26	**1**	9	10	**40**
Total Volume	8	3	11	88	8	96	1	39	40	147
% App. Total	72.7	27.3		91.7	8.3		2.5	97.5		
PHF	.500	.375	.688	.917	.667	.923	.250	.886	.909	.919
P. Veh.	7	3	10	83	7	90	1	36	37	137
% P. Veh.	87.5	100	90.9	94.3	87.5	93.8	100	92.3	92.5	93.2
Trucks	1	0	1	0	1	1	0	0	0	2
% Trucks	12.5	0	9.1	0	12.5	1.0	0	0	0	1.4
Buses	0	0	0	5	0	5	0	3	3	8
% Buses	0	0	0	5.7	0	5.2	0	7.7	7.5	5.4



	Elliott St. W. W/B			Wellington Ave N/B			Wellington Ave S/B			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	2	5	7	22	3	25	1	**25**	**26**	58
05:15 PM	**8**	**6**	**14**	**30**	**5**	**35**	0	25	25	**74**
05:30 PM	5	0	5	21	1	22	2	16	18	45
05:45 PM	5	2	7	27	1	28	**3**	16	19	54
Total Volume	20	13	33	100	10	110	6	82	88	231
% App. Total	60.6	39.4		90.9	9.1		6.8	93.2		
PHF	.625	.542	.589	.833	.500	.786	.500	.820	.846	.780
P. Veh.	20	13	33	100	8	108	6	82	88	229
% P. Veh.	100	100	100	100	80.0	98.2	100	100	100	99.1
Trucks	0	0	0	0	2	2	0	0	0	2
% Trucks	0	0	0	0	20.0	1.8	0	0	0	0.9
Buses	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0



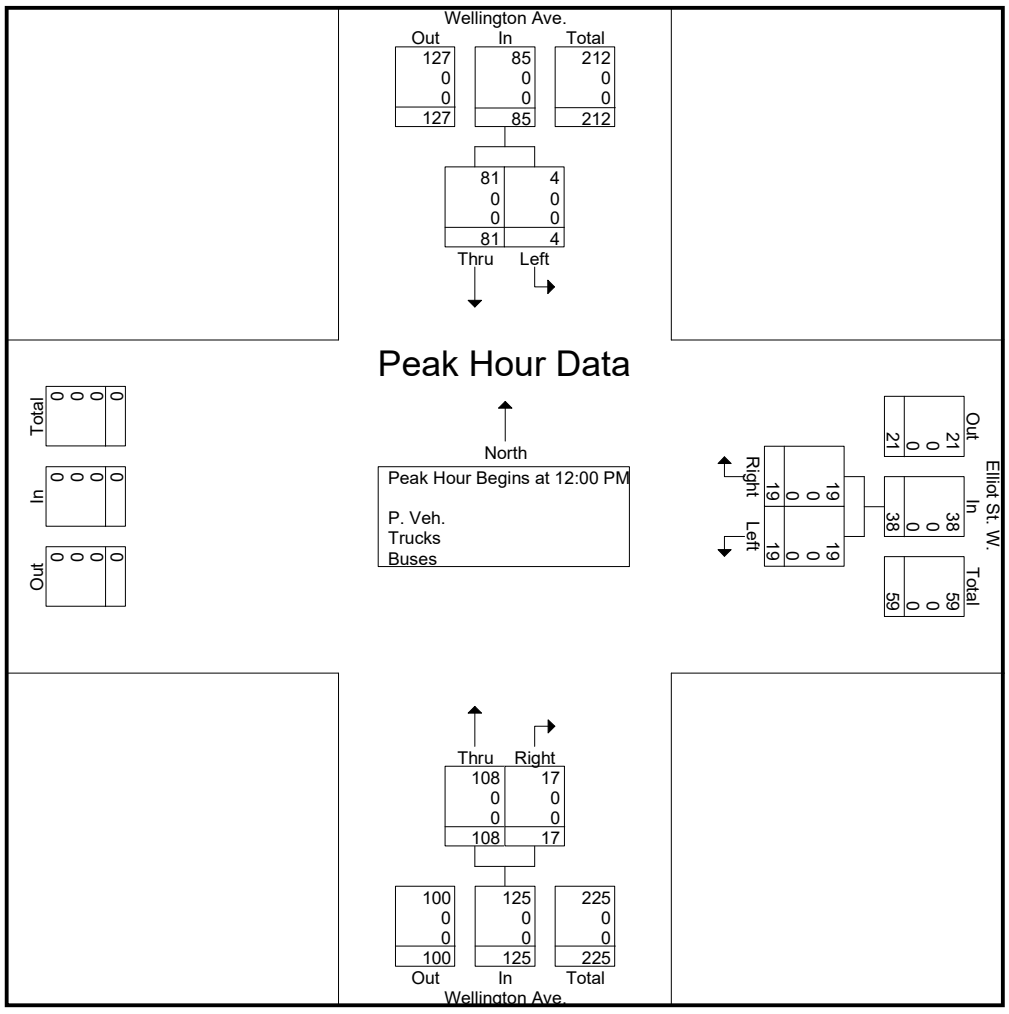
Date: 1 June 2024
Counted By: Mary K. (CAM4) Weather
Conditions: Clear
Elliott Street West at Wellington Avenue

RC SPENCER ASSOCIATES INC.
Consulting Engineers

Groups Printed- P. Veh. - Trucks - Buses

	Elliot St. W. W/B				Wellington Ave. N/B				Wellington Ave. S/B						
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
10:00 AM	4	1	(0)	5	20	4	(0)	24	0	7	(0)	7	0	36	36
10:15 AM	4	1	(0)	5	17	3	(0)	20	2	14	(0)	16	0	41	41
10:30 AM	4	2	(2)	6	27	8	(0)	35	0	16	(0)	16	2	57	59
10:45 AM	1	1	(1)	2	33	1	(0)	34	0	17	(0)	17	1	53	54
Total	13	5	(3)	18	97	16	(0)	113	2	54	(0)	56	3	187	190
11:00 AM	2	1	(1)	3	15	4	(0)	19	0	23	(0)	23	1	45	46
11:15 AM	3	3	(0)	6	21	2	(0)	23	0	22	(0)	22	0	51	51
11:30 AM	2	3	(0)	5	21	2	(0)	23	1	15	(0)	16	0	44	44
11:45 AM	4	2	(0)	6	24	5	(2)	29	2	14	(0)	16	2	51	53
Total	11	9	(1)	20	81	13	(2)	94	3	74	(0)	77	3	191	194
12:00 PM	8	6	(1)	14	21	4	(0)	25	0	15	(0)	15	1	54	55
12:15 PM	4	4	(2)	8	31	6	(0)	37	2	20	(0)	22	2	67	69
12:30 PM	3	4	(0)	7	29	4	(0)	33	1	26	(0)	27	0	67	67
12:45 PM	4	5	(3)	9	27	3	(0)	30	1	20	(0)	21	3	60	63
Total	19	19	(6)	38	108	17	(0)	125	4	81	(0)	85	6	248	254
01:00 PM	0	4	(0)	4	31	4	(0)	35	0	13	(0)	13	0	52	52
01:15 PM	3	4	(0)	7	34	4	(0)	38	2	14	(0)	16	0	61	61
01:30 PM	2	4	(0)	6	23	8	(0)	31	3	24	(0)	27	0	64	64
01:45 PM	6	4	(0)	10	19	3	(0)	22	0	20	(0)	20	0	52	52
Total	11	16	(0)	27	107	19	(0)	126	5	71	(0)	76	0	229	229
Grand Total	54	49	(10)	103	393	65	(2)	458	14	280	(0)	294	12	855	867
Apprch %	52.4	47.6			85.8	14.2			4.8	95.2					
Total %	6.3	5.7		12	46	7.6		53.6	1.6	32.7		34.4	1.4	98.6	
P. Veh.	54	49		113	393	65		460	14	280		294	0	0	867
% P. Veh.	100	100	100	100	100	100	100	100	100	100	0	100	0	0	100
Trucks	0	0		0	0	0		0	0	0		0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0		0	0	0		0	0	0		0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Elliott St. W. W/B			Wellington Ave. N/B			Wellington Ave. S/B			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	**8**	**6**	**14**	21	4	25	0	15	15	54
12:15 PM	4	4	8	**31**	**6**	**37**	**2**	20	22	**67**
12:30 PM	3	4	7	29	4	33	1	**26**	**27**	67
12:45 PM	4	5	9	27	3	30	1	20	21	60
Total Volume	19	19	38	108	17	125	4	81	85	248
% App. Total	50	50		86.4	13.6		4.7	95.3		
PHF	.594	.792	.679	.871	.708	.845	.500	.779	.787	.925
P. Veh.	19	19	38	108	17	125	4	81	85	248
% P. Veh.	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0



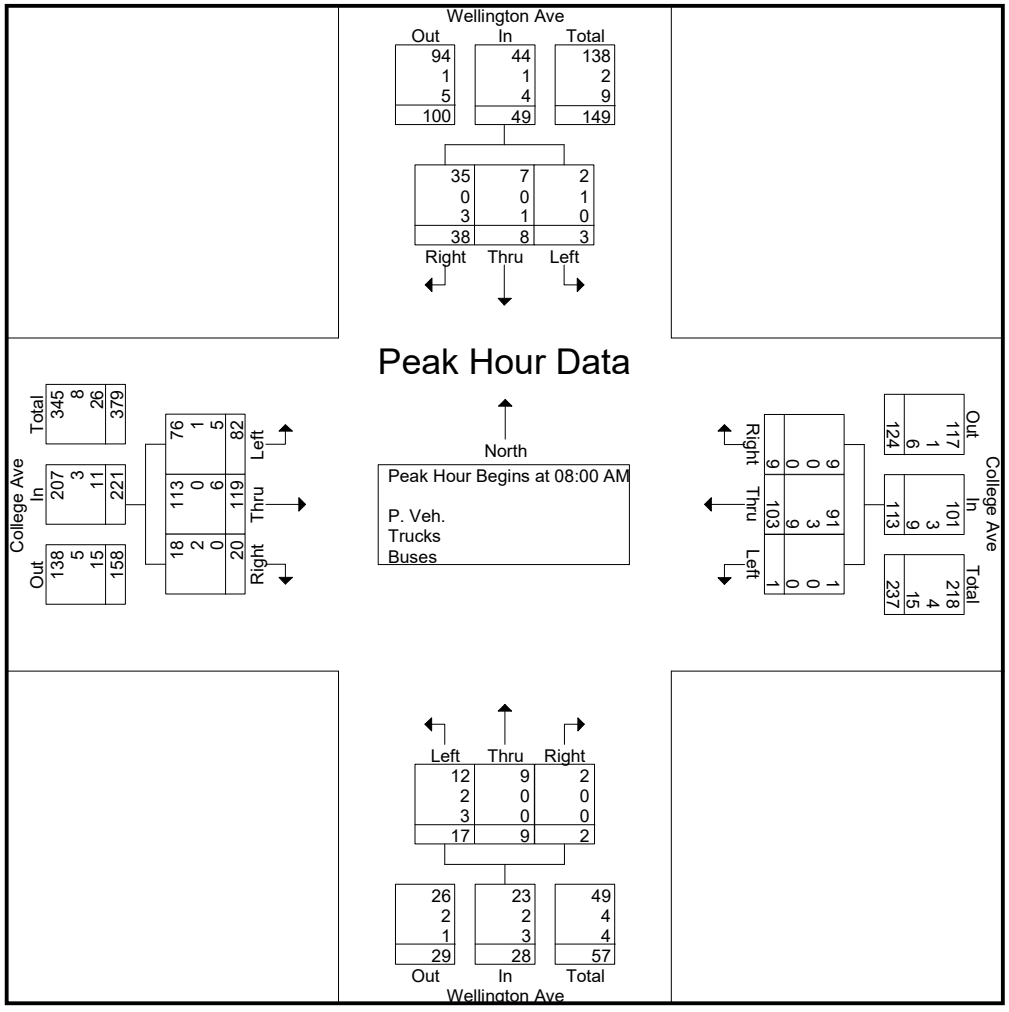
RC SPENCER ASSOCIATES INC.
Consulting Engineers

Date: 14 May 2024
Counted By: Erick R. (CAM 4)
Weather Conditions: Cloudy
Wellington Ave at College Ave

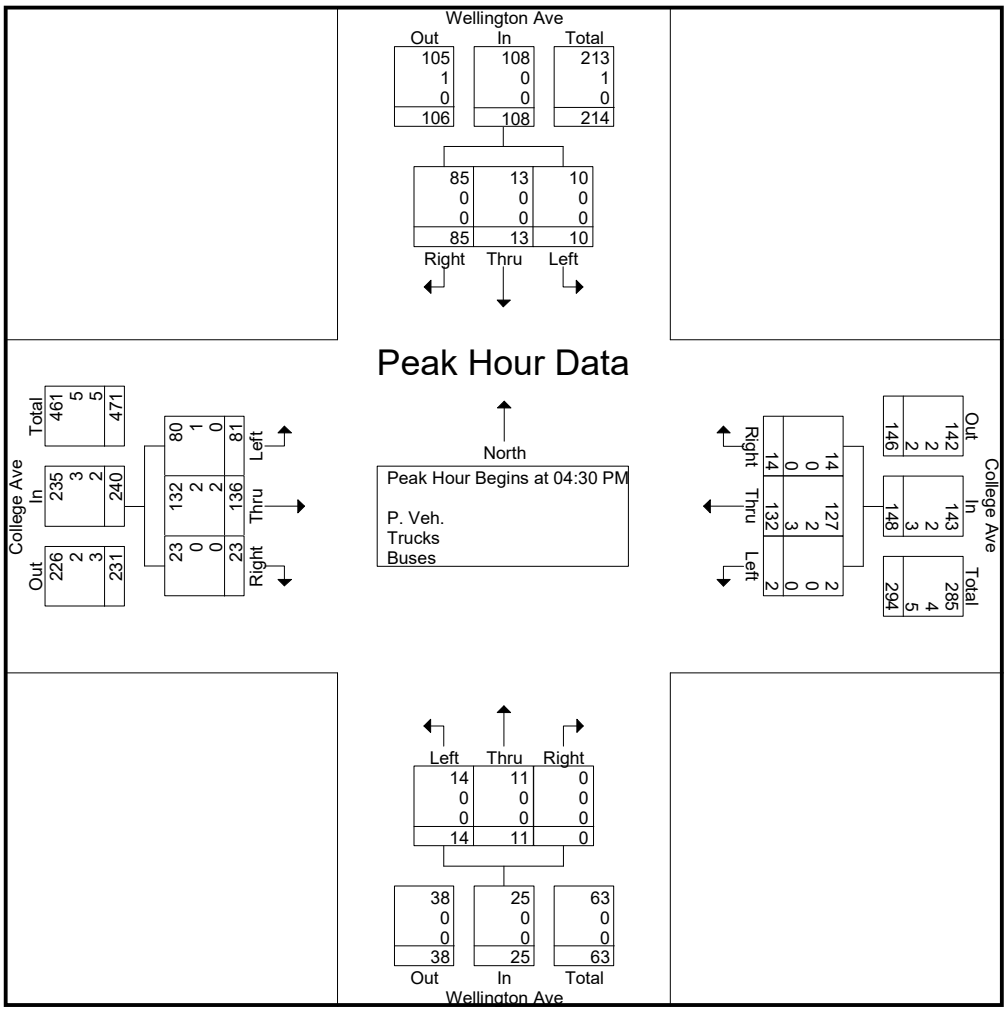
Groups Printed- P. Veh. - Trucks - Buses

	College Ave E/B					College Ave W/B					Wellington Ave N/B					Wellington Ave S/B							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	8	2	(1)	19	1	11	0	(1)	12	0	0	0	(0)	0	0	0	5	(0)	5	2	36	38
07:15 AM	9	21	2	(0)	32	1	15	0	(0)	16	5	0	0	(0)	5	1	0	3	(1)	4	1	57	58
07:30 AM	16	18	1	(2)	35	0	22	0	(0)	22	1	1	0	(1)	2	1	2	7	(2)	10	5	69	74
07:45 AM	18	19	3	(2)	40	0	27	1	(0)	28	2	2	1	(0)	5	1	1	9	(1)	11	3	84	87
Total	52	66	8	(5)	126	2	75	1	(1)	78	8	3	1	(1)	12	3	3	24	(4)	30	11	246	257
08:00 AM	18	27	7	(5)	52	0	22	1	(2)	23	2	1	0	(4)	3	1	3	9	(6)	13	17	91	108
08:15 AM	23	26	6	(2)	55	0	29	2	(1)	31	5	2	0	(2)	7	1	1	11	(2)	13	7	106	113
08:30 AM	21	31	3	(0)	55	0	30	4	(0)	34	8	1	2	(0)	11	1	3	8	(0)	12	0	112	112
08:45 AM	20	35	4	(5)	59	1	22	2	(0)	25	2	5	0	(1)	7	0	1	10	(1)	11	7	102	109
Total	82	119	20	(12)	221	1	103	9	(3)	113	17	9	2	(7)	28	3	8	38	(9)	49	31	411	442
*** BREAK ***																							
04:00 PM	22	28	7	(2)	57	2	25	3	(2)	30	2	2	0	(3)	4	2	2	24	(1)	28	8	119	127
04:15 PM	21	27	6	(1)	54	0	31	3	(0)	34	3	5	0	(1)	8	2	8	17	(0)	27	2	123	125
04:30 PM	16	26	9	(2)	51	0	35	0	(0)	35	3	4	0	(2)	7	3	4	17	(2)	24	6	117	123
04:45 PM	19	39	5	(2)	63	0	44	3	(0)	47	4	2	0	(1)	6	1	4	18	(0)	23	3	139	142
Total	78	120	27	(7)	225	2	135	9	(2)	146	12	13	0	(7)	25	8	18	76	(3)	102	19	498	517
05:00 PM	19	34	6	(3)	59	2	27	5	(0)	34	4	2	0	(3)	6	4	2	23	(0)	29	6	128	134
05:15 PM	27	37	3	(1)	67	0	26	6	(0)	32	3	3	0	(0)	6	2	3	27	(5)	32	6	137	143
05:30 PM	19	29	1	(2)	49	0	33	1	(0)	34	1	4	0	(2)	5	3	7	10	(0)	20	4	108	112
05:45 PM	25	36	4	(3)	65	2	18	2	(3)	22	5	4	0	(5)	9	2	8	11	(0)	21	11	117	128
Total	90	136	14	(9)	240	4	104	14	(3)	122	13	13	0	(10)	26	11	20	71	(5)	102	27	490	517
Grand Total	302	441	69	(33)	812	9	417	33	(9)	459	50	38	3	(25)	91	25	49	209	(21)	283	88	1645	1733
Apprch %	37.2	54.3	8.5			2	90.8	7.2			54.9	41.8	3.3			8.8	17.3	73.9					
Total %	18.4	26.8	4.2		49.4	0.5	25.3	2		27.9	3	2.3	0.2		5.5	1.5	3	12.7		17.2	5.1	94.9	
P. Veh.	291	418	67		809	7	394	33		443	44	38	3		110	23	47	200		291	0	0	1653
% P. Veh.	96.4	94.8	97.1	100	95.7	77.8	94.5	100	100	94.7	88	100	100	100	94.8	92	95.9	95.7	100	95.7	0	0	95.4
Trucks	3	7	2		12	0	6	0		6	2	0	0		2	1	0	1		2	0	0	22
% Trucks	1	1.6	2.9	0	1.4	0	1.4	0	0	1.3	4	0	0	0	1.7	4	0	0.5	0	0.7	0	0	1.3
Buses	8	16	0		24	2	17	0		19	4	0	0		4	1	2	8		11	0	0	58
% Buses	2.6	3.6	0	0	2.8	22.2	4.1	0	0	4.1	8	0	0	0	3.4	4	4.1	3.8	0	3.6	0	0	3.3

	College Ave E/B				College Ave W/B				Wellington Ave N/B				Wellington Ave S/B				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	18	27	**7**	52	0	22	1	23	2	1	0	3	**1**	**3**	9	**13**	91
08:15 AM	**23**	26	6	55	0	29	2	31	5	2	0	7	1	1	**11**	13	106
08:30 AM	21	31	3	55	0	**30**	**4**	**34**	**8**	1	**2**	**11**	1	3	8	12	**112**
08:45 AM	20	**35**	4	**59**	**1**	22	2	25	2	**5**	0	7	0	1	10	11	102
Total Volume	82	119	20	221	1	103	9	113	17	9	2	28	3	8	38	49	411
% App. Total	37.1	53.8	9		0.9	91.2	8		60.7	32.1	7.1		6.1	16.3	77.6		
PHF	.891	.850	.714	.936	.250	.858	.563	.831	.531	.450	.250	.636	.750	.667	.864	.942	.917
P. Veh.	76	113	18	207	1	91	9	101	12	9	2	23	2	7	35	44	375
% P. Veh.	92.7	95.0	90.0	93.7	100	88.3	100	89.4	70.6	100	100	82.1	66.7	87.5	92.1	89.8	91.2
Trucks	1	0	2	3	0	3	0	3	2	0	0	2	1	0	0	1	9
% Trucks	1.2	0	10.0	1.4	0	2.9	0	2.7	11.8	0	0	7.1	33.3	0	0	2.0	2.2
Buses	5	6	0	11	0	9	0	9	3	0	0	3	0	1	3	4	27
% Buses	6.1	5.0	0	5.0	0	8.7	0	8.0	17.6	0	0	10.7	0	12.5	7.9	8.2	6.6



	College Ave E/B				College Ave W/B				Wellington Ave N/B				Wellington Ave S/B				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	16	26	**9**	51	0	35	0	35	3	**4**	0	**7**	3	**4**	17	24	117
04:45 PM	19	**39**	5	63	0	**44**	3	**47**	**4**	2	0	6	1	4	18	23	**139**
05:00 PM	19	34	6	59	**2**	27	5	34	4	2	0	6	**4**	2	23	29	128
05:15 PM	**27**	37	3	**67**	0	26	**6**	32	3	3	0	6	2	3	**27**	**32**	137
Total Volume	81	136	23	240	2	132	14	148	14	11	0	25	10	13	85	108	521
% App. Total	33.8	56.7	9.6		1.4	89.2	9.5		56	44	0		9.3	12	78.7		
PHF	.750	.872	.639	.896	.250	.750	.583	.787	.875	.688	.000	.893	.625	.813	.787	.844	.937
P. Veh.	80	132	23	235	2	127	14	143	14	11	0	25	10	13	85	108	511
% P. Veh.	98.8	97.1	100	97.9	100	96.2	100	96.6	100	100	0	100	100	100	100	100	98.1
Trucks	1	2	0	3	0	2	0	2	0	0	0	0	0	0	0	0	5
% Trucks	1.2	1.5	0	1.3	0	1.5	0	1.4	0	0	0	0	0	0	0	0	1.0
Buses	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
% Buses	0	1.5	0	0.8	0	2.3	0	2.0	0	0	0	0	0	0	0	0	1.0



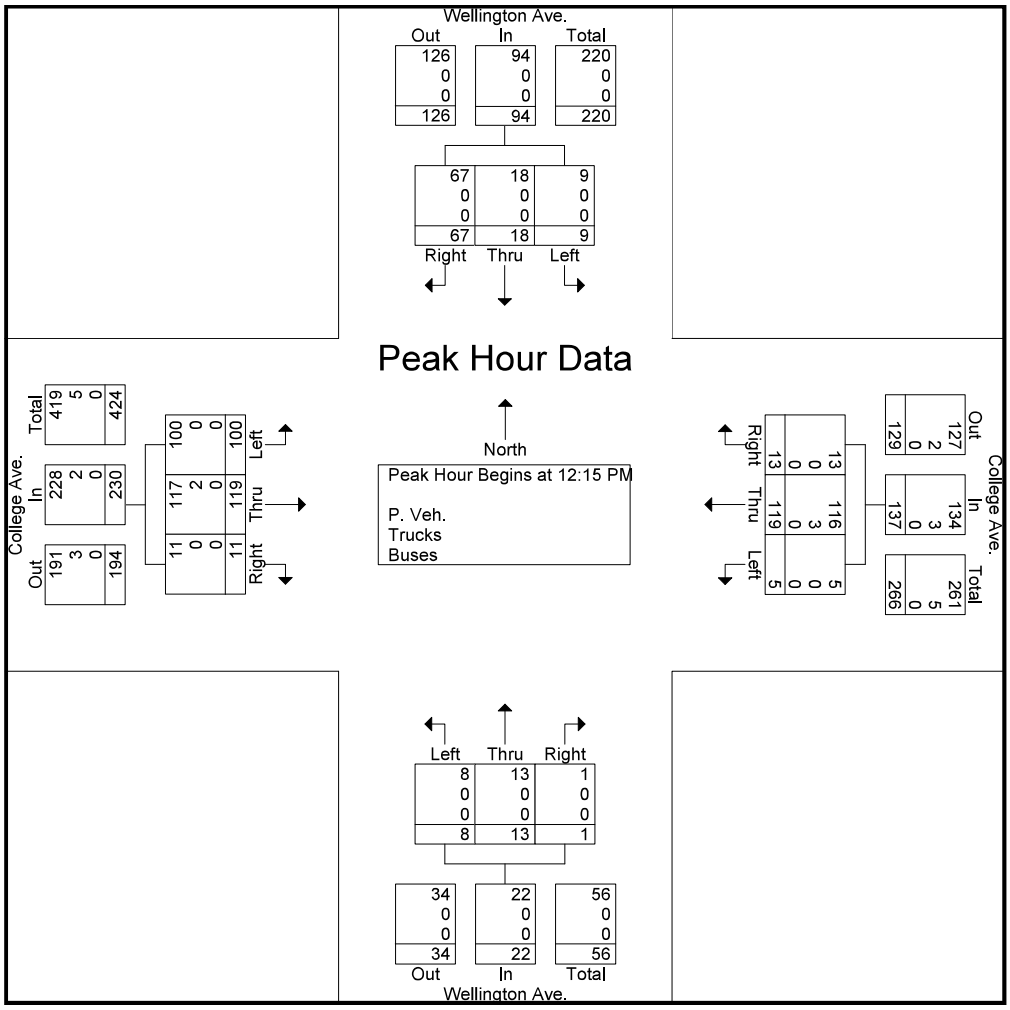
Date: 1 June 2024
Counted By: Nicholas M. (CAM4)
Weather Conditions: Clear
Wellington Ave. at College Ave.

RC SPENCER ASSOCIATES INC.
Consulting Engineers

Groups Printed- P. Veh. - Trucks - Buses

	College Ave. E/B					College Ave. W/B					Wellington Ave. N/B					Wellington Ave. S/B							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
10:00 AM	16	22	2	(0)	40	1	25	4	(3)	30	2	4	0	(3)	6	0	2	10	(0)	12	6	88	94
10:15 AM	21	27	2	(0)	50	1	30	3	(1)	34	5	0	0	(2)	5	1	4	13	(1)	18	4	107	111
10:30 AM	21	26	1	(1)	48	0	21	2	(0)	23	3	6	0	(3)	9	1	5	13	(1)	19	5	99	104
10:45 AM	20	26	1	(1)	47	1	33	5	(0)	39	2	6	1	(2)	9	3	3	11	(1)	17	4	112	116
Total	78	101	6	(2)	185	3	109	14	(4)	126	12	16	1	(10)	29	5	14	47	(3)	66	19	406	425
11:00 AM	18	22	3	(0)	43	0	39	0	(0)	39	2	0	0	(1)	2	1	6	15	(0)	22	1	106	107
11:15 AM	17	22	1	(2)	40	4	27	2	(0)	33	1	4	1	(2)	6	0	5	23	(0)	28	4	107	111
11:30 AM	17	26	4	(8)	47	0	29	3	(3)	32	0	2	1	(0)	3	0	2	15	(3)	17	14	99	113
11:45 AM	23	22	1	(0)	46	2	20	3	(3)	25	2	1	1	(2)	4	1	4	12	(0)	17	5	92	97
Total	75	92	9	(10)	176	6	115	8	(6)	129	5	7	3	(5)	15	2	17	65	(3)	84	24	404	428
12:00 PM	20	26	1	(0)	47	0	27	4	(1)	31	4	5	1	(1)	10	1	6	18	(1)	25	3	113	116
12:15 PM	23	30	4	(0)	57	3	31	5	(0)	39	2	3	0	(0)	5	2	5	18	(0)	25	0	126	126
12:30 PM	24	24	1	(6)	49	0	30	4	(1)	34	2	3	0	(1)	5	1	7	21	(1)	29	9	117	126
12:45 PM	24	25	4	(1)	53	0	32	2	(1)	34	1	5	1	(3)	7	2	2	21	(2)	25	7	119	126
Total	91	105	10	(7)	206	3	120	15	(3)	138	9	16	2	(5)	27	6	20	78	(4)	104	19	475	494
01:00 PM	29	40	2	(1)	71	2	26	2	(0)	30	3	2	0	(0)	5	4	4	7	(0)	15	1	121	122
01:15 PM	24	28	3	(1)	55	1	23	4	(1)	28	1	9	0	(1)	10	2	0	15	(1)	17	4	110	114
01:30 PM	26	21	2	(4)	49	2	25	5	(0)	32	1	1	1	(4)	3	1	8	16	(0)	25	8	109	117
01:45 PM	15	30	2	(1)	47	1	23	0	(0)	24	2	1	0	(1)	3	3	3	18	(2)	24	4	98	102
Total	94	119	9	(7)	222	6	97	11	(1)	114	7	13	1	(6)	21	10	15	56	(3)	81	17	438	455
Grand Total	338	417	34	(26)	789	18	441	48	(14)	507	33	52	7	(26)	92	23	66	246	(13)	335	79	1723	1802
Apprch %	42.8	52.9	4.3			3.6	87	9.5			35.9	56.5	7.6			6.9	19.7	73.4					
Total %	19.6	24.2	2		45.8	1	25.6	2.8		29.4	1.9	3	0.4		5.3	1.3	3.8	14.3		19.4	4.4	95.6	
P. Veh.	338	411	34		809	18	437	48		517	33	52	7		118	23	66	245		347	0	0	1791
% P. Veh.	100	98.6	100	100	99.3	100	99.1	100	100	99.2	100	100	100	100	100	100	100	99.6	100	99.7	0	0	99.4
Trucks	0	6	0		6	0	4	0		4	0	0	0		0	0	0	1		1	0	0	11
% Trucks	0	1.4	0	0	0.7	0	0.9	0	0	0.8	0	0	0	0	0	0	0	0.4	0	0.3	0	0	0.6
Buses	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	College Ave. E/B				College Ave. W/B				Wellington Ave. N/B				Wellington Ave. S/B				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15 PM																	
12:15 PM	23	30	**4**	57	**3**	31	**5**	**39**	2	3	0	5	2	5	18	25	**126**
12:30 PM	24	24	1	49	0	30	4	34	2	3	0	5	1	**7**	**21**	**29**	117
12:45 PM	24	25	4	53	0	**32**	2	34	1	**5**	**1**	**7**	2	2	21	25	119
01:00 PM	**29**	**40**	2	**71**	2	26	2	30	**3**	2	0	5	**4**	4	7	15	121
Total Volume	100	119	11	230	5	119	13	137	8	13	1	22	9	18	67	94	483
% App. Total	43.5	51.7	4.8		3.6	86.9	9.5		36.4	59.1	4.5		9.6	19.1	71.3		
PHF	.862	.744	.688	.810	.417	.930	.650	.878	.667	.650	.250	.786	.563	.643	.798	.810	.958
P. Veh.	100	117	11	228	5	116	13	134	8	13	1	22	9	18	67	94	478
% P. Veh.	100	98.3	100	99.1	100	97.5	100	97.8	100	100	100	100	100	100	100	100	99.0
Trucks	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
% Trucks	0	1.7	0	0.9	0	2.5	0	2.2	0	0	0	0	0	0	0	0	1.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



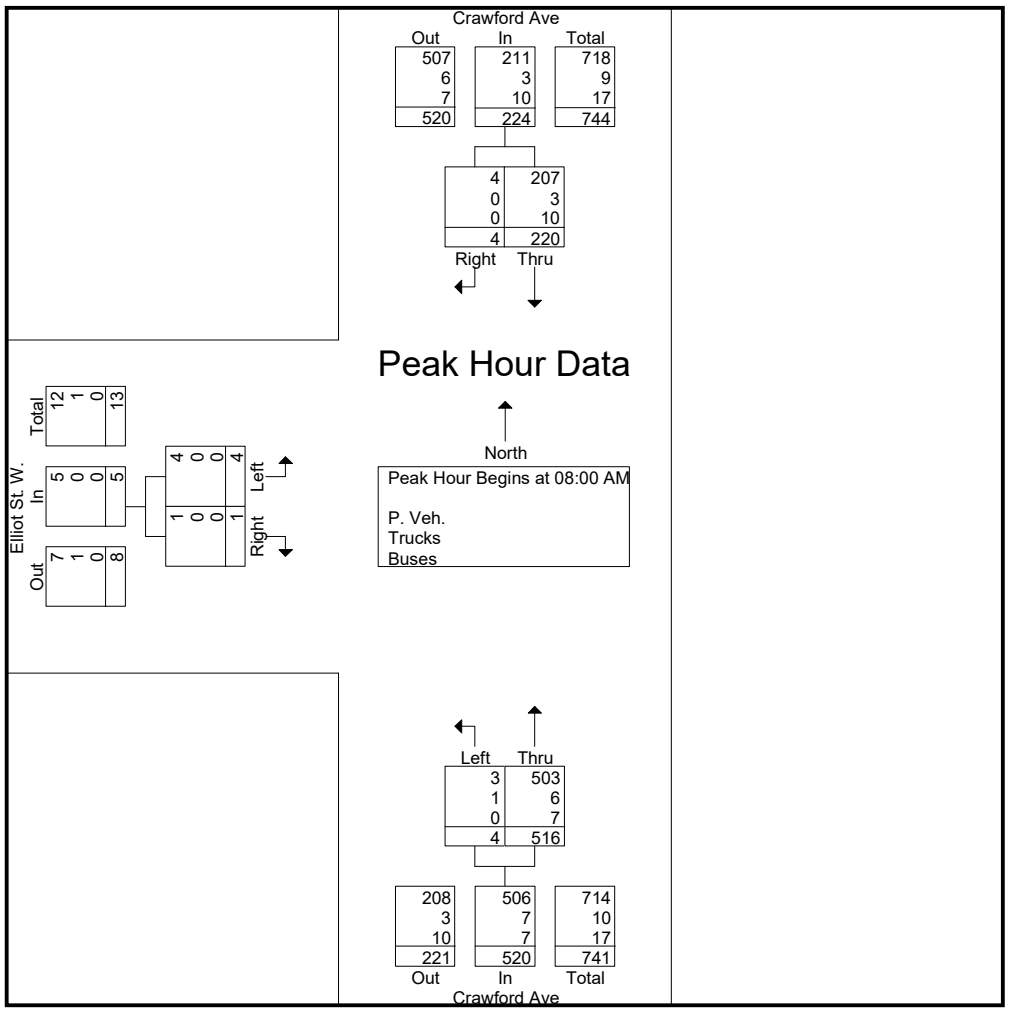
Date: 14 May 2024
Counted By: Erick R. (CAM 4)
Weather Conditions: Overcast
Elliott St. W. at Crawford Ave

RC SPENCER ASSOCIATES INC.
Consulting Engineers

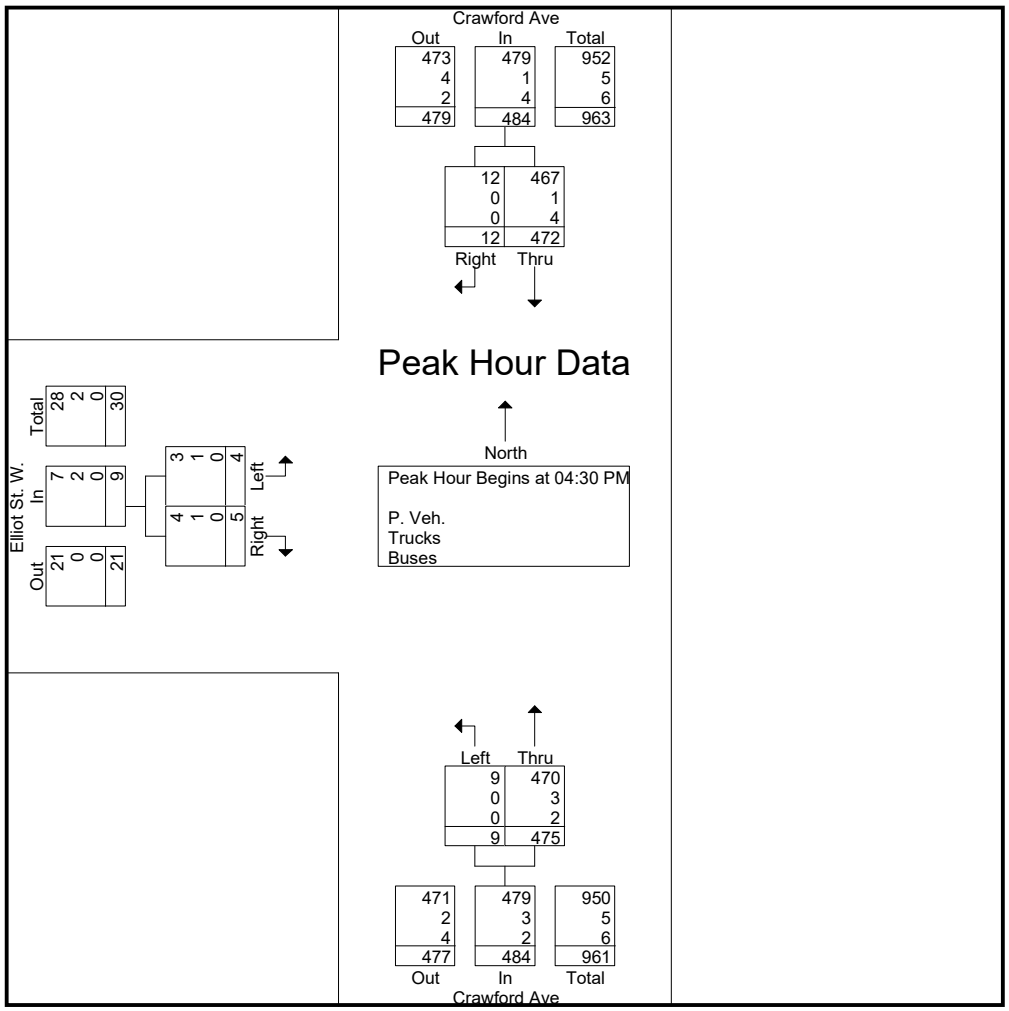
Groups Printed- P. Veh. - Trucks - Buses

	Elliott St. W. E/B				Crawford Ave N/B			Crawford Ave S/B						
Start Time	Left	Right	Peds	App. Total	Left	Thru	App. Total	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	(1)	0	1	41	42	29	1	(0)	30	1	72	73
07:15 AM	2	1	(1)	3	0	64	64	30	1	(0)	31	1	98	99
07:30 AM	0	0	(3)	0	1	72	73	54	1	(0)	55	3	128	131
07:45 AM	1	0	(2)	1	0	89	89	70	4	(1)	74	3	164	167
Total	3	1	(7)	4	2	266	268	183	7	(1)	190	8	462	470
08:00 AM	2	0	(3)	2	1	127	128	47	0	(1)	47	4	177	181
08:15 AM	2	1	(2)	3	2	145	147	49	0	(1)	49	3	199	202
08:30 AM	0	0	(2)	0	0	123	123	69	0	(0)	69	2	192	194
08:45 AM	0	0	(1)	0	1	121	122	55	4	(0)	59	1	181	182
Total	4	1	(8)	5	4	516	520	220	4	(2)	224	10	749	759
*** BREAK ***														
04:00 PM	3	1	(3)	4	2	131	133	117	3	(0)	120	3	257	260
04:15 PM	1	2	(1)	3	1	100	101	113	1	(0)	114	1	218	219
04:30 PM	0	2	(1)	2	2	114	116	130	2	(0)	132	1	250	251
04:45 PM	1	0	(2)	1	1	110	111	116	3	(0)	119	2	231	233
Total	5	5	(7)	10	6	455	461	476	9	(0)	485	7	956	963
05:00 PM	2	1	(1)	3	3	118	121	134	3	(0)	137	1	261	262
05:15 PM	1	2	(2)	3	3	133	136	92	4	(0)	96	2	235	237
05:30 PM	2	3	(6)	5	0	104	104	105	1	(0)	106	6	215	221
05:45 PM	2	0	(4)	2	0	109	109	80	2	(0)	82	4	193	197
Total	7	6	(13)	13	6	464	470	411	10	(0)	421	13	904	917
Grand Total	19	13	(35)	32	18	1701	1719	1290	30	(3)	1320	38	3071	3109
Apprch %	59.4	40.6			1	99		97.7	2.3					
Total %	0.6	0.4		1	0.6	55.4	56	42	1		43	1.2	98.8	
P. Veh.	17	11		63	17	1660	1677	1263	29		1295	0	0	3035
% P. Veh.	89.5	84.6	100	94	94.4	97.6	97.6	97.9	96.7	100	97.9	0	0	97.6
Trucks	2	2		4	1	20	21	6	1		7	0	0	32
% Trucks	10.5	15.4	0	6	5.6	1.2	1.2	0.5	3.3	0	0.5	0	0	1
Buses	0	0		0	0	21	21	21	0		21	0	0	42
% Buses	0	0	0	0	0	1.2	1.2	1.6	0	0	1.6	0	0	1.4

	Elliott St. W. E/B			Crawford Ave N/B			Crawford Ave S/B			
Start Time	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**2**	0	2	1	127	128	47	0	47	177
08:15 AM	2	**1**	**3**	**2**	**145**	**147**	49	0	49	**199**
08:30 AM	0	0	0	0	123	123	**69**	0	**69**	192
08:45 AM	0	0	0	1	121	122	55	**4**	59	181
Total Volume	4	1	5	4	516	520	220	4	224	749
% App. Total	80	20		0.8	99.2		98.2	1.8		
PHF	.500	.250	.417	.500	.890	.884	.797	.250	.812	.941
P. Veh.	4	1	5	3	503	506	207	4	211	722
% P. Veh.	100	100	100	75.0	97.5	97.3	94.1	100	94.2	96.4
Trucks	0	0	0	1	6	7	3	0	3	10
% Trucks	0	0	0	25.0	1.2	1.3	1.4	0	1.3	1.3
Buses	0	0	0	0	7	7	10	0	10	17
% Buses	0	0	0	0	1.4	1.3	4.5	0	4.5	2.3



	Elliott St. W. E/B			Crawford Ave N/B			Crawford Ave S/B			
Start Time	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**2**	2	2	114	116	130	2	132	250
04:45 PM	1	0	1	1	110	111	116	3	119	231
05:00 PM	**2**	1	**3**	**3**	118	121	**134**	3	**137**	**261**
05:15 PM	1	2	3	3	**133**	**136**	92	**4**	96	235
Total Volume	4	5	9	9	475	484	472	12	484	977
% App. Total	44.4	55.6		1.9	98.1		97.5	2.5		
PHF	.500	.625	.750	.750	.893	.890	.881	.750	.883	.936
P. Veh.	3	4	7	9	470	479	467	12	479	965
% P. Veh.	75.0	80.0	77.8	100	98.9	99.0	98.9	100	99.0	98.8
Trucks	1	1	2	0	3	3	1	0	1	6
% Trucks	25.0	20.0	22.2	0	0.6	0.6	0.2	0	0.2	0.6
Buses	0	0	0	0	2	2	4	0	4	6
% Buses	0	0	0	0	0.4	0.4	0.8	0	0.8	0.6



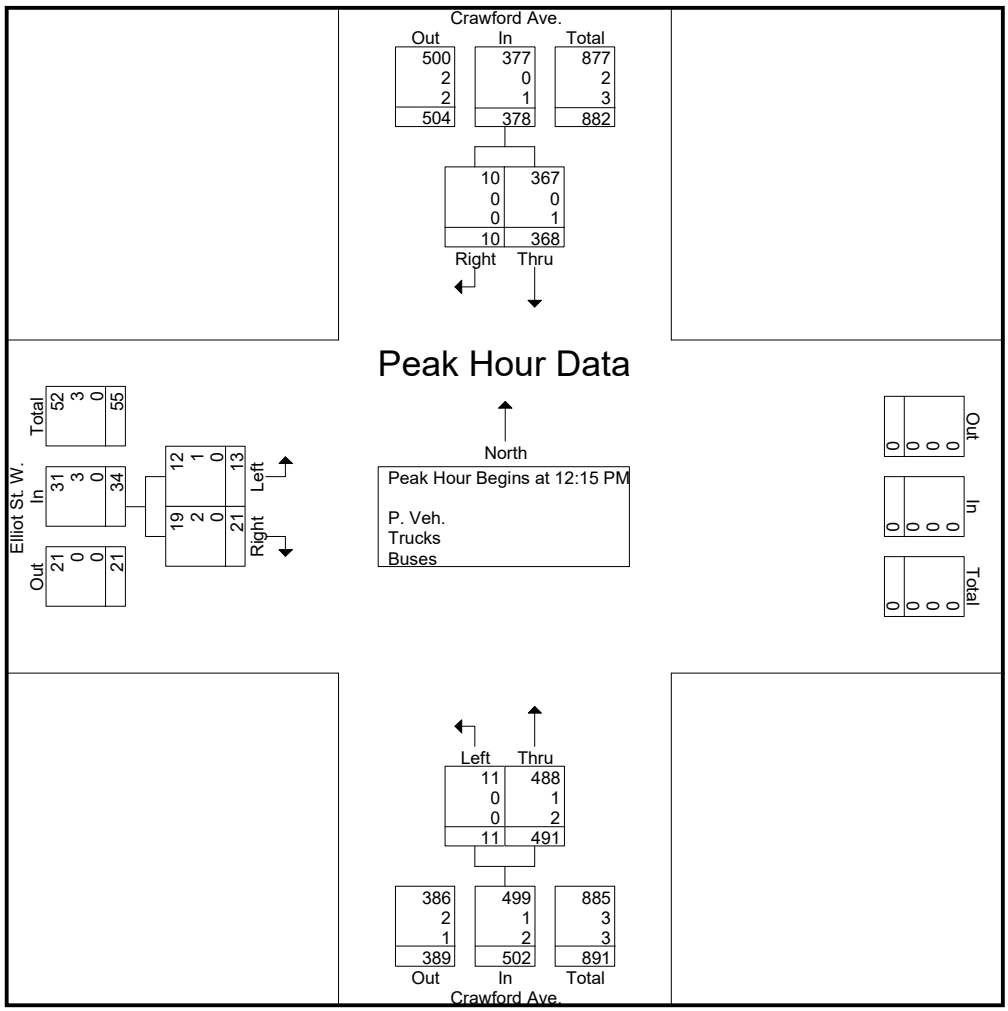
Date: 1 June 2024
Counted By: Mary K. (CAM4) Weather
Conditions: Clear
Elliott Street West at Crawford Avenue

RC SPENCER ASSOCIATES INC.
Consulting Engineers

Groups Printed- P. Veh. - Trucks - Buses

	Elliott St. W. E/B				Crawford Ave. N/B				Crawford Ave. S/B						
Start Time	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
10:00 AM	2	3	(1)	5	1	102	(0)	103	68	2	(1)	70	2	178	180
10:15 AM	1	3	(2)	4	2	88	(0)	90	78	4	(2)	82	4	176	180
10:30 AM	0	3	(2)	3	1	95	(0)	96	83	1	(0)	84	2	183	185
10:45 AM	1	5	(3)	6	3	97	(0)	100	75	3	(0)	78	3	184	187
Total	4	14	(8)	18	7	382	(0)	389	304	10	(3)	314	11	721	732
11:00 AM	3	5	(3)	8	2	92	(0)	94	94	0	(0)	94	3	196	199
11:15 AM	1	5	(2)	6	4	119	(1)	123	89	1	(0)	90	3	219	222
11:30 AM	4	0	(6)	4	1	96	(0)	97	85	4	(0)	89	6	190	196
11:45 AM	5	2	(8)	7	2	102	(0)	104	80	3	(1)	83	9	194	203
Total	13	12	(19)	25	9	409	(1)	418	348	8	(1)	356	21	799	820
12:00 PM	1	4	(1)	5	2	87	(1)	89	84	4	(0)	88	2	182	184
12:15 PM	5	6	(3)	11	3	133	(0)	136	88	4	(0)	92	3	239	242
12:30 PM	1	6	(5)	7	3	128	(0)	131	105	3	(0)	108	5	246	251
12:45 PM	6	1	(4)	7	2	125	(0)	127	85	2	(0)	87	4	221	225
Total	13	17	(13)	30	10	473	(1)	483	362	13	(0)	375	14	888	902
01:00 PM	1	8	(5)	9	3	105	(0)	108	90	1	(0)	91	5	208	213
01:15 PM	2	0	(7)	2	2	106	(0)	108	99	3	(2)	102	9	212	221
01:30 PM	3	4	(7)	7	3	103	(0)	106	92	2	(1)	94	8	207	215
01:45 PM	2	3	(3)	5	3	106	(0)	109	86	4	(0)	90	3	204	207
Total	8	15	(22)	23	11	420	(0)	431	367	10	(3)	377	25	831	856
Grand Total	38	58	(62)	96	37	1684	(2)	1721	1381	41	(7)	1422	71	3239	3310
Apprch %	39.6	60.4			2.1	97.9			97.1	2.9					
Total %	1.2	1.8		3	1.1	52		53.1	42.6	1.3		43.9	2.1	97.9	
P. Veh.	37	55		154	37	1674		1713	1372	41		1420	0	0	3287
% P. Veh.	97.4	94.8	100	97.5	100	99.4	100	99.4	99.3	100	100	99.4	0	0	99.3
Trucks	1	3		4	0	2		2	2	0		2	0	0	8
% Trucks	2.6	5.2	0	2.5	0	0.1	0	0.1	0.1	0	0	0.1	0	0	0.2
Buses	0	0		0	0	8		8	7	0		7	0	0	15
% Buses	0	0	0	0	0	0.5	0	0.5	0.5	0	0	0.5	0	0	0.5

	Elliott St. W. E/B			Crawford Ave. N/B			Crawford Ave. S/B			
Start Time	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:15 PM										
12:15 PM	5	6	**11**	**3**	**133**	**136**	88	**4**	92	239
12:30 PM	1	6	7	3	128	131	**105**	3	**108**	**246**
12:45 PM	**6**	1	7	2	125	127	85	2	87	221
01:00 PM	1	**8**	9	3	105	108	90	1	91	208
Total Volume	13	21	34	11	491	502	368	10	378	914
% App. Total	38.2	61.8		2.2	97.8		97.4	2.6		
PHF	.542	.656	.773	.917	.923	.923	.876	.625	.875	.929
P. Veh.	12	19	31	11	488	499	367	10	377	907
% P. Veh.	92.3	90.5	91.2	100	99.4	99.4	99.7	100	99.7	99.2
Trucks	1	2	3	0	1	1	0	0	0	4
% Trucks	7.7	9.5	8.8	0	0.2	0.2	0	0	0	0.4
Buses	0	0	0	0	2	2	1	0	1	3
% Buses	0	0	0	0	0.4	0.4	0.3	0	0.3	0.3



Appendix C

ITE TRIP GENERATION MANUAL – 11TH EDITION REFERENCES

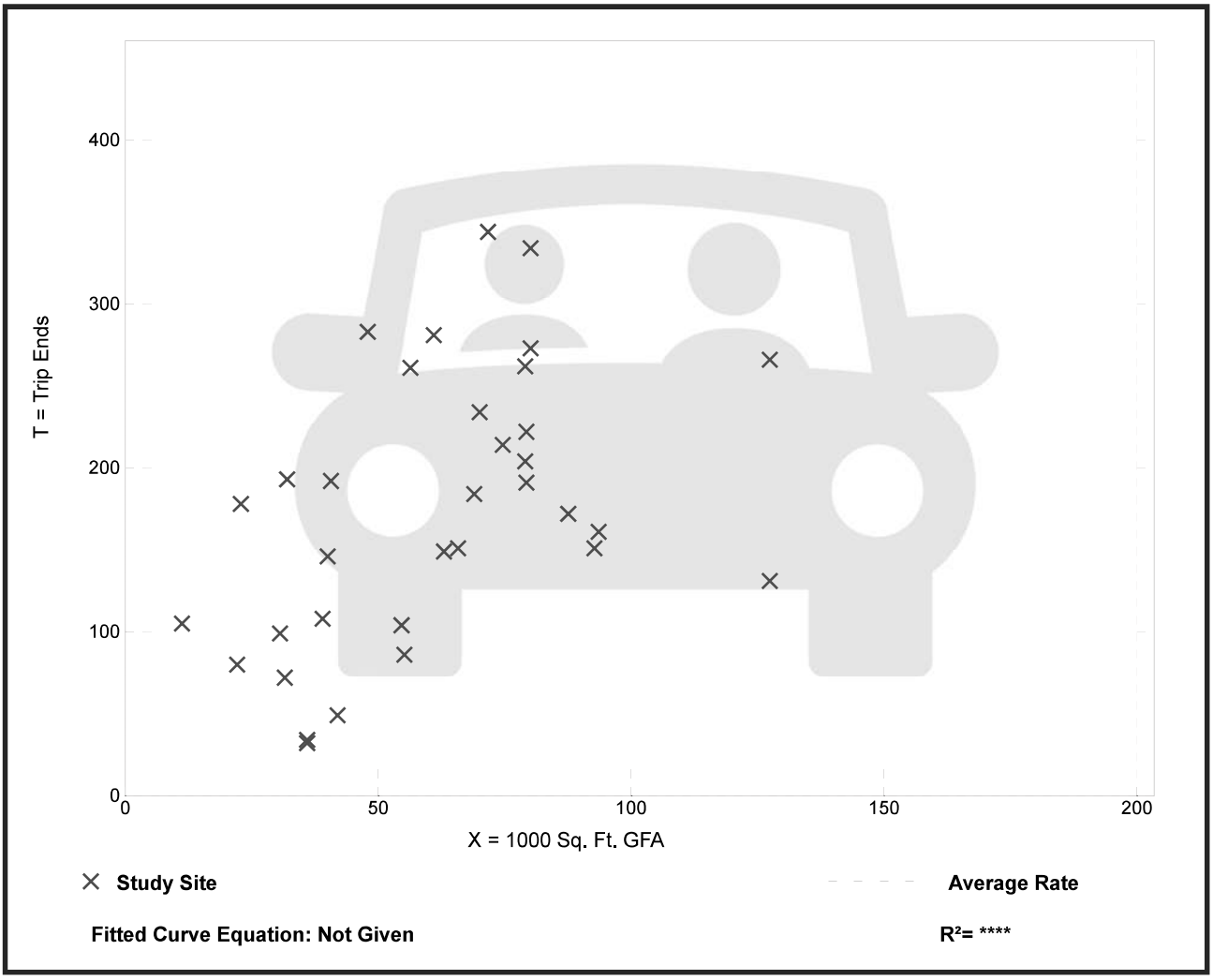
Supermarket
(850)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
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:	34
Avg. 1000 Sq. Ft. GFA:	61
Directional Distribution:	59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.86	0.89 - 9.35	1.45

Data Plot and Equation



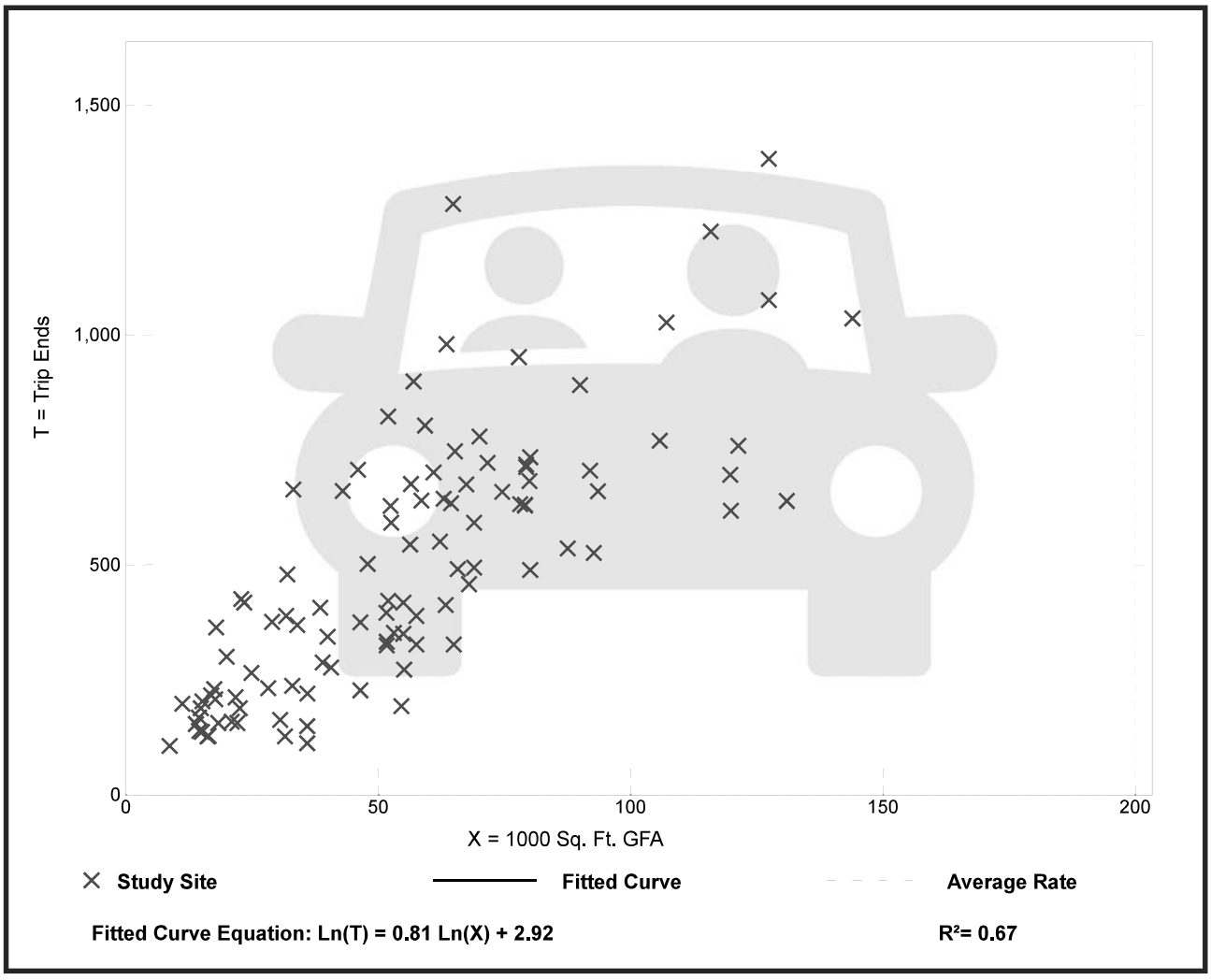
Supermarket
(850)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
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:	104
Avg. 1000 Sq. Ft. GFA:	55
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.95	3.11 - 20.30	3.32

Data Plot and Equation



Supermarket
(850)

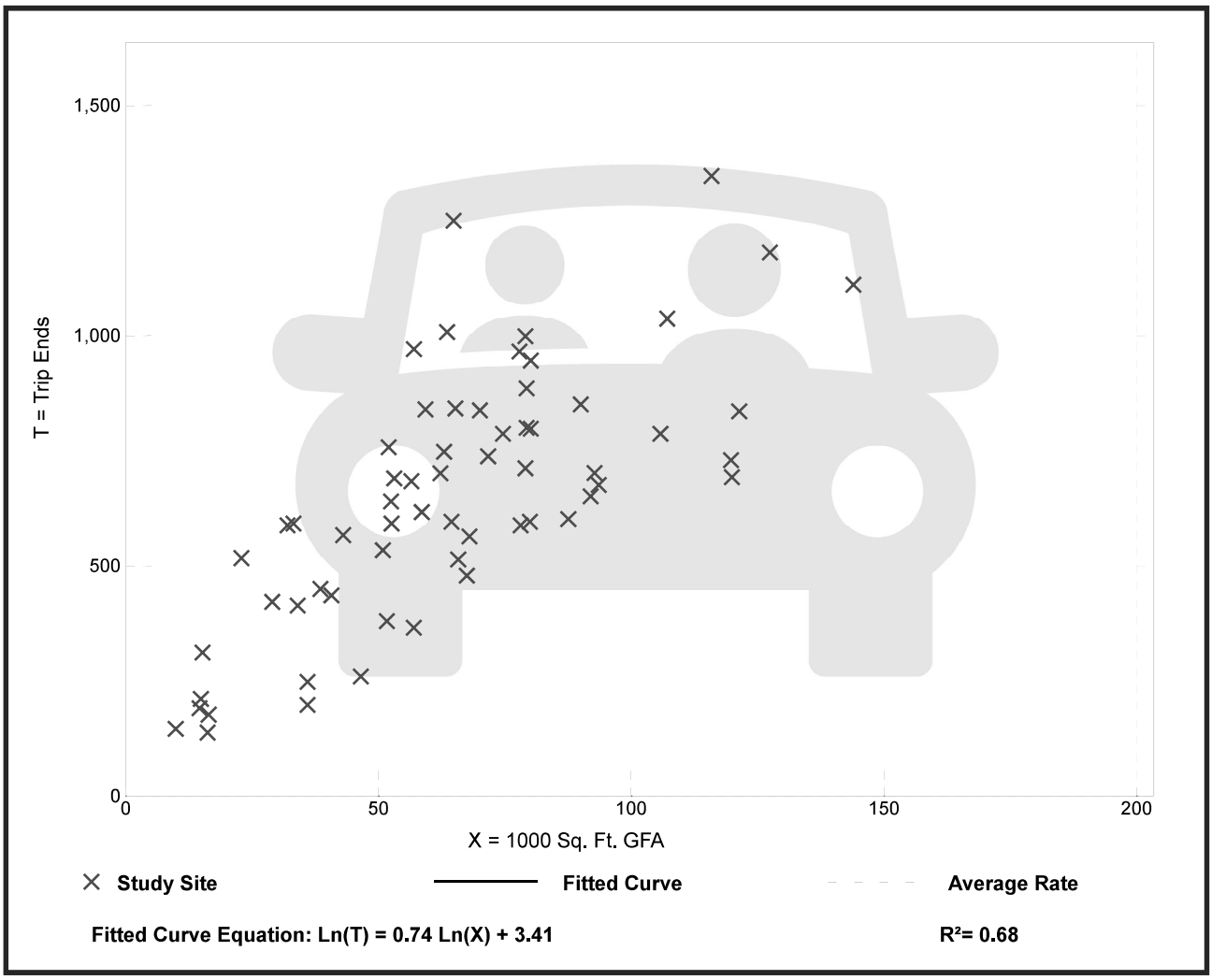
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 62
Avg. 1000 Sq. Ft. GFA: 65
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.10	5.51 - 22.61	3.30

Data Plot and Equation



Proposed Site Development Trip Generation and Distribution

Project: 673 Wellington Avenue Commercial Development

Site: Windsor, ON

Assumed Land Use (1): Supremarket - ITE No. 850

Average Vehicle Trip Ends vs.: 1000 Sq. Ft. GFA

ITE Trip Generation Data collected on a: Weekday / Saturday

AM Peak Hour:	2.86	= Average Rate	59	% Entering
			41	% Exiting
PM Peak Hour:	8.95	= Average Rate	50	% Entering
			50	% Exiting
Saturday Peak Hour:	10.10	= Average Rate	50	% Entering
			50	% Exiting

Assumed Land Use (1): Supremarket - ITE No. 850				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
AM Peak	19.1	54	32	22
PM Peak	19.1	170	85	85
Saturday Peak	19.1	192	96	96

Total Trips Generated by Site		
	Trips Entering	**Trips Exiting**
AM Peak	32	22
PM Peak	85	85
Saturday Peak	96	96

Appendix D

TRAFFIC PROJECTION FIGURES

Wyandotte Street West at Wellington Avenue

Site Access at Wellington Avenue

Site Egress at Wellington Avenue

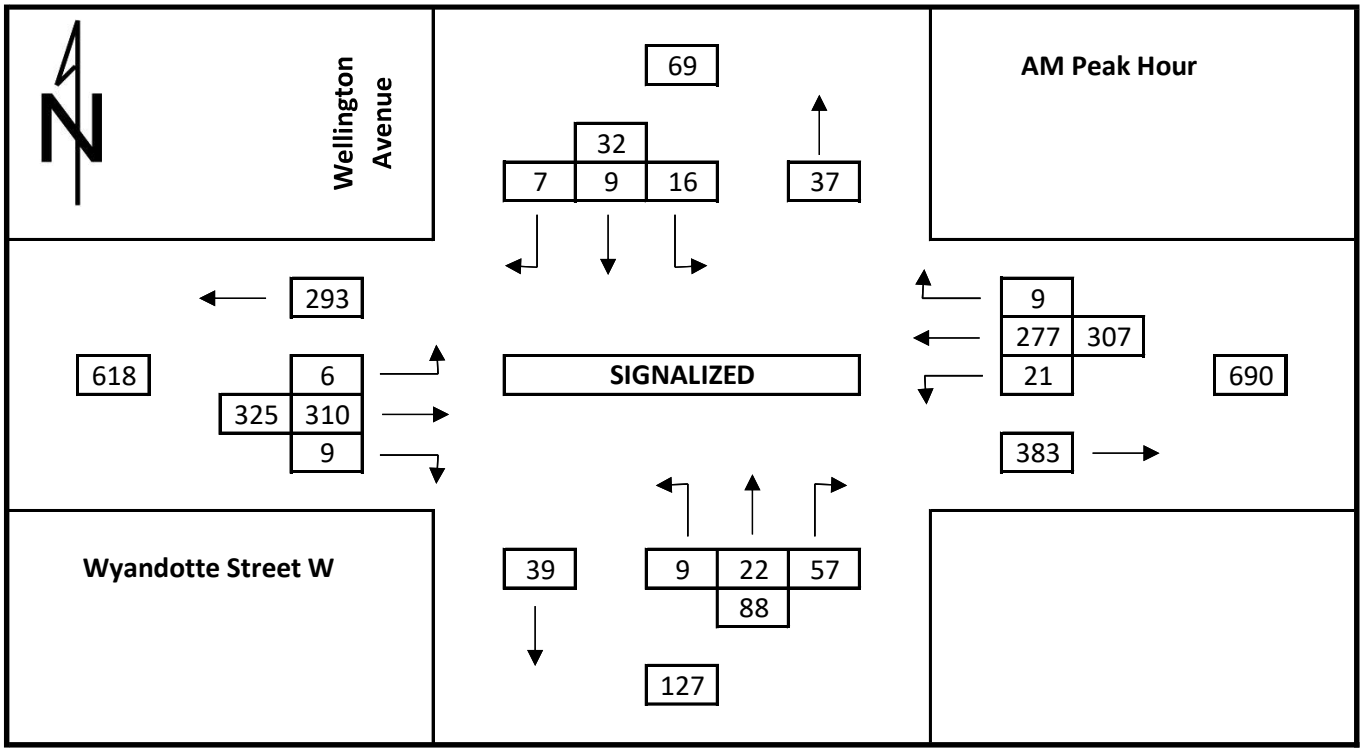
Elliott Street West at Wellington Avenue

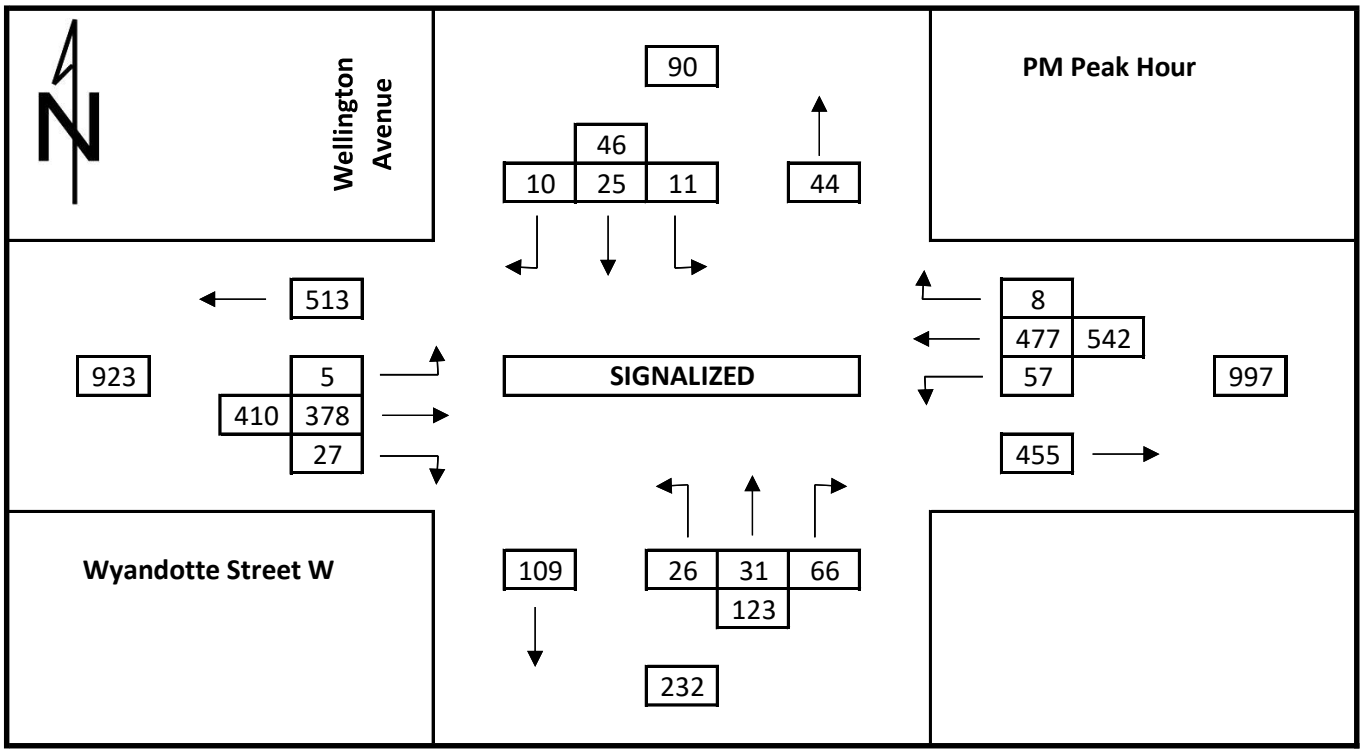
College Avenue at Wellington Avenue

Elliott Street West at Crawford Avenue

Existing Traffic Counts

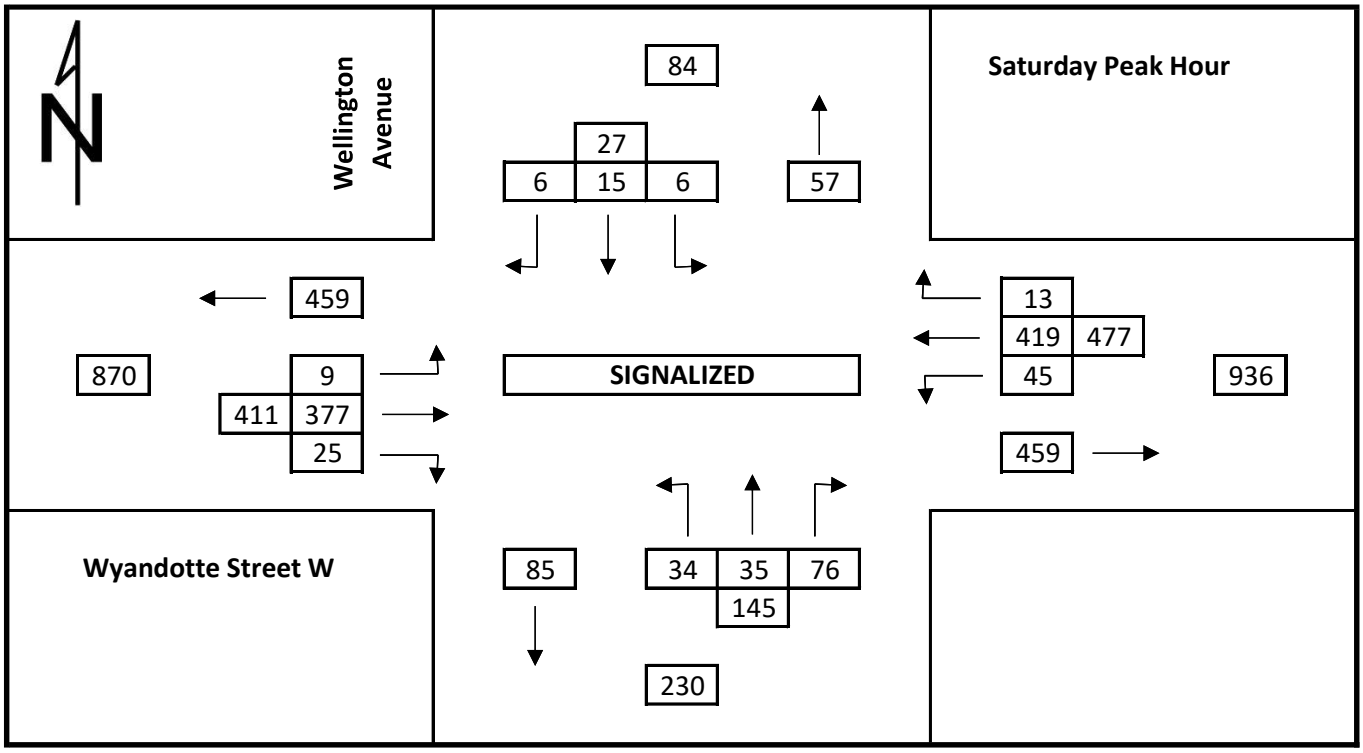
Wyandotte Street West at Wellington Avenue





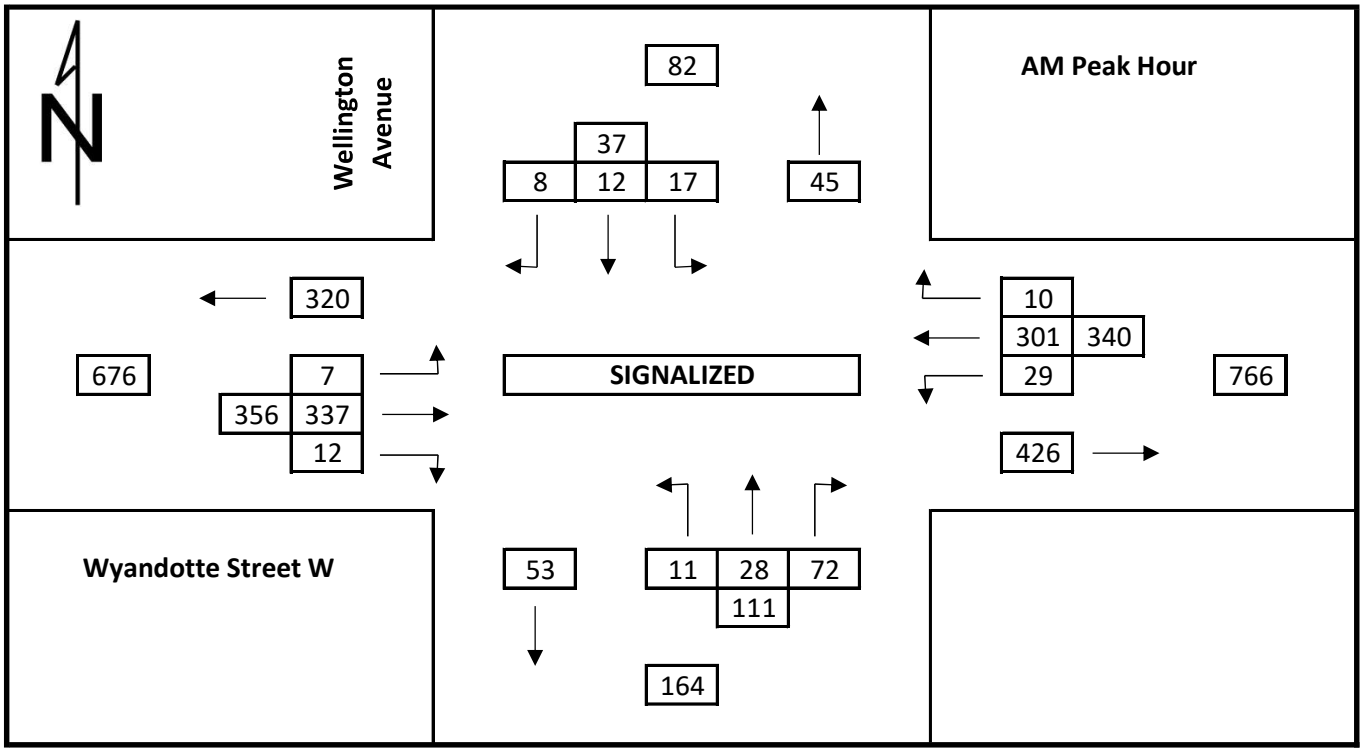
Existing Traffic Counts

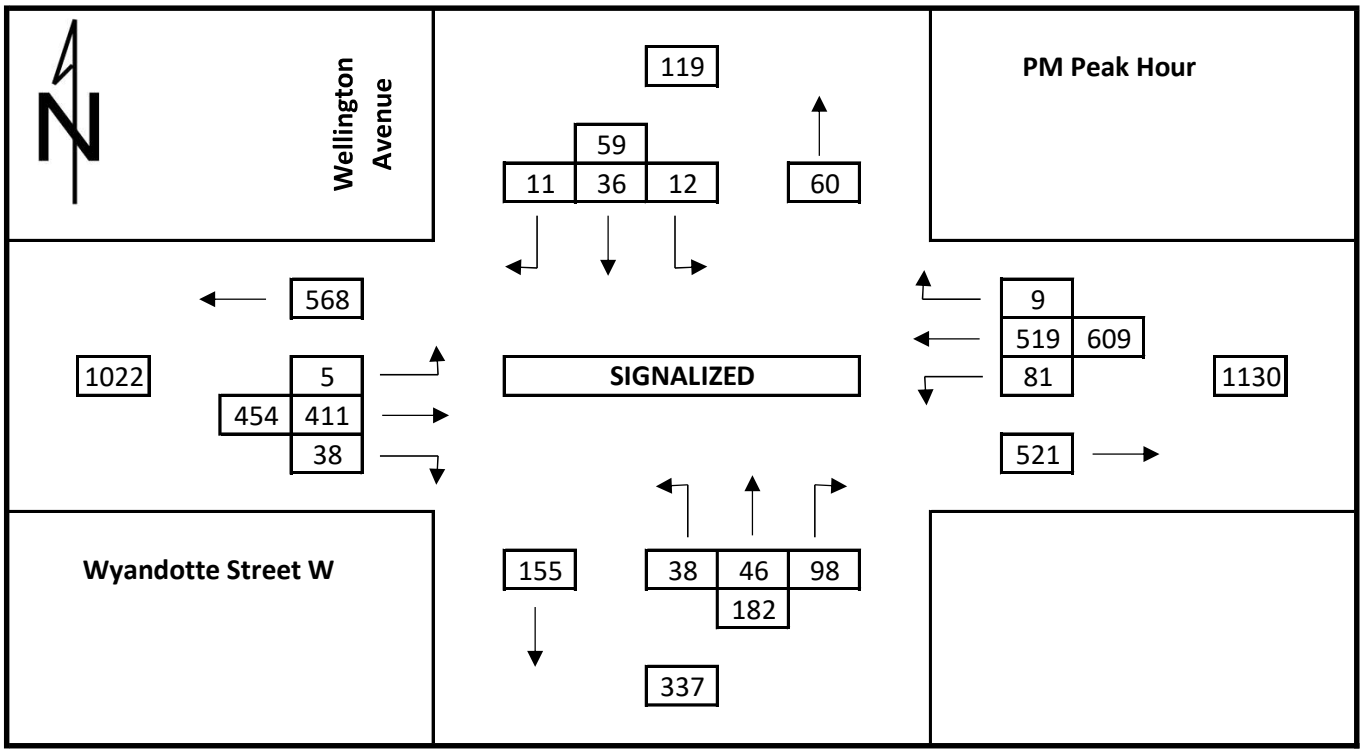
Wyandotte Street W at Wellington Avenue



Total Traffic 2029

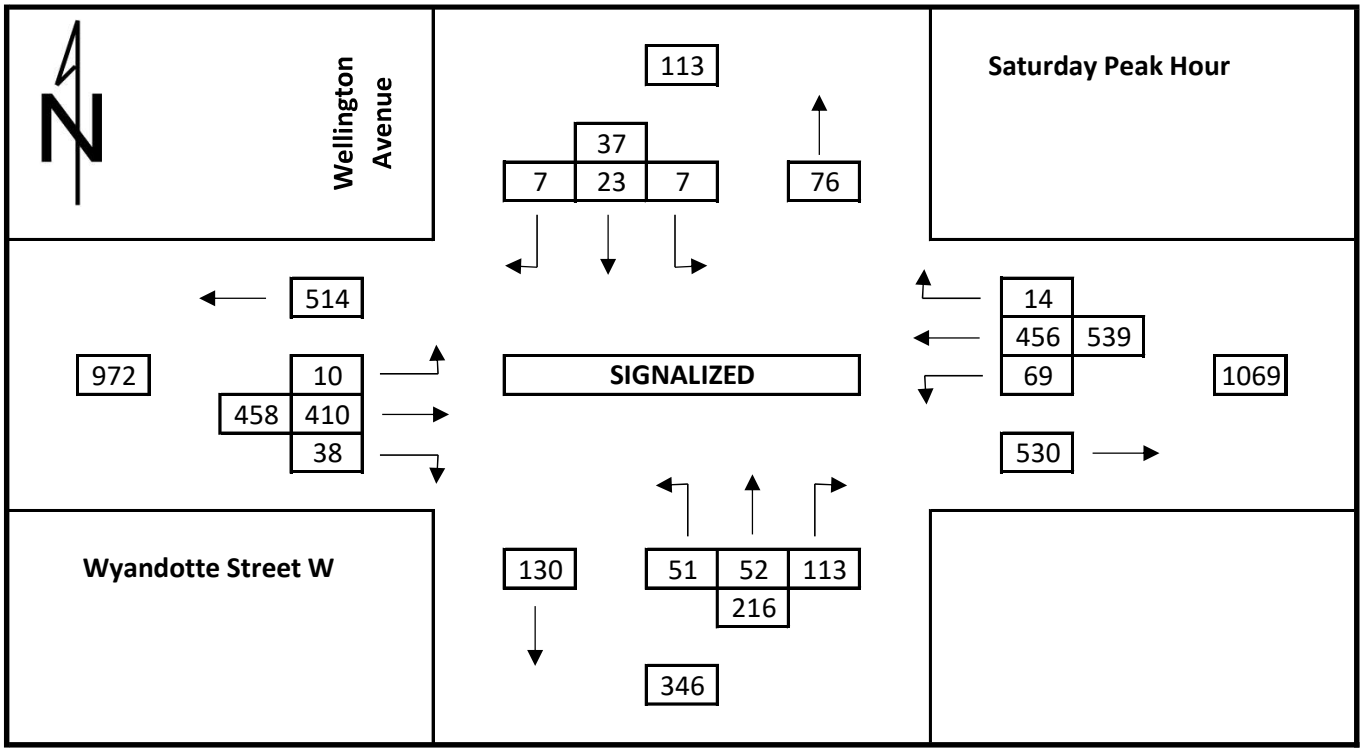
Wyandotte Street West at Wellington Avenue





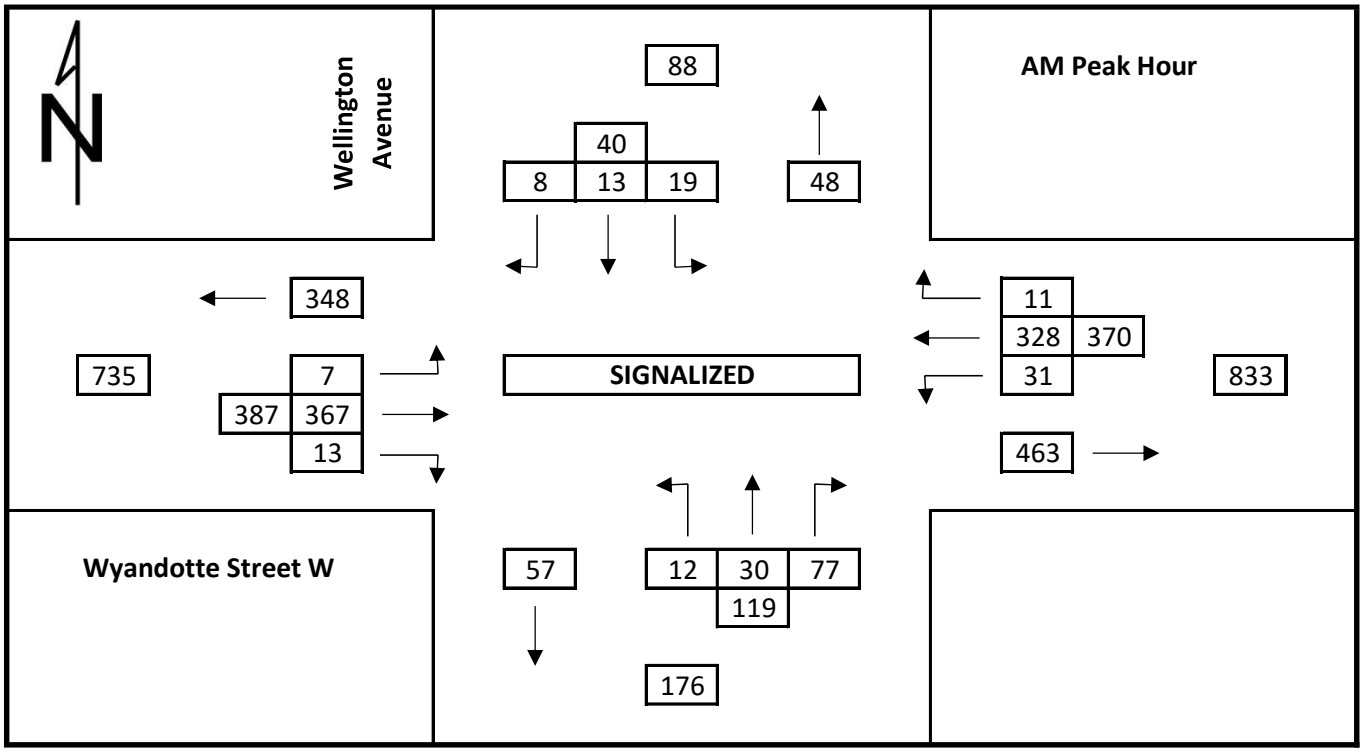
Total Traffic 2029

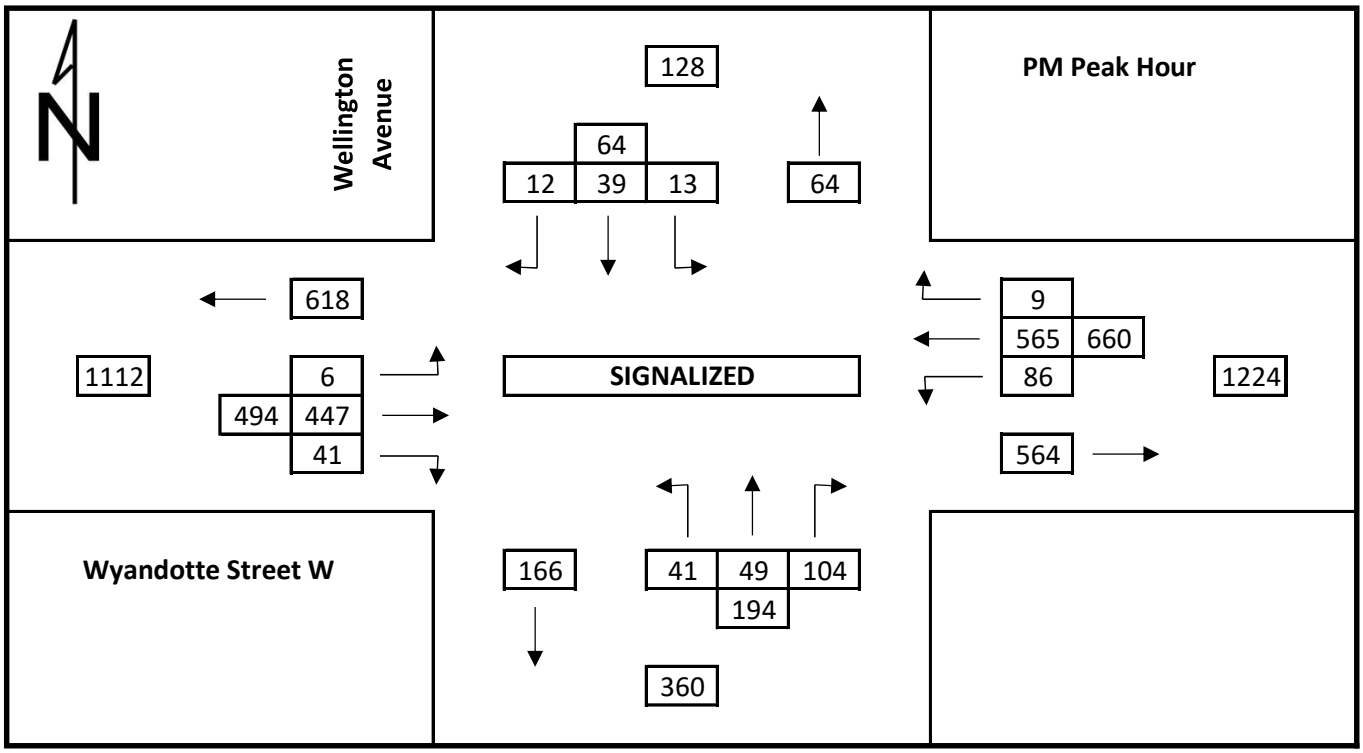
Wyandotte Street W at Wellington Avenue



Total Traffic 2034

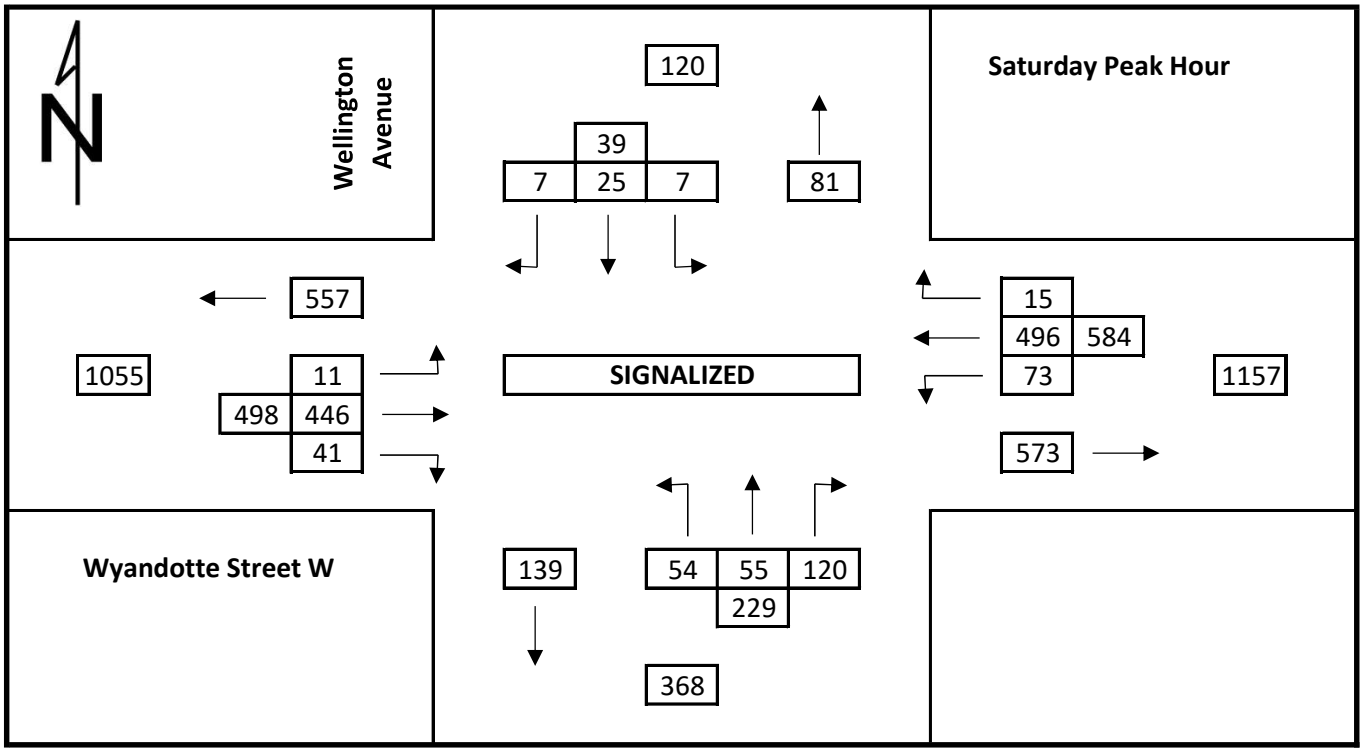
Wyandotte Street West at Wellington Avenue





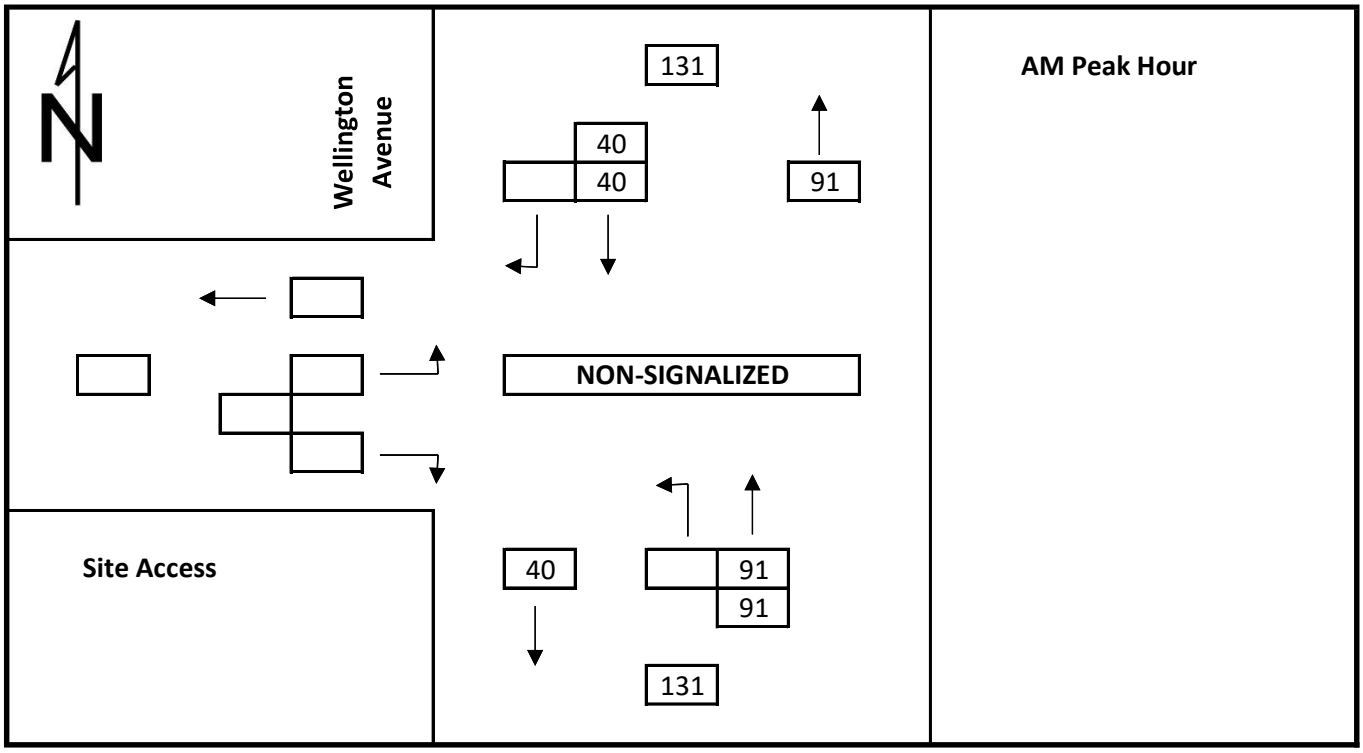
Total Traffic 2034

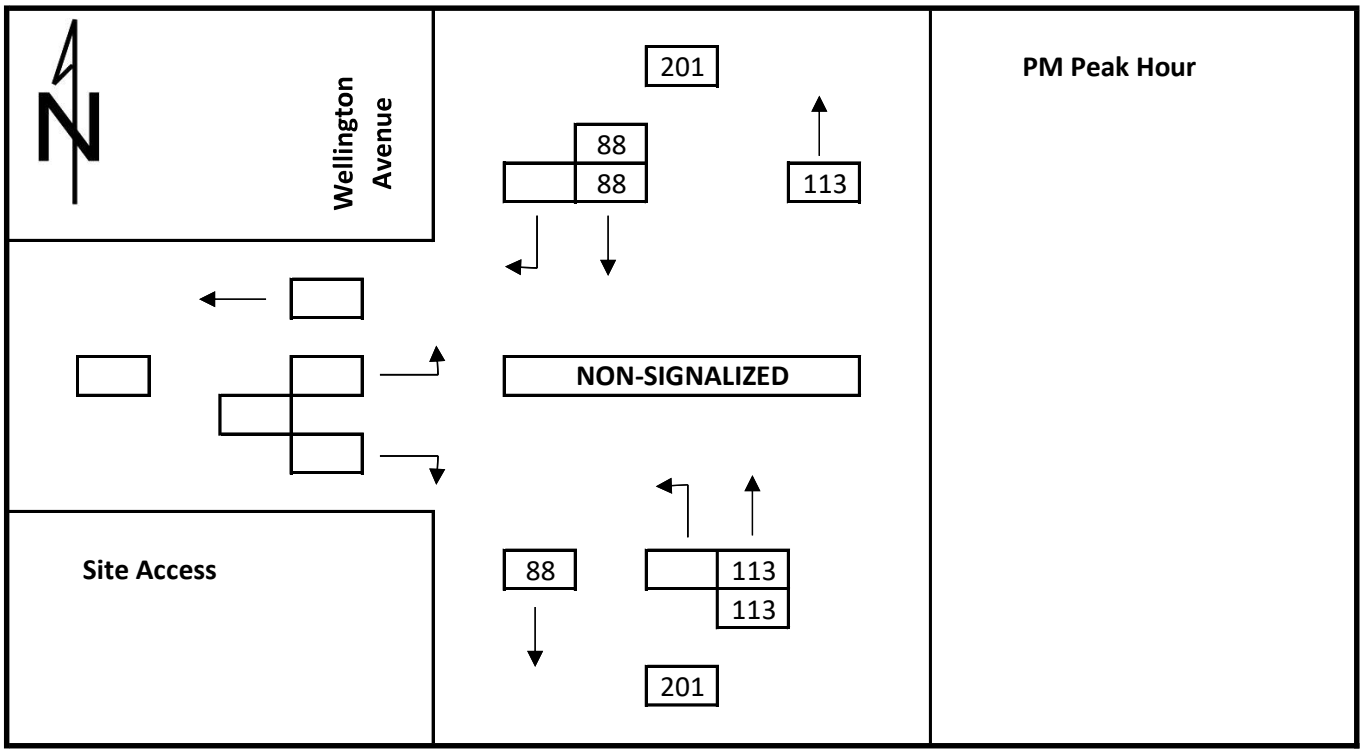
Wyandotte Street W at Wellington Avenue



Existing Traffic Counts

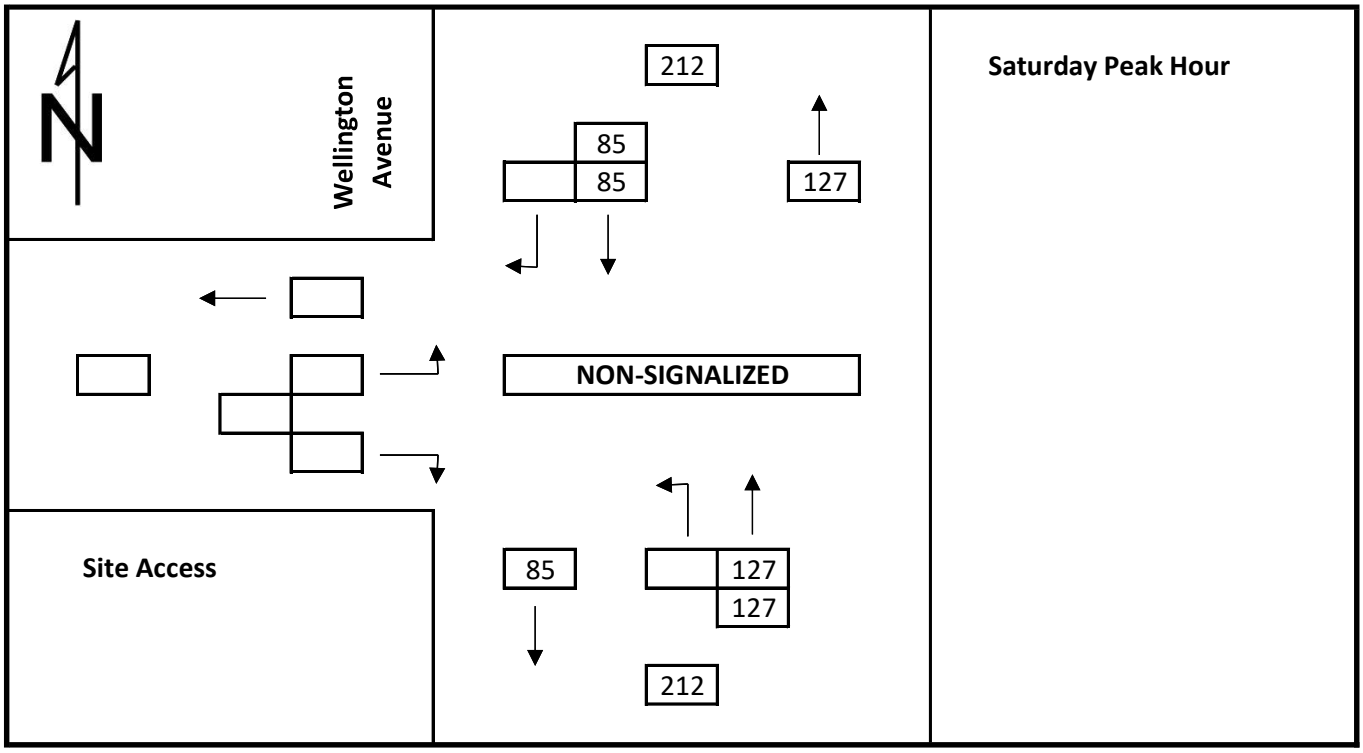
Site Access at Wellington Avenue





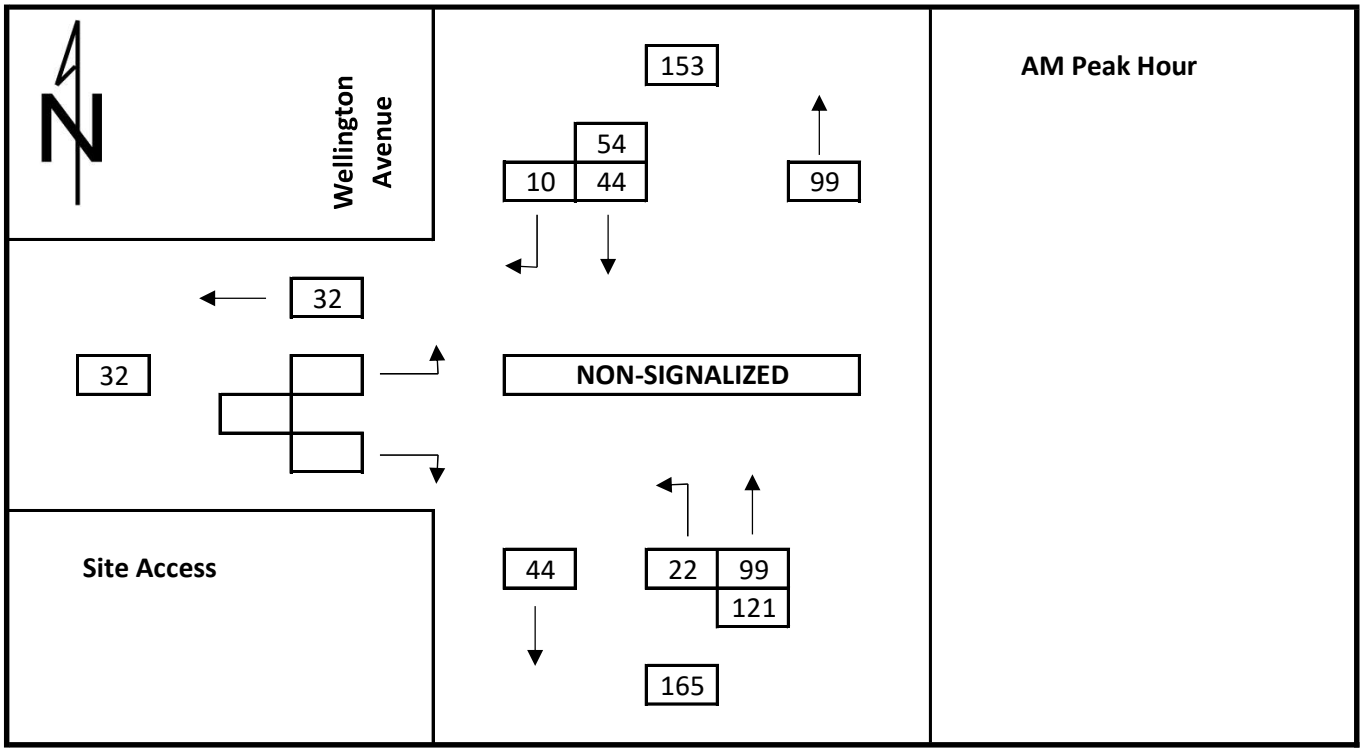
Existing Traffic Counts

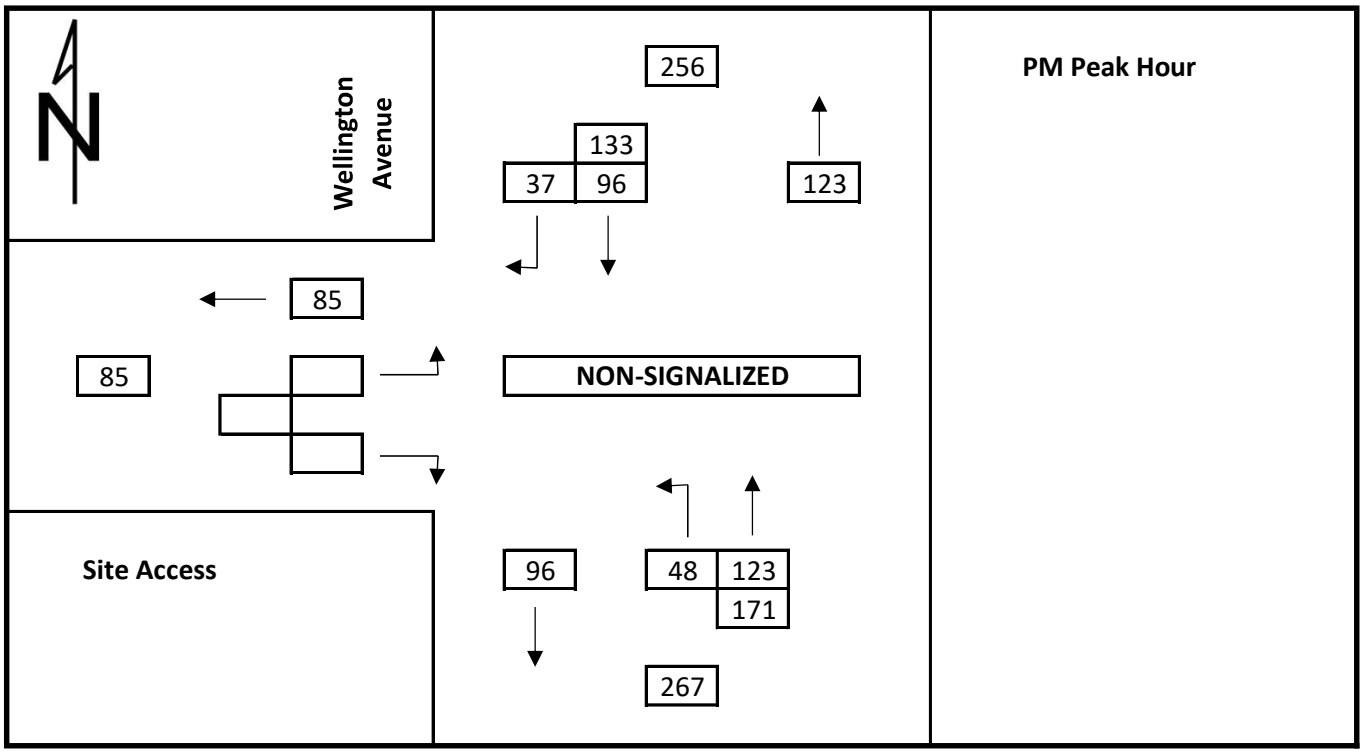
Site Access at Wellington Avenue



Total Traffic 2029

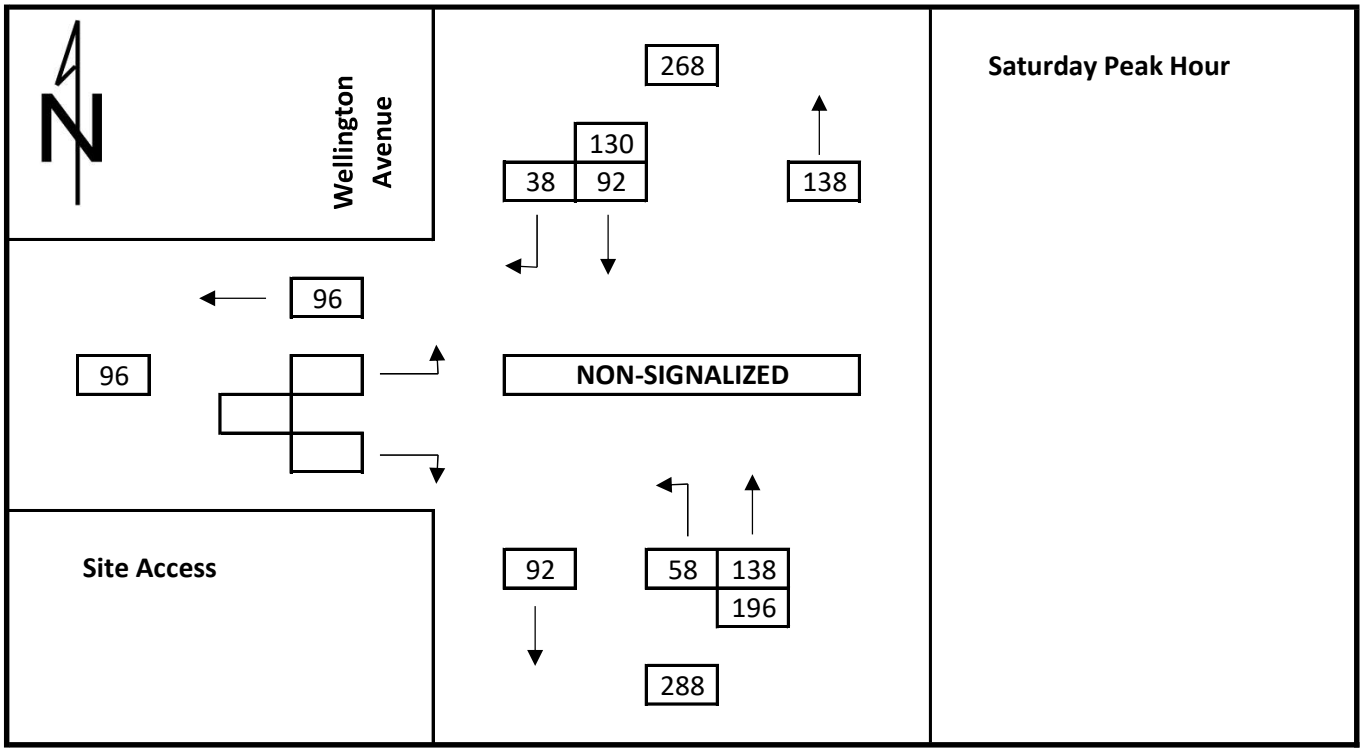
Site Access at Wellington Avenue





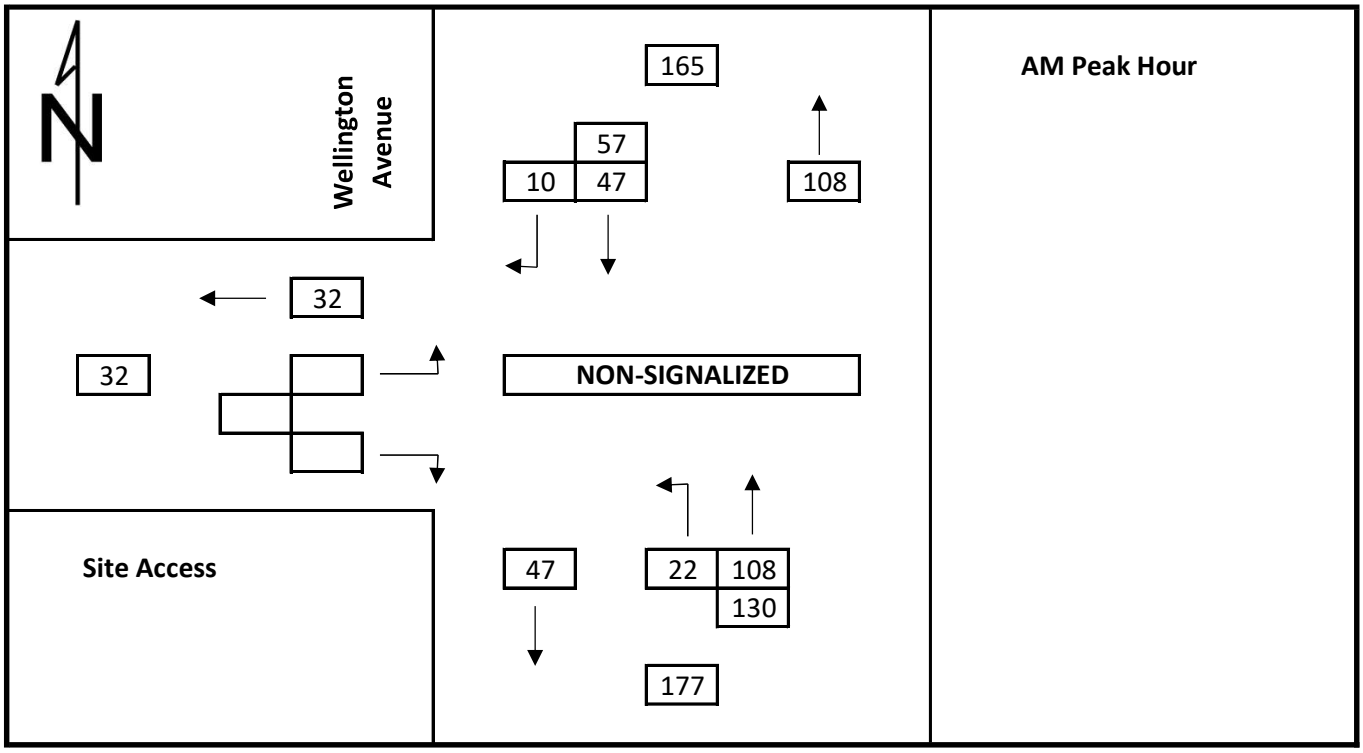
Total Traffic 2029

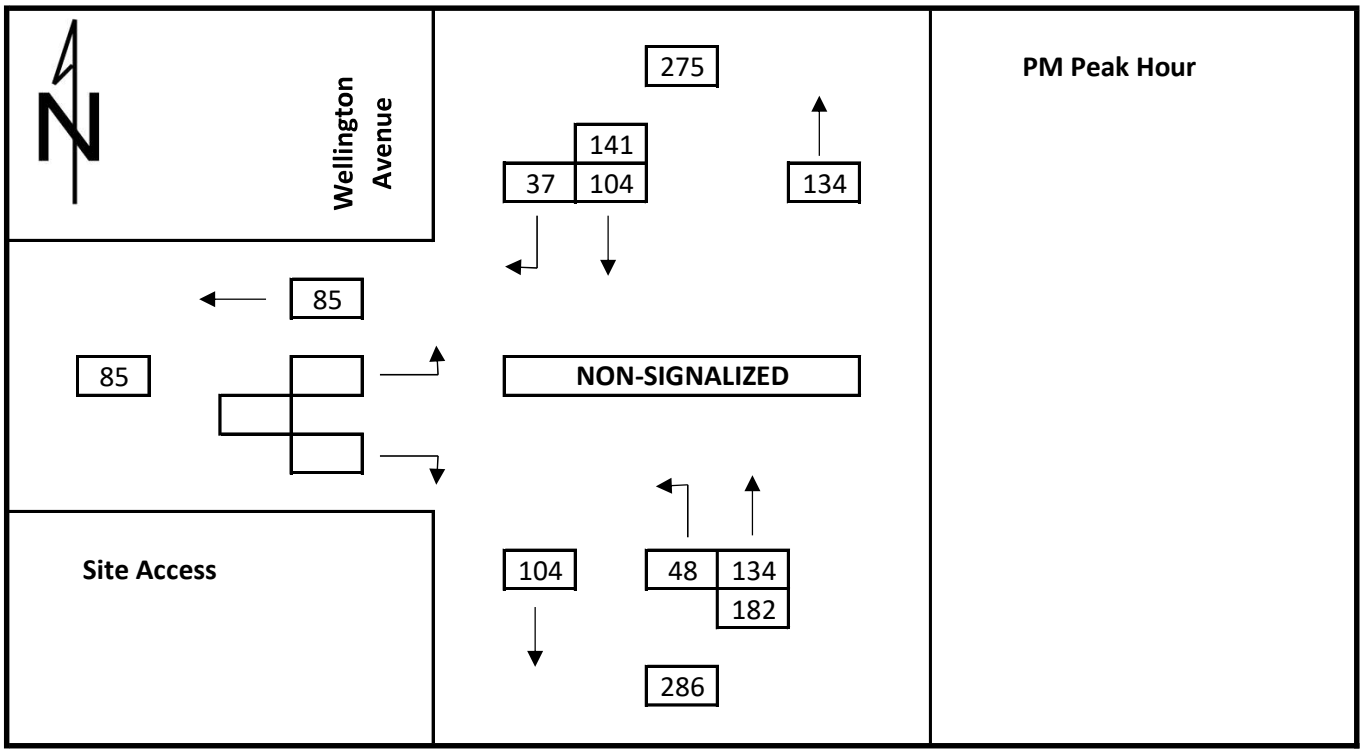
Site Access at Wellington Avenue



Total Traffic 2034

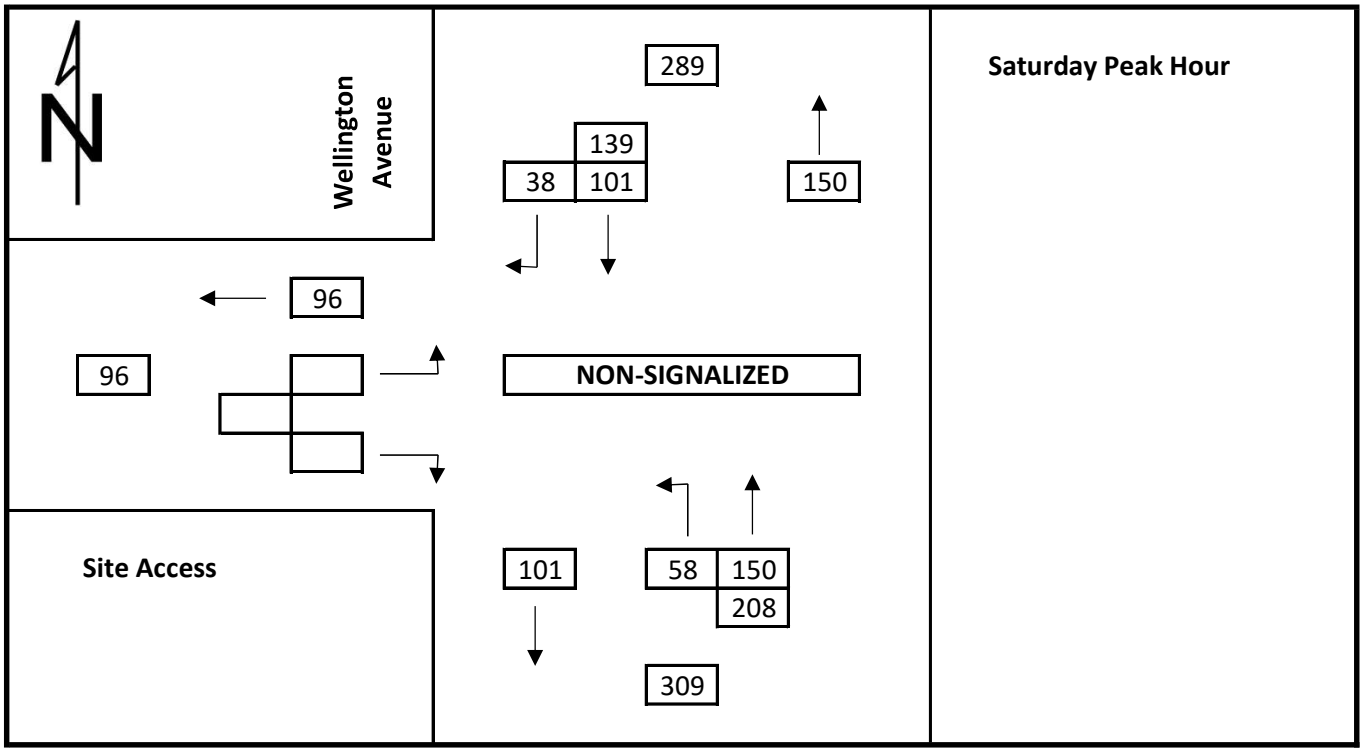
Site Access at Wellington Avenue





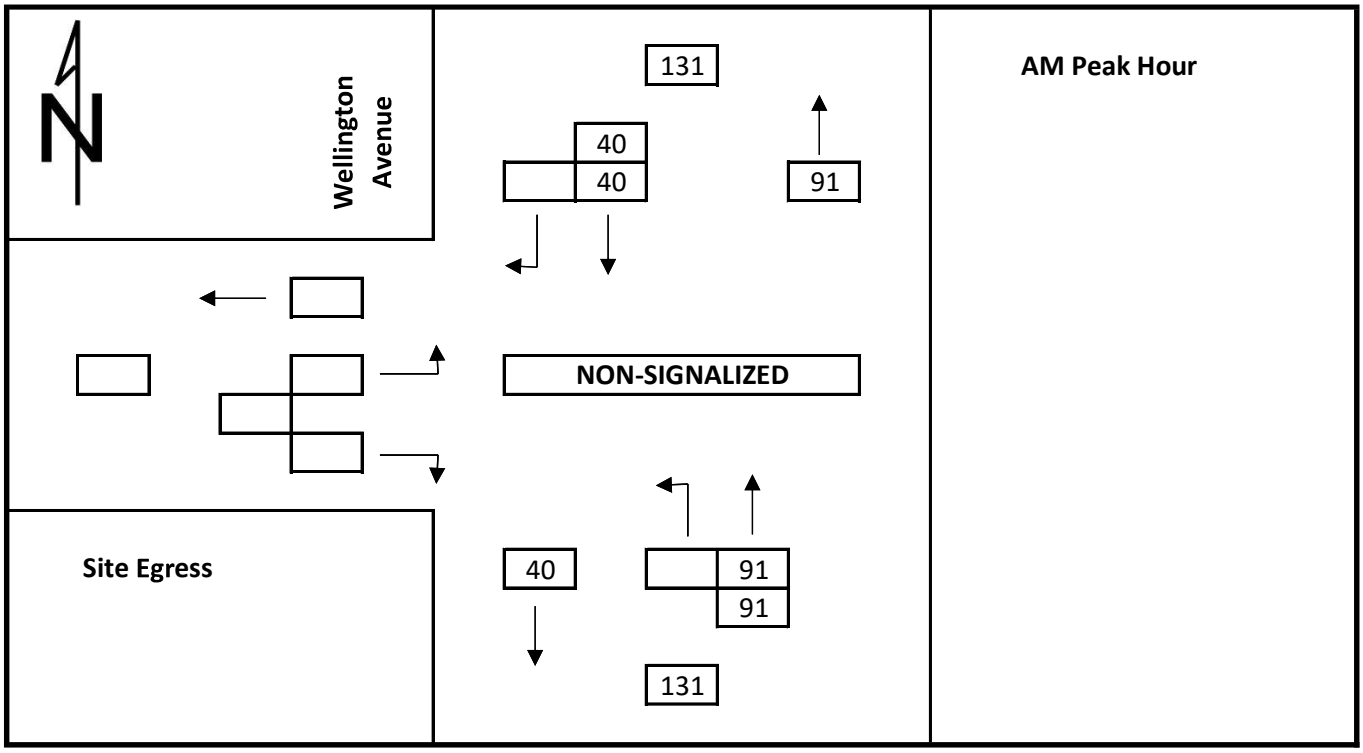
Total Traffic 2034

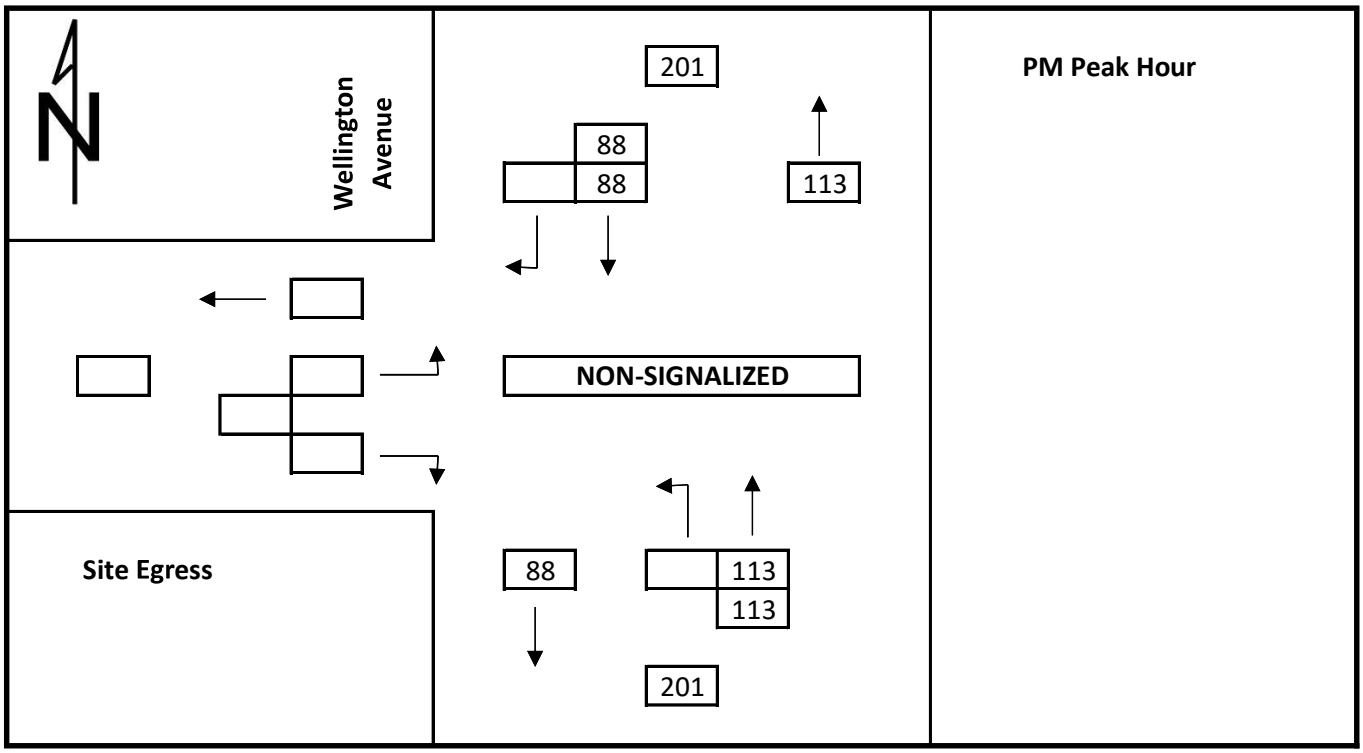
Site Access at Wellington Avenue



Existing Traffic Counts

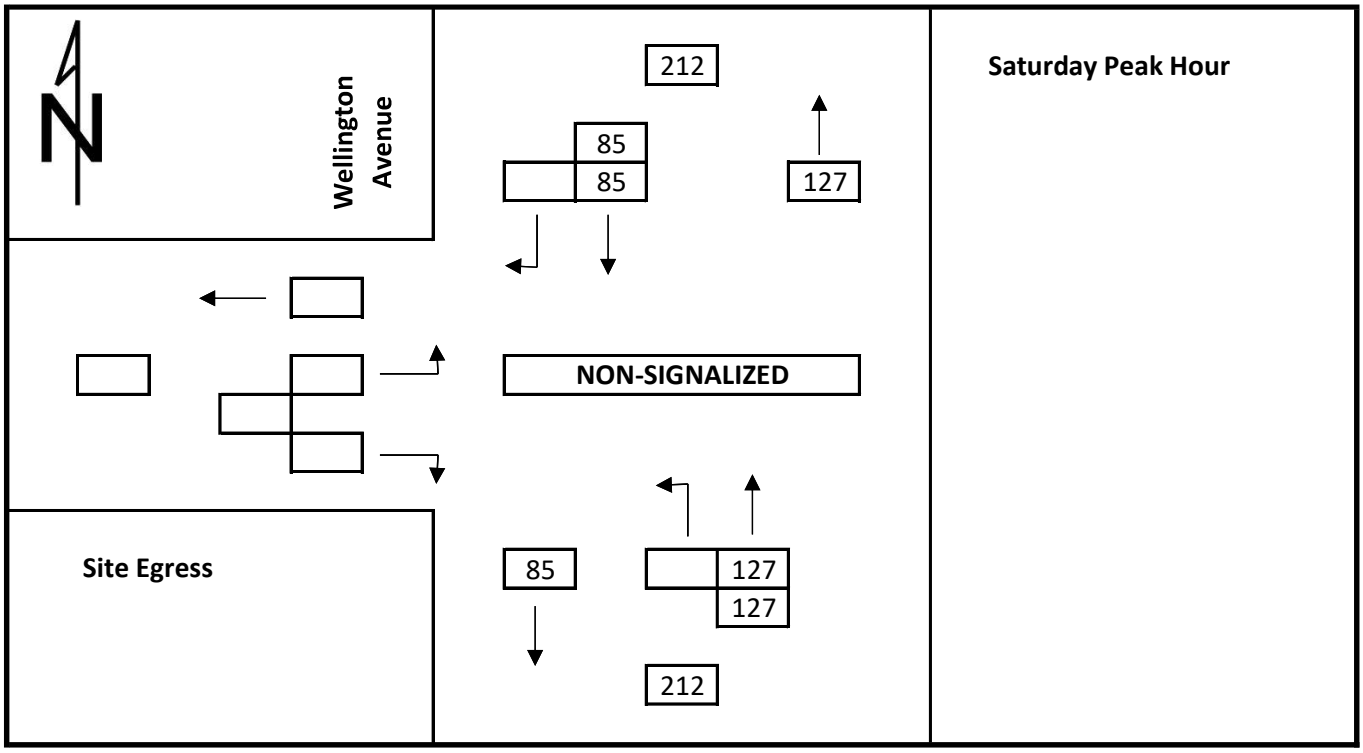
Site Egress at Wellington Avenue





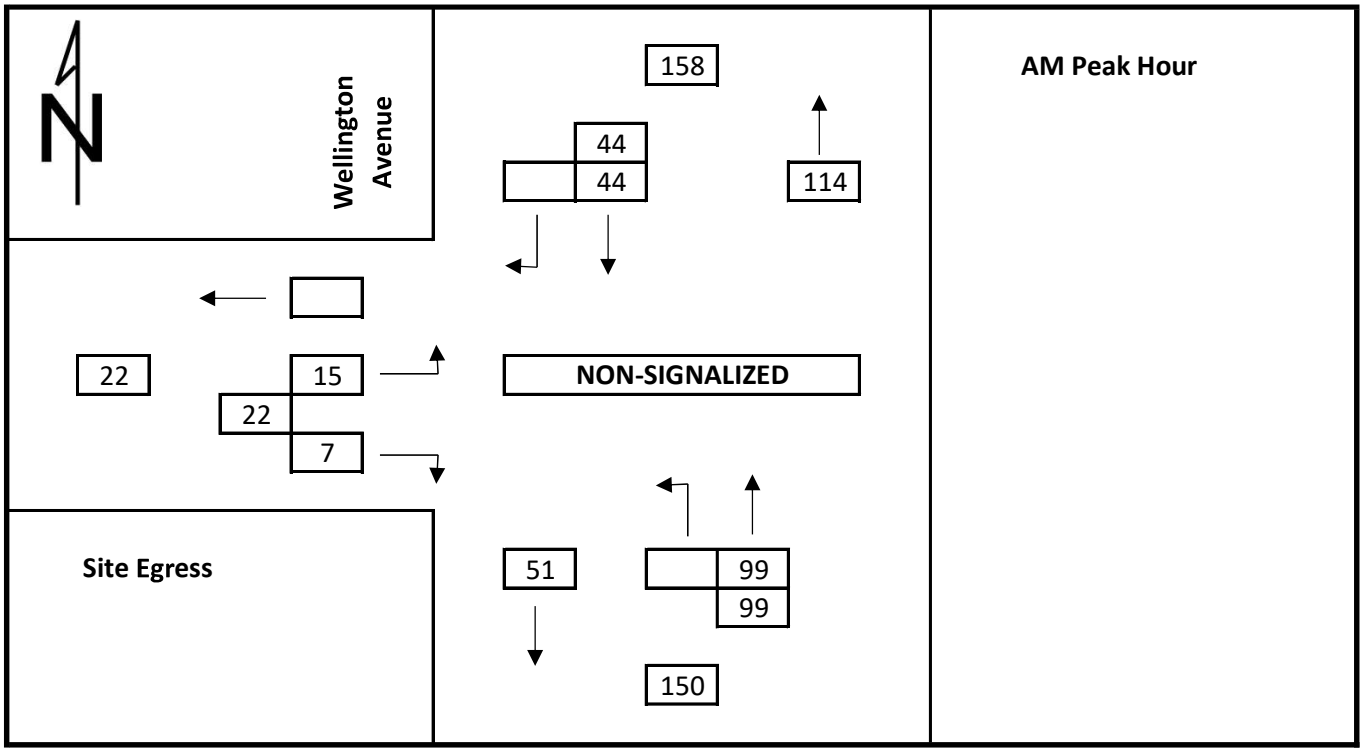
Existing Traffic Counts

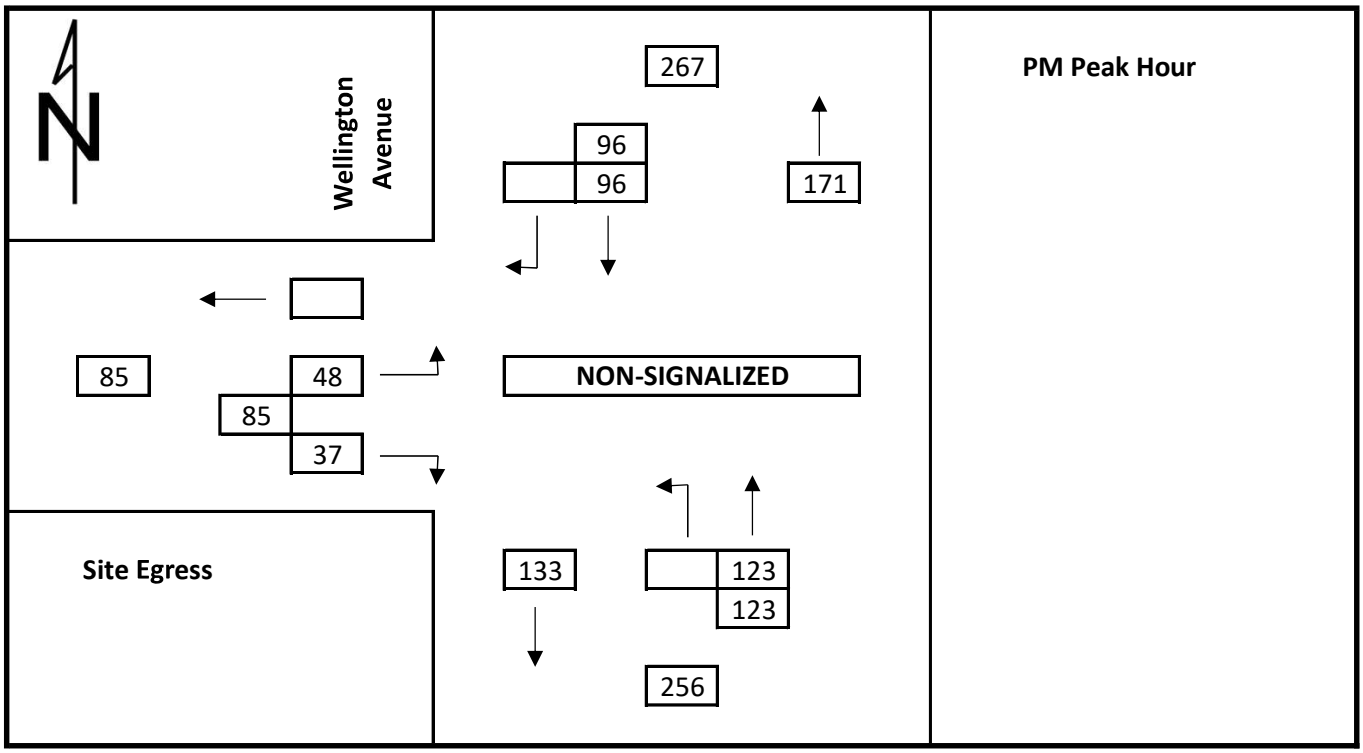
Site Egress at Wellington Avenue



Total Traffic 2029

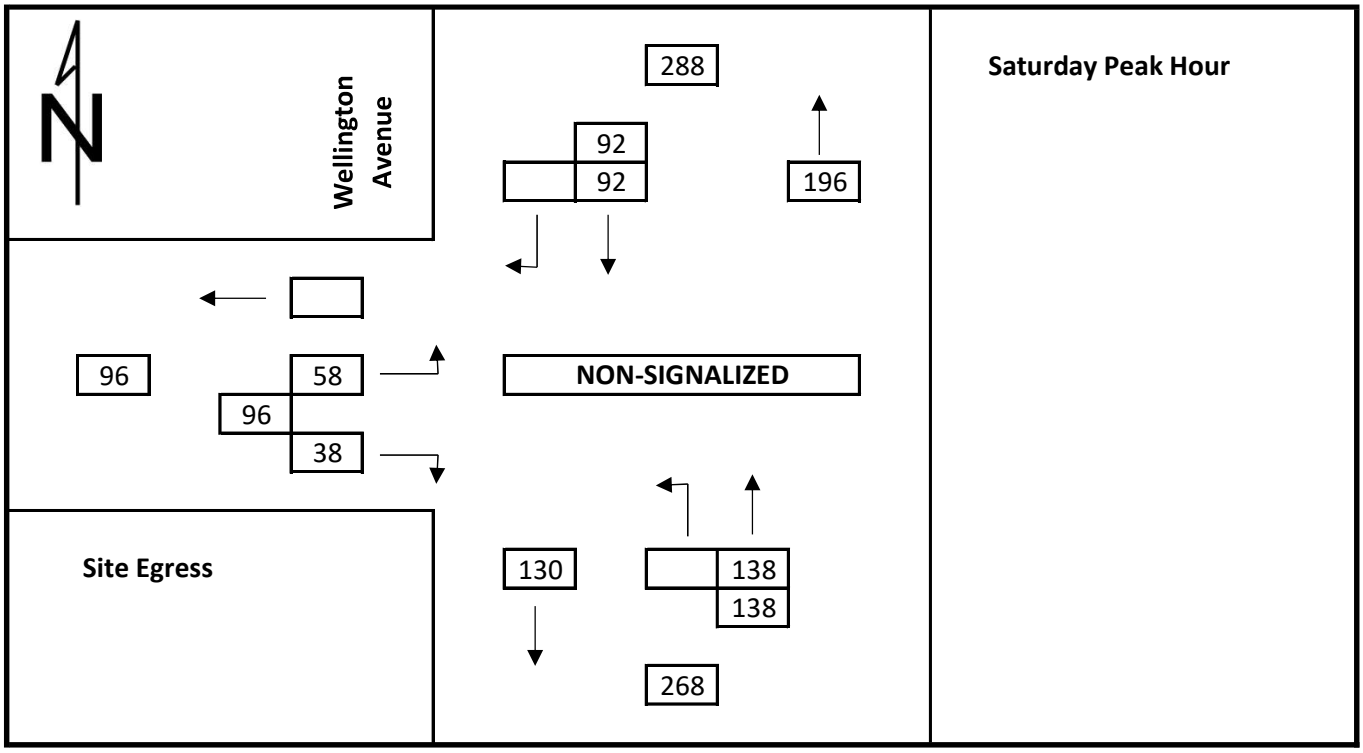
Site Egress at Wellington Avenue





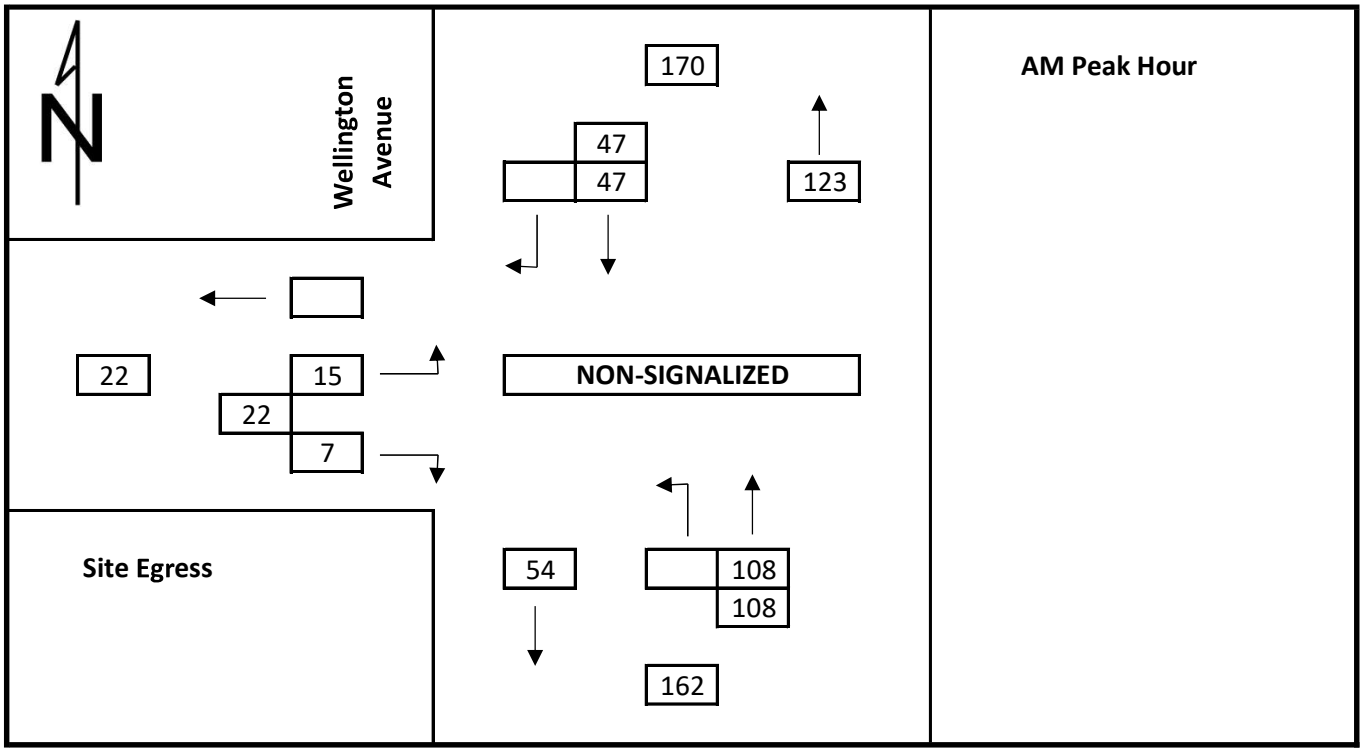
Total Traffic 2029

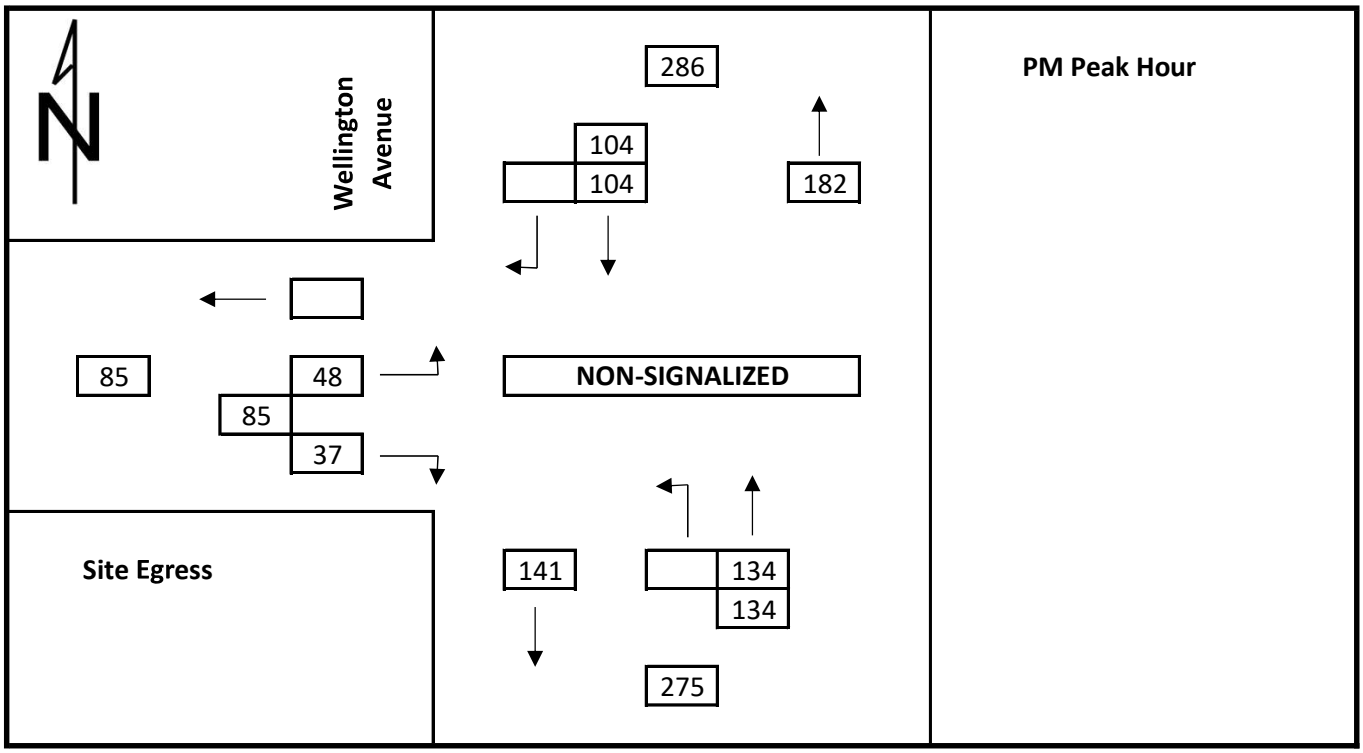
Site Egress at Wellington Avenue



Total Traffic 2034

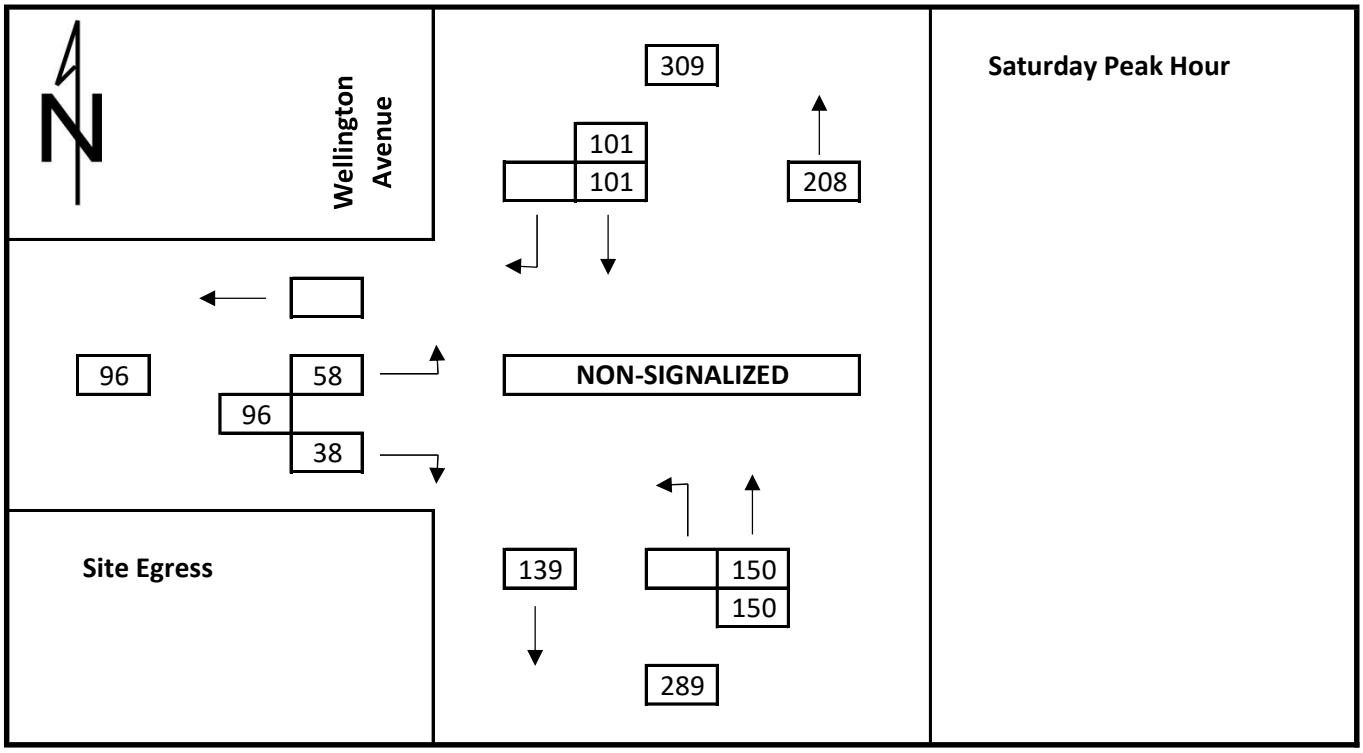
Site Egress at Wellington Avenue





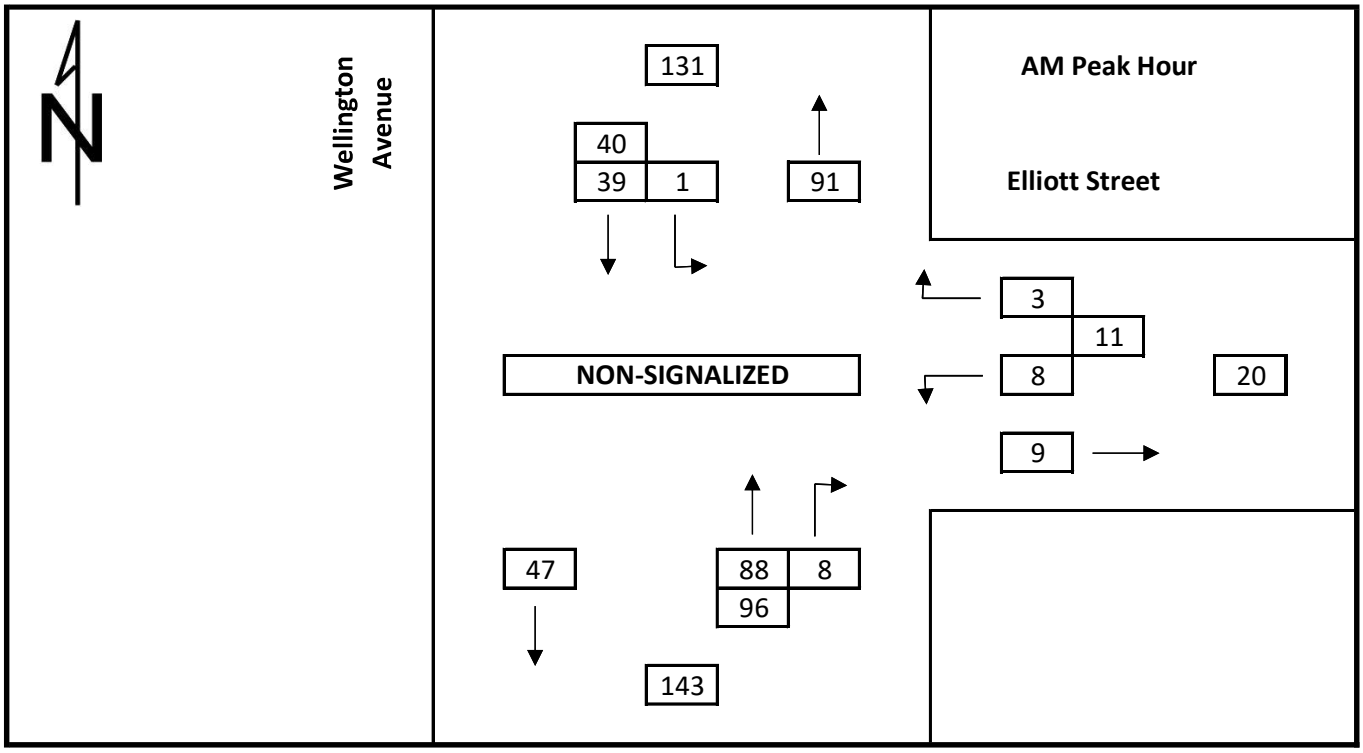
Total Traffic 2034

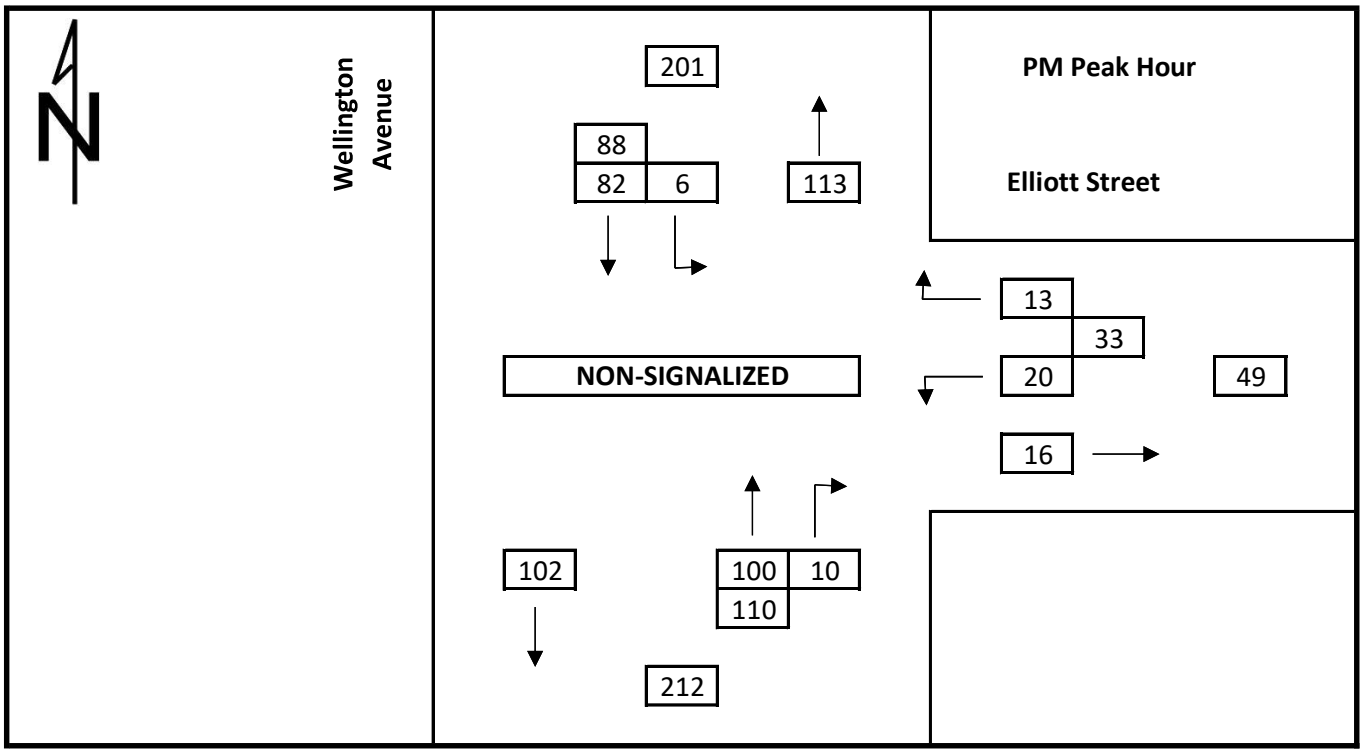
Site Egress at Wellington Avenue



Existing Traffic Counts

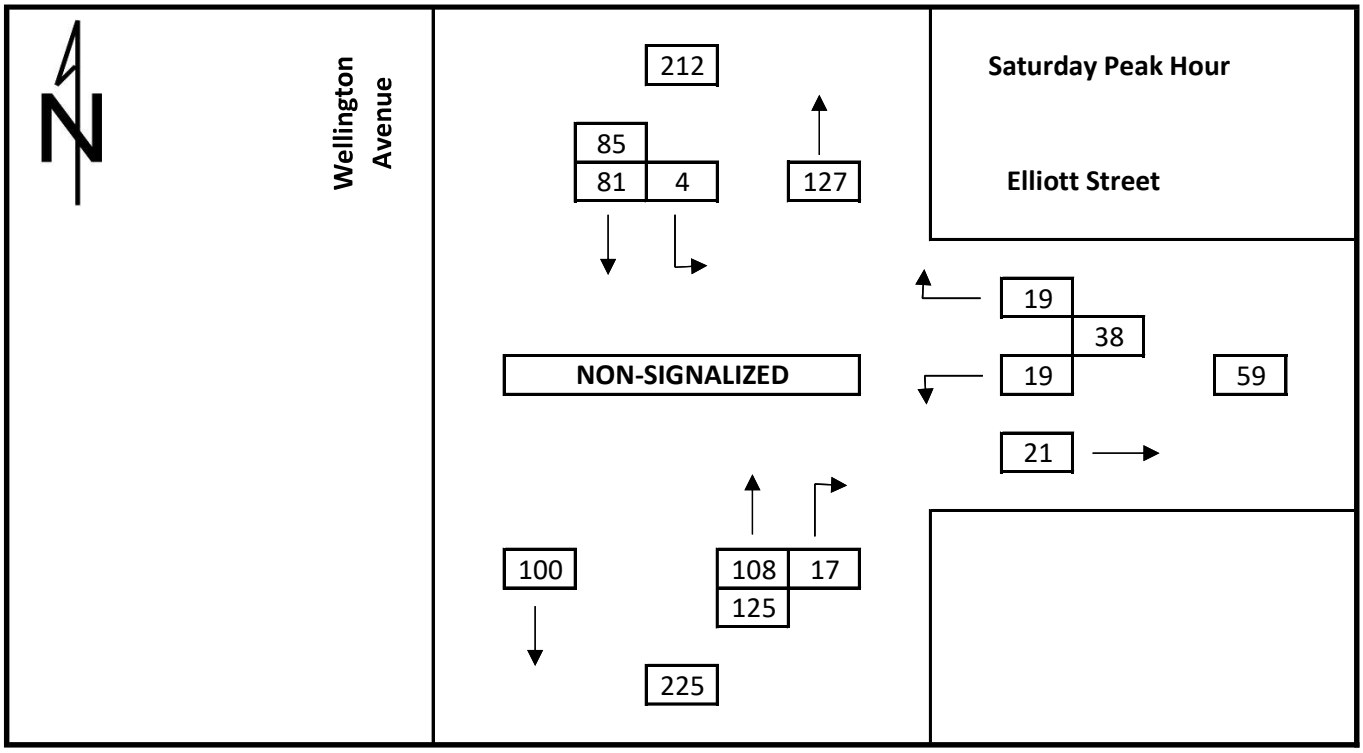
Elliott Street West at Wellington Avenue





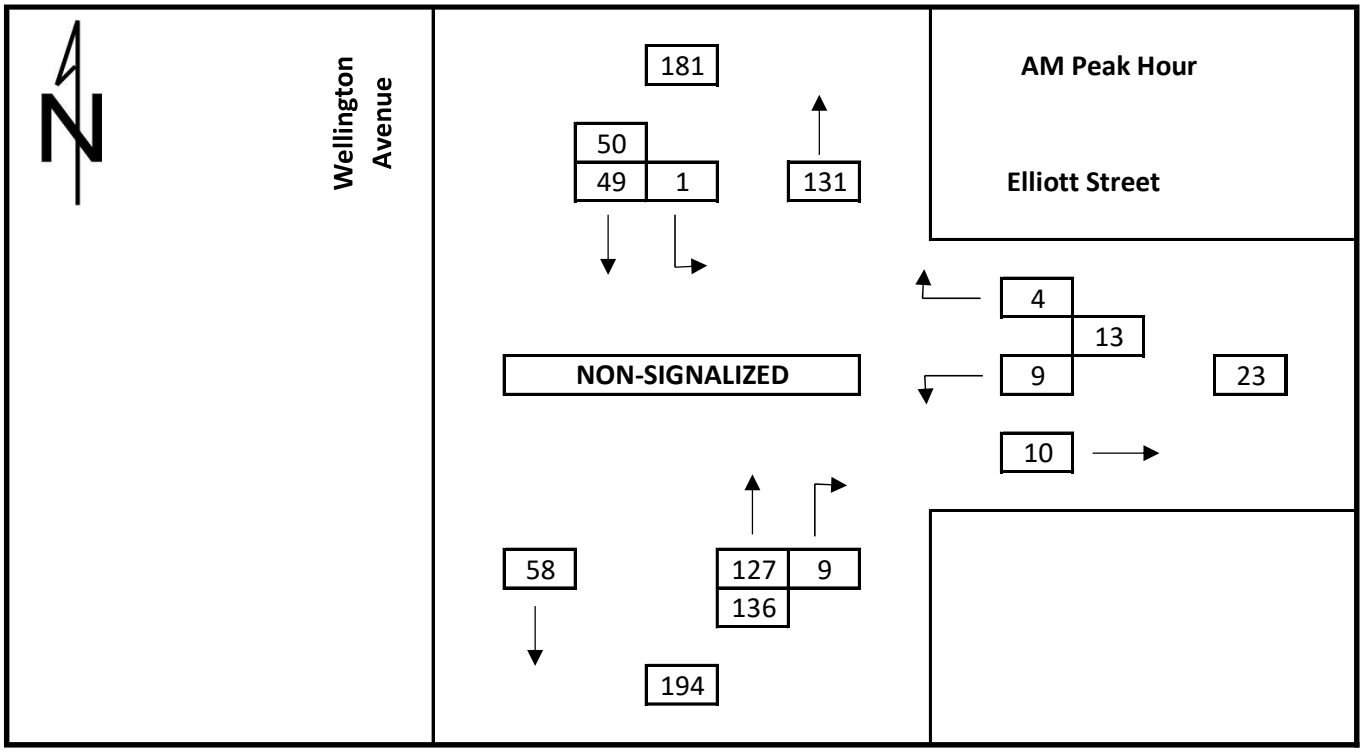
Existing Traffic Counts

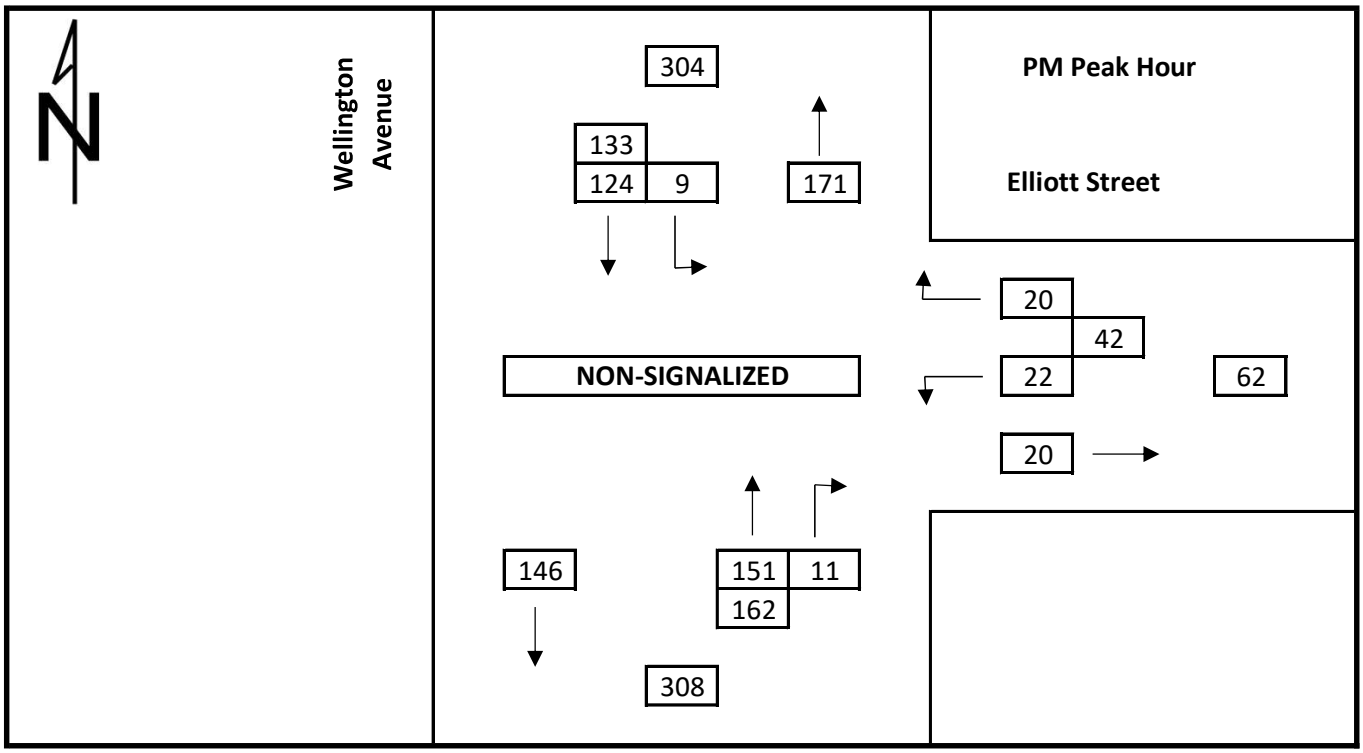
Elliott Street at Wellington Avenue



Total Traffic 2029

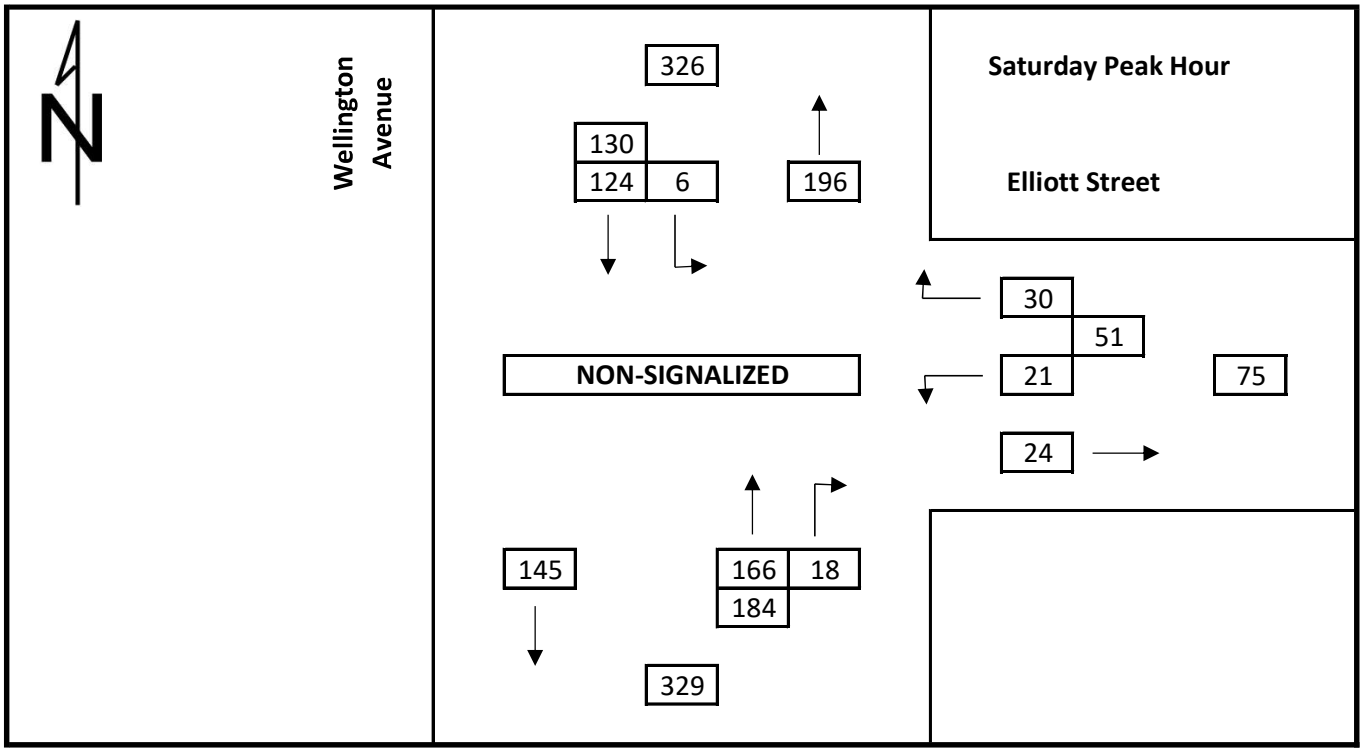
Elliott Street West at Wellington Avenue





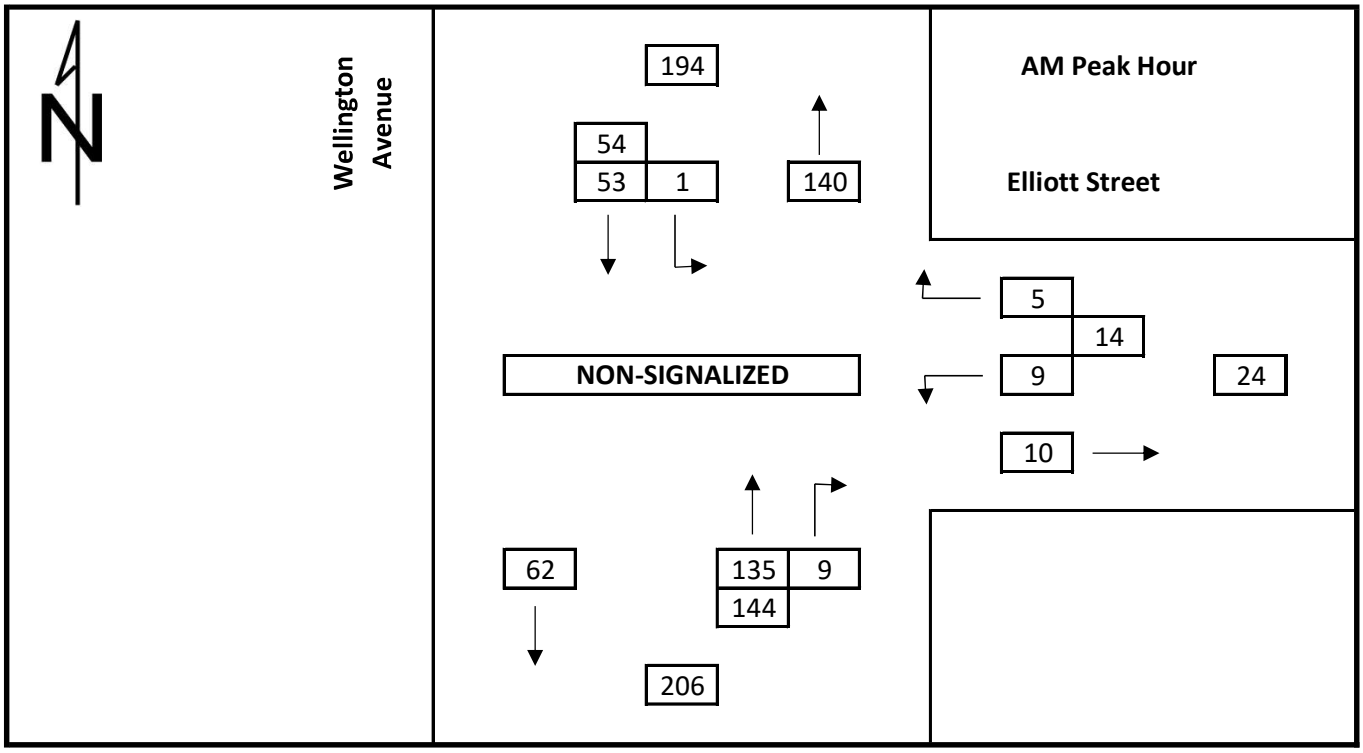
Total Traffic 2029

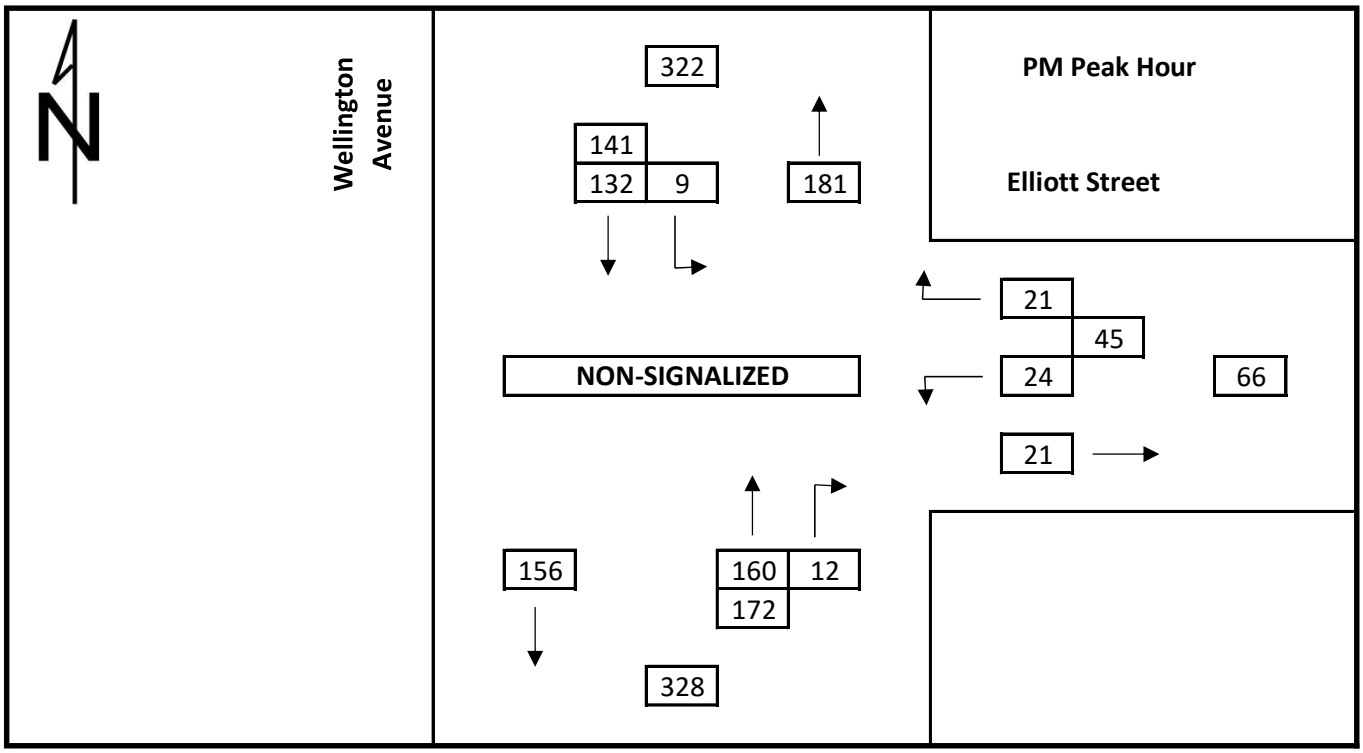
Elliott Street at Wellington Avenue



Total Traffic 2034

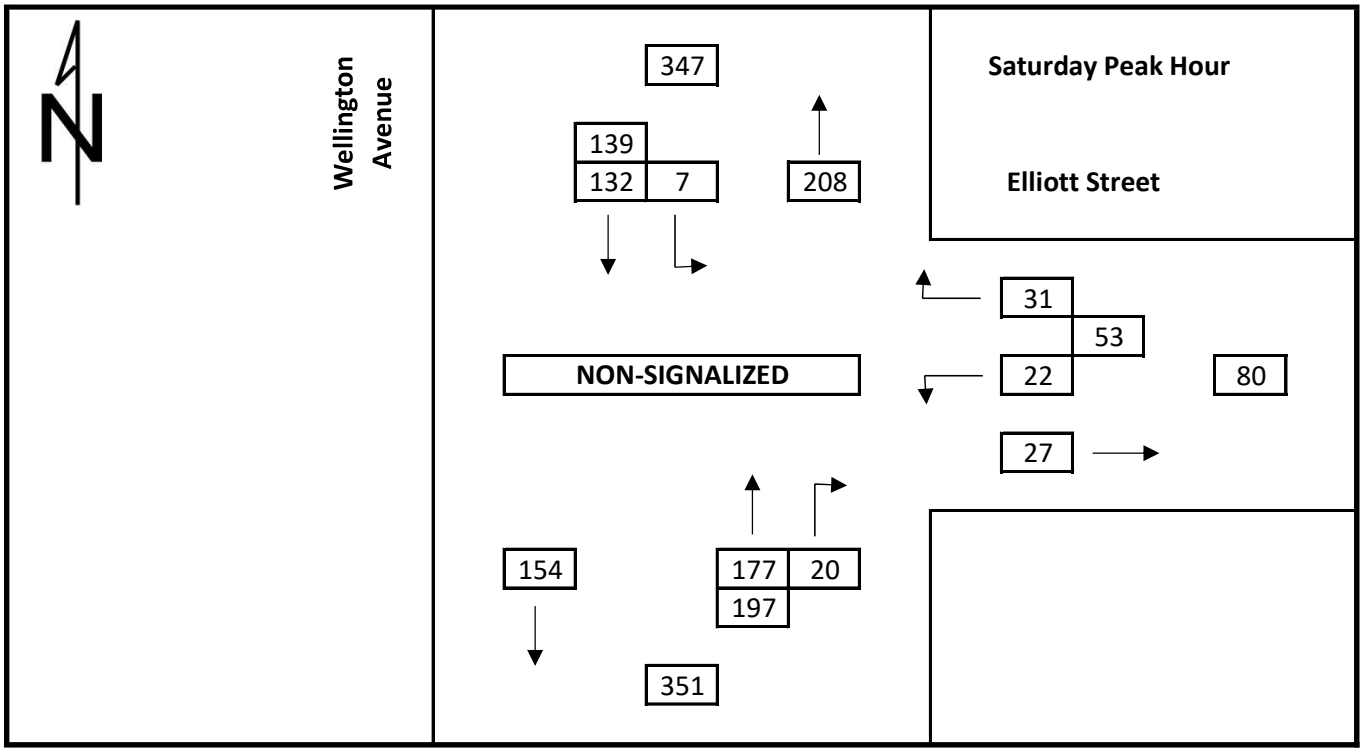
Elliott Street West at Wellington Avenue





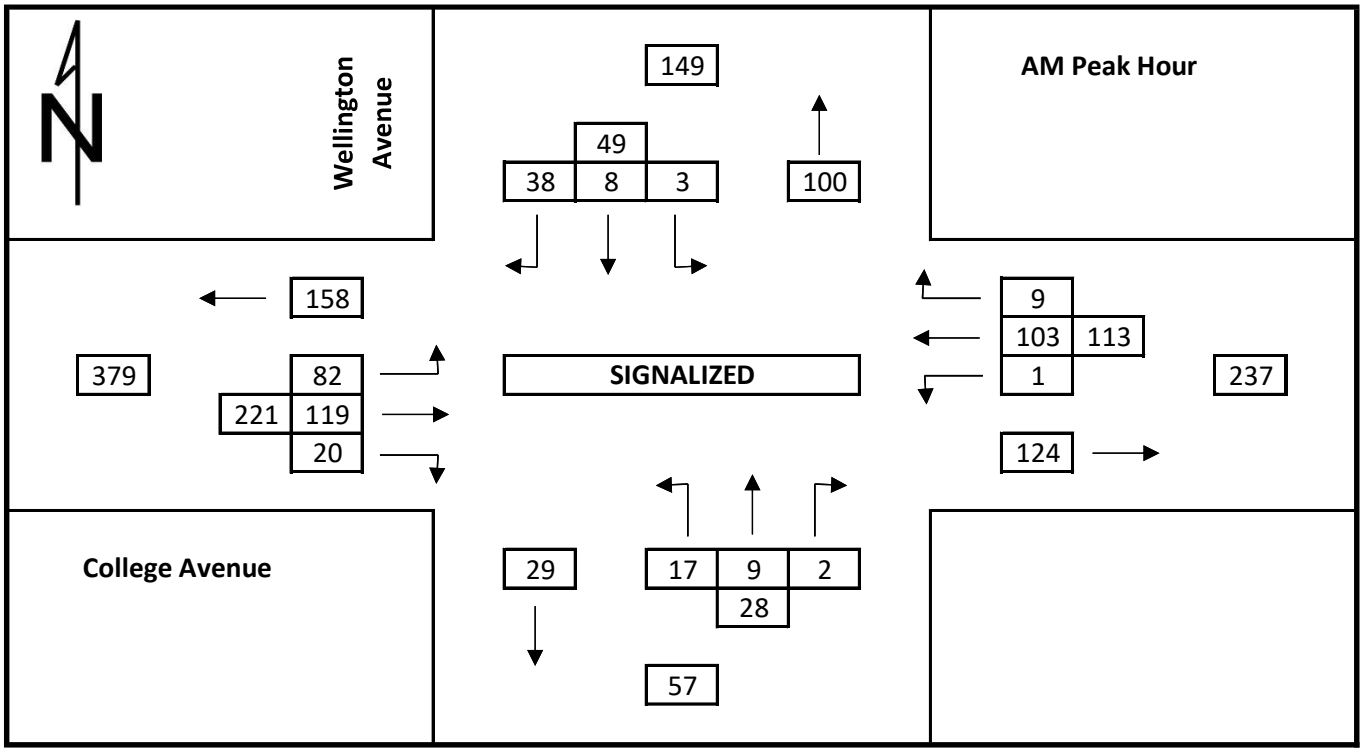
Total Traffic 2034

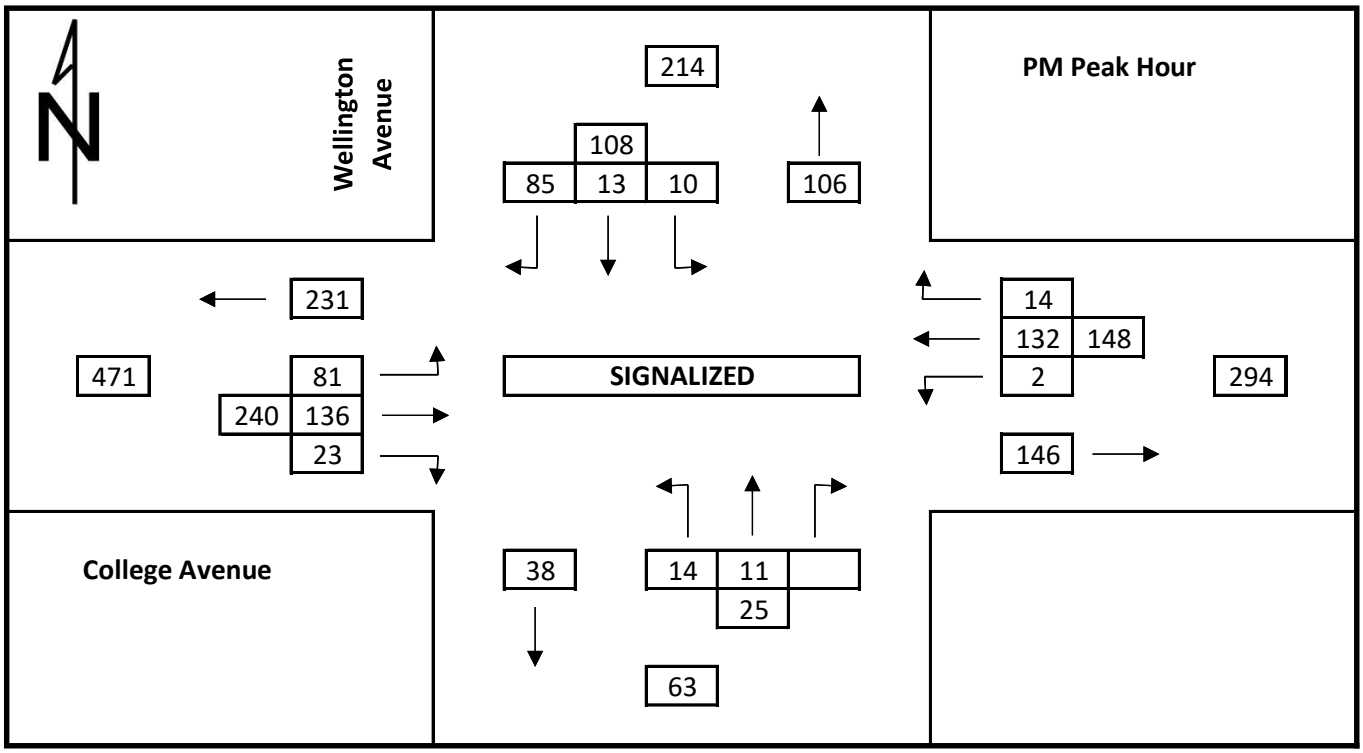
Elliott Street at Wellington Avenue



Existing Traffic Counts

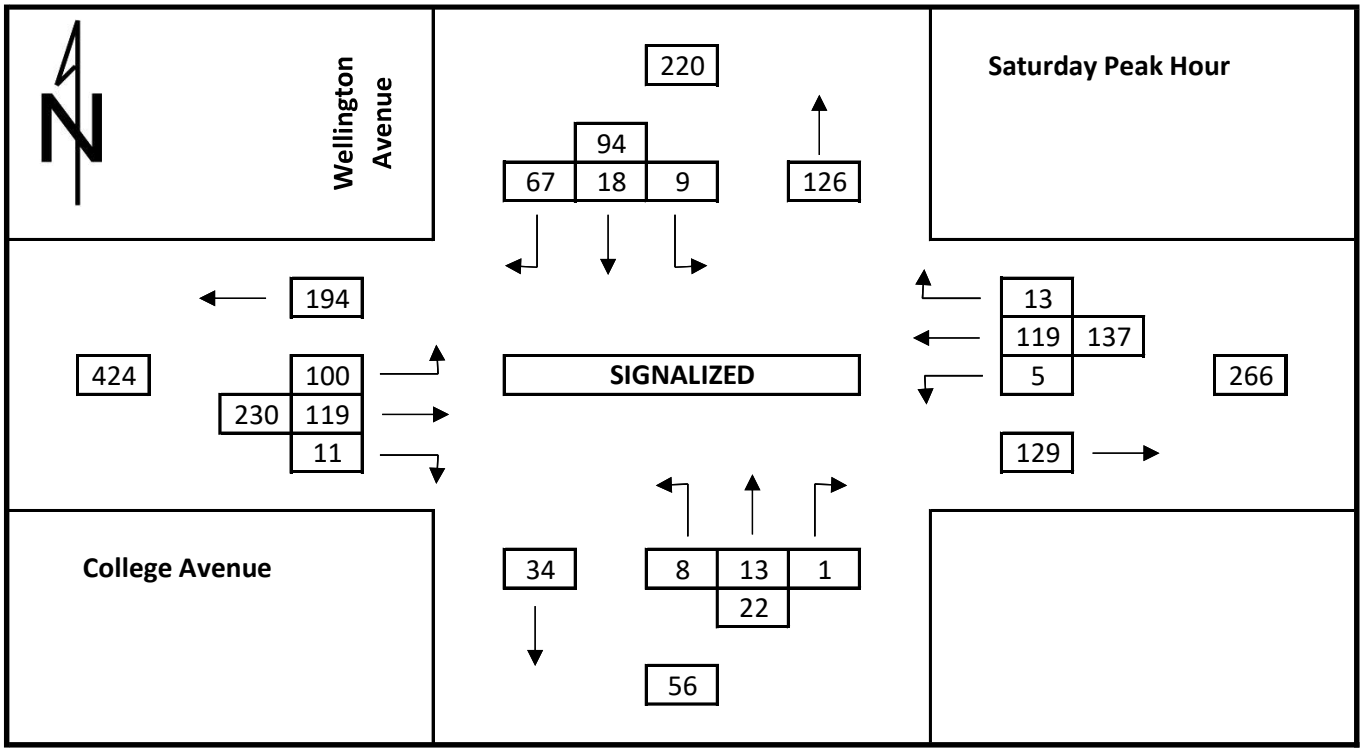
College Avenue at Wellington Avenue





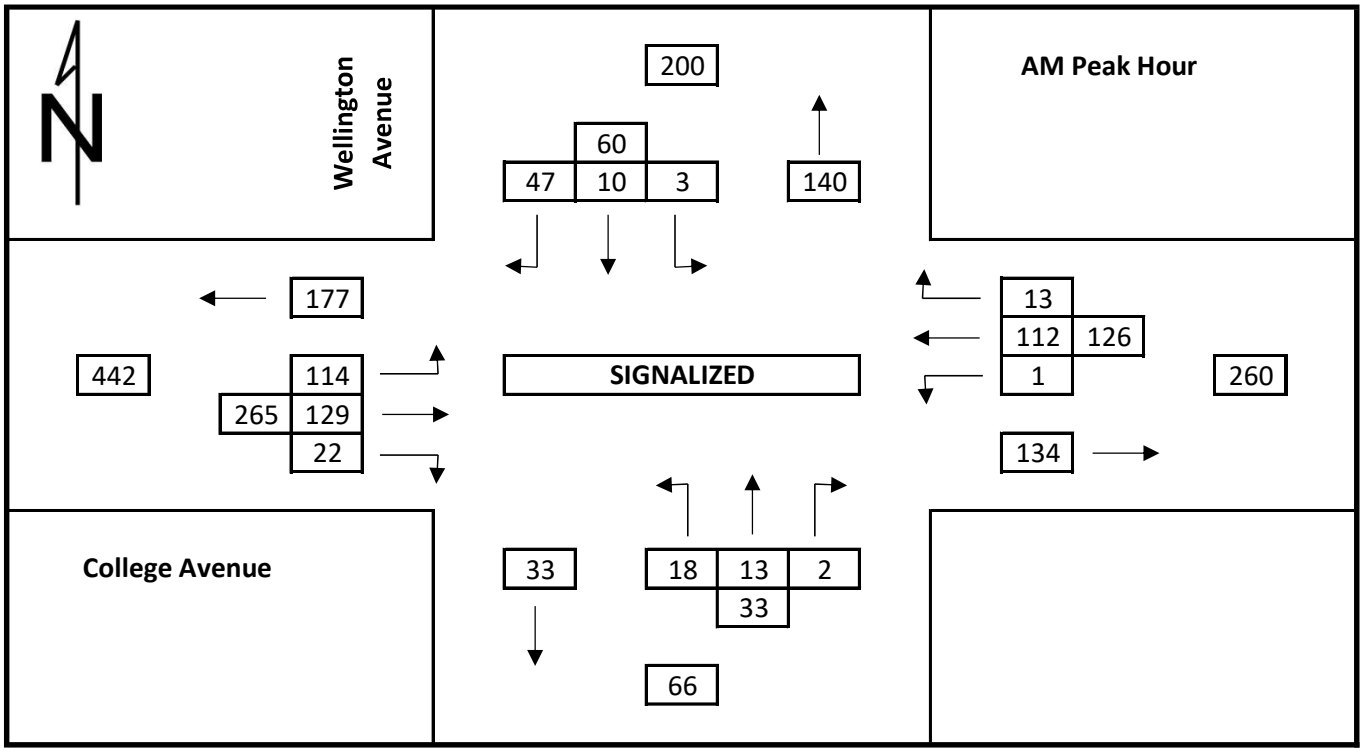
Existing Traffic Counts

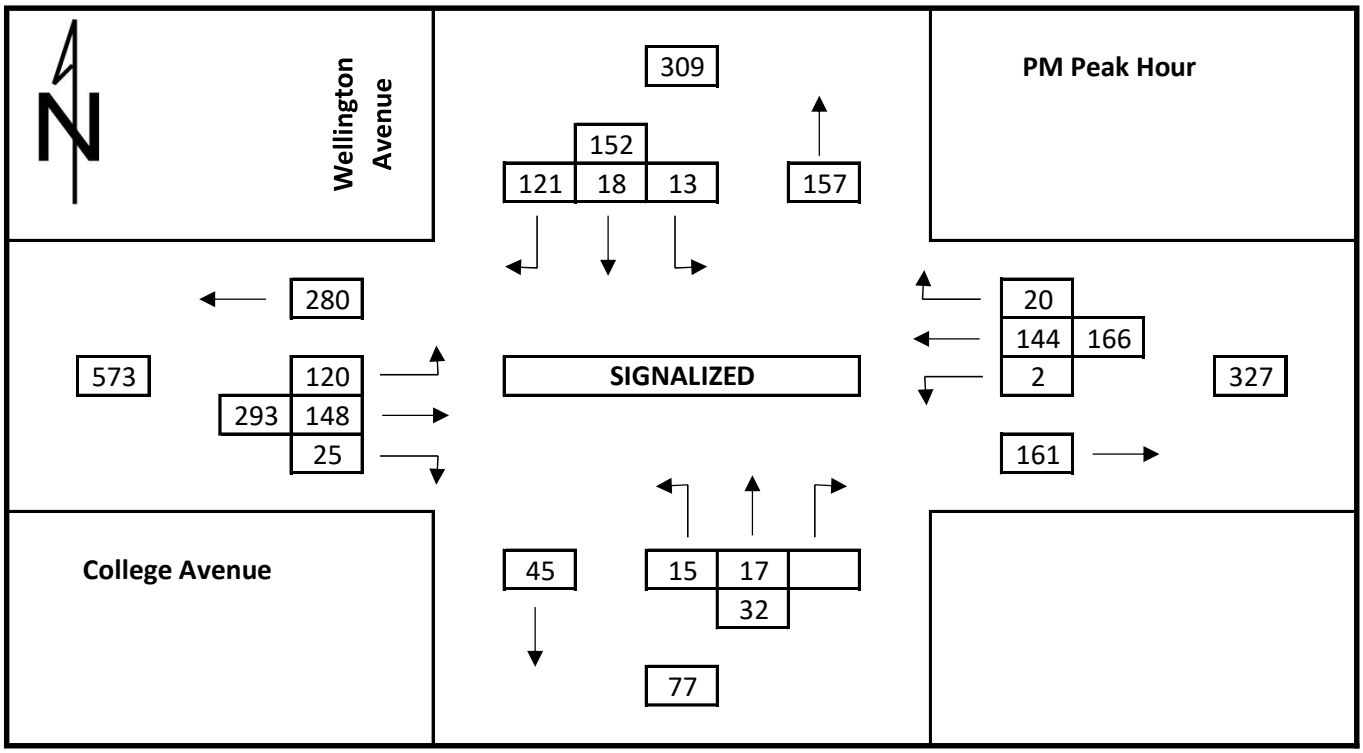
College Avenue at Wellington Avenue



Total Traffic 2029

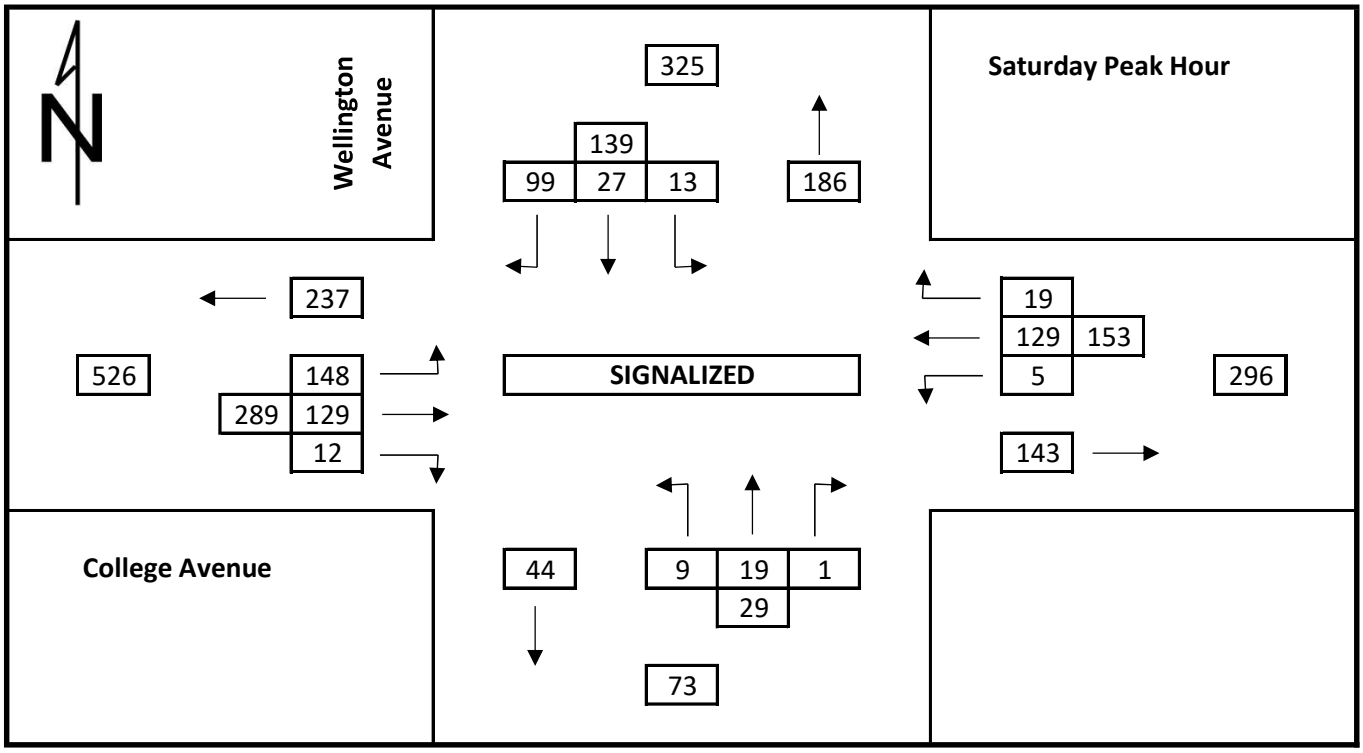
College Avenue at Wellington Avenue





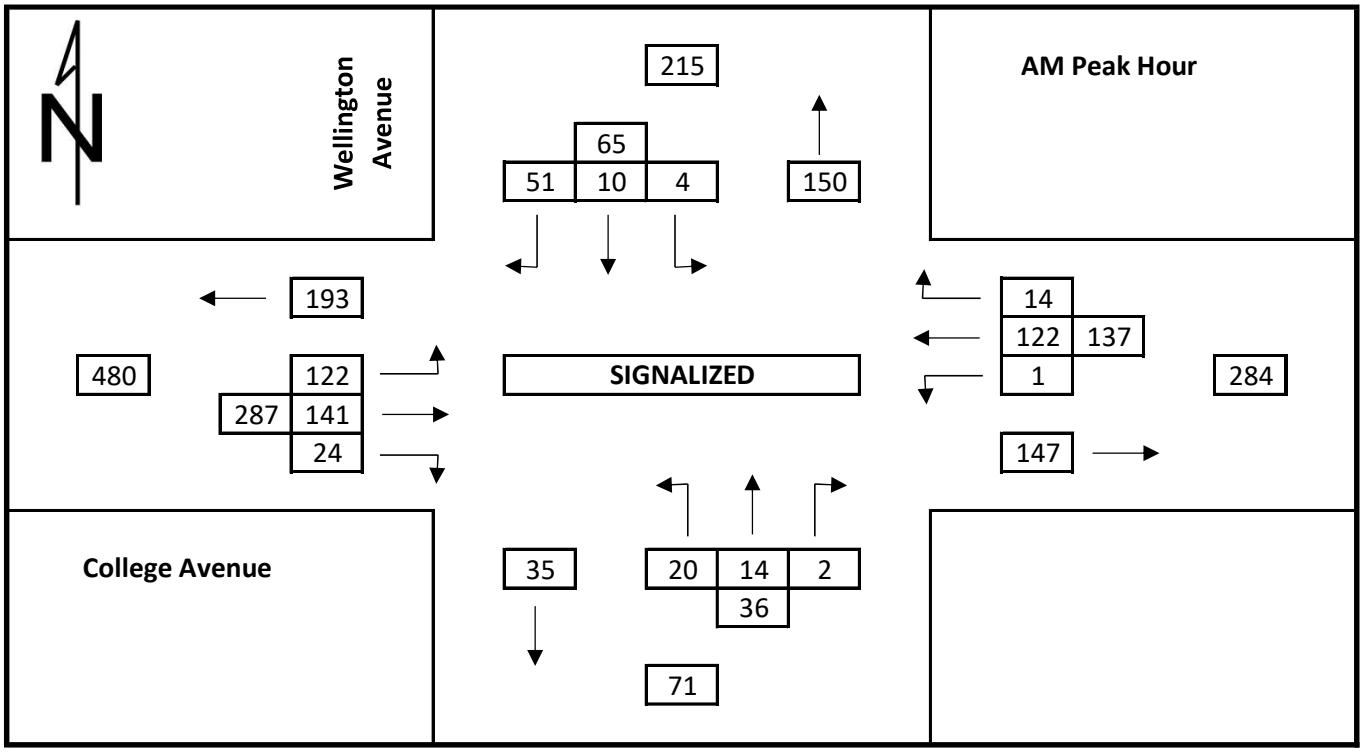
Total Traffic 2029

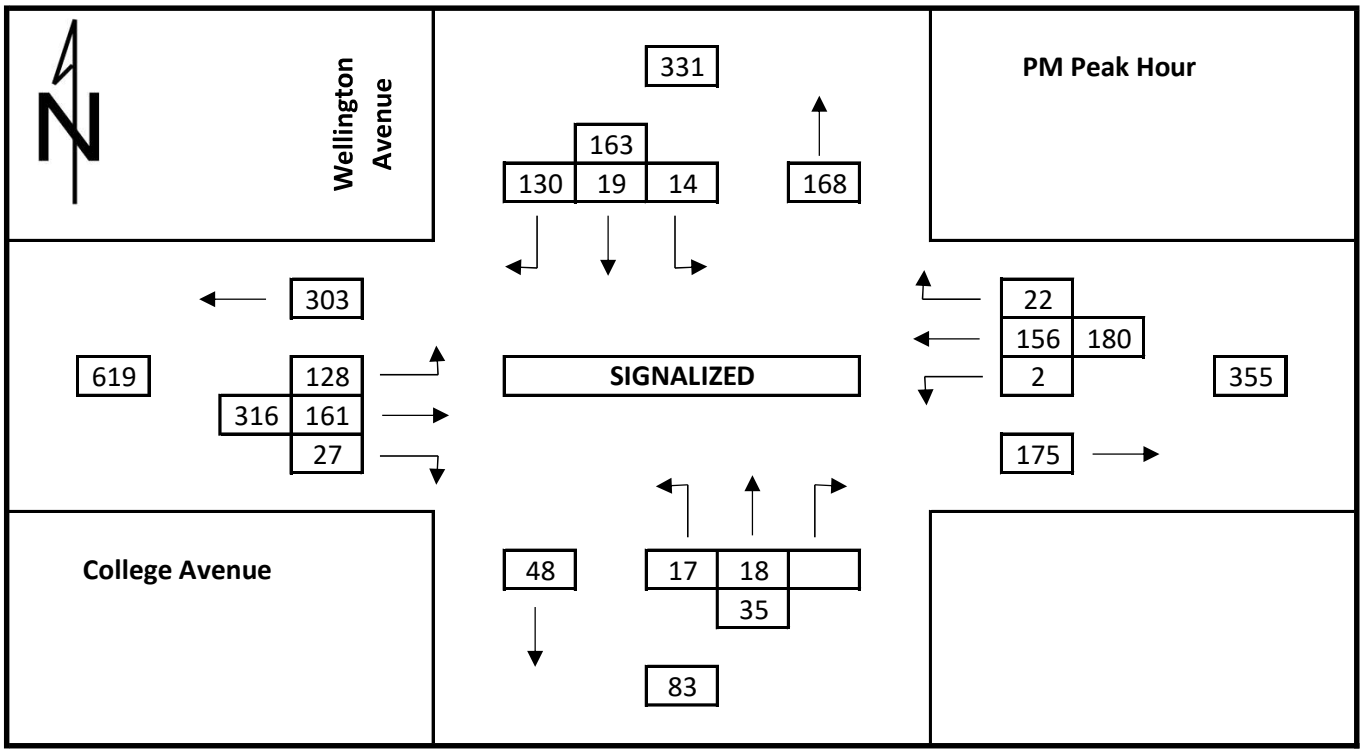
College Avenue at Wellington Avenue



Total Traffic 2034

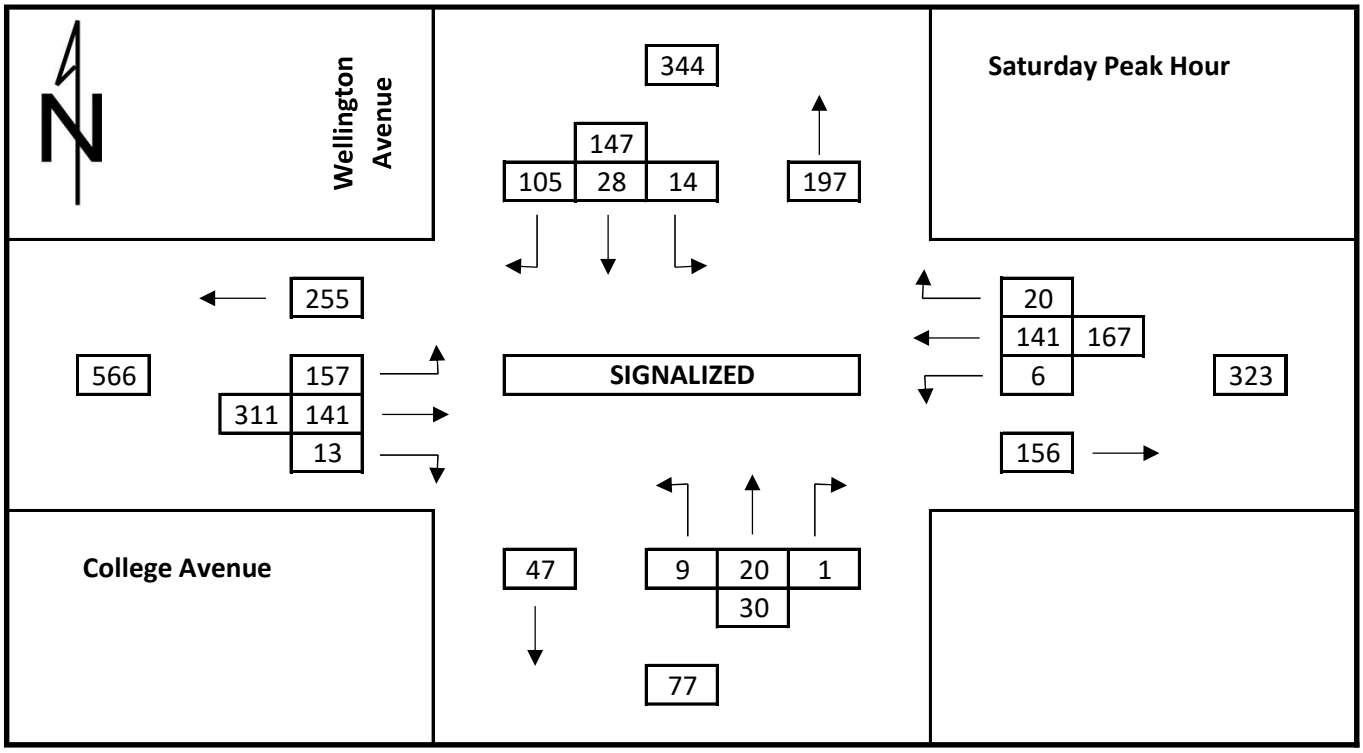
College Avenue at Wellington Avenue





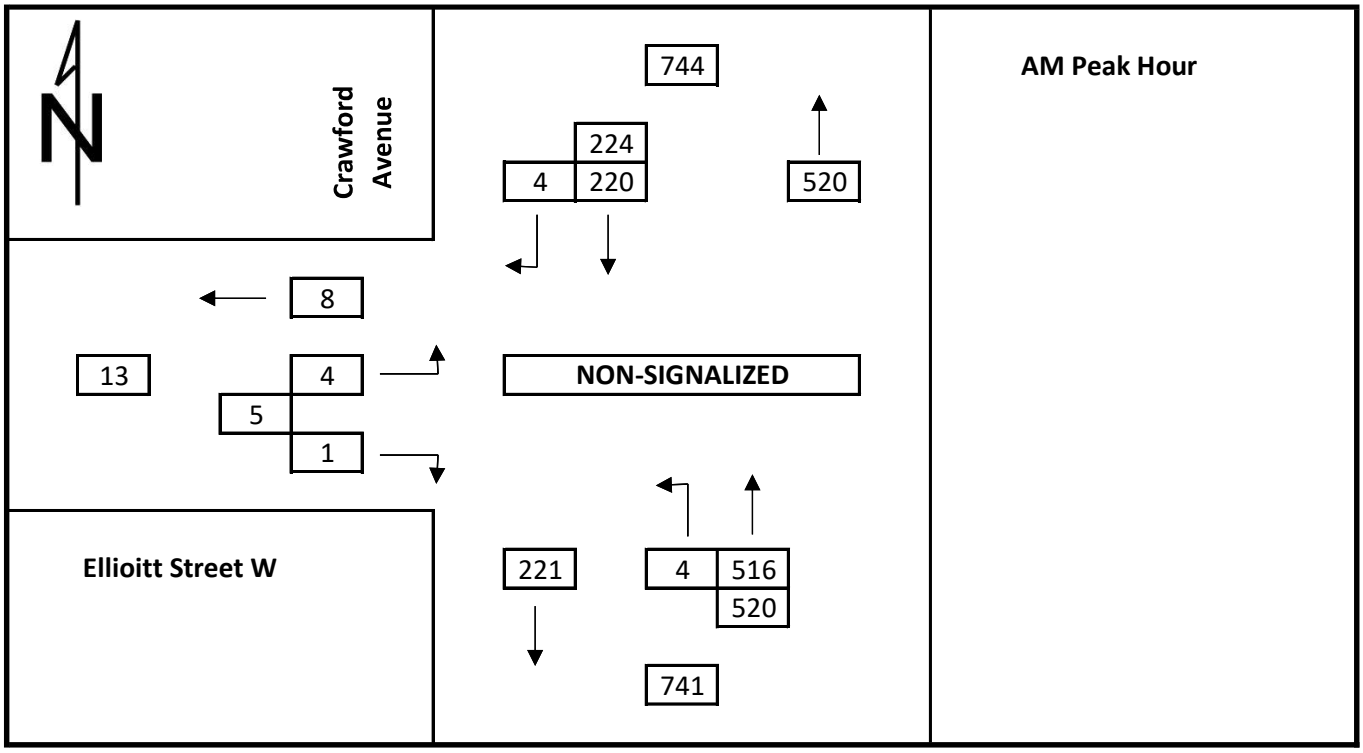
Total Traffic 2034

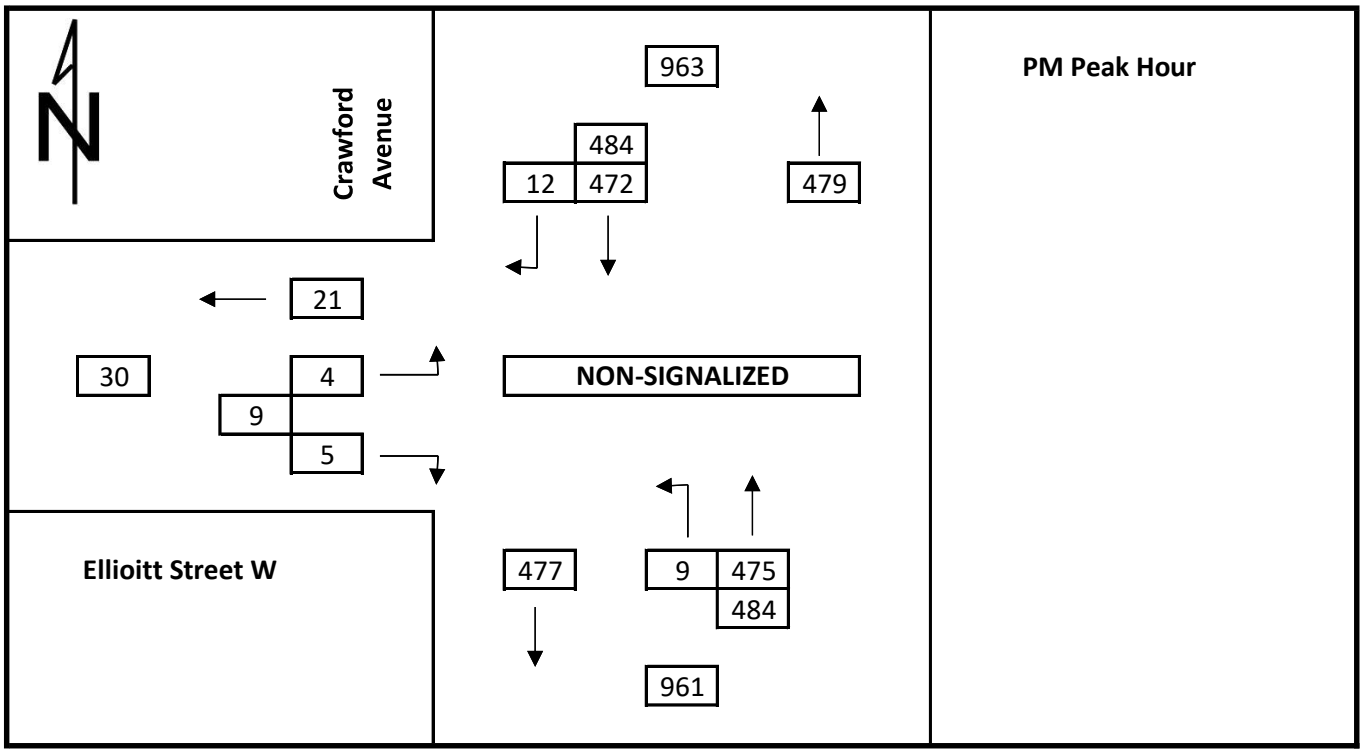
College Avenue at Wellington Avenue



Existing Traffic Counts

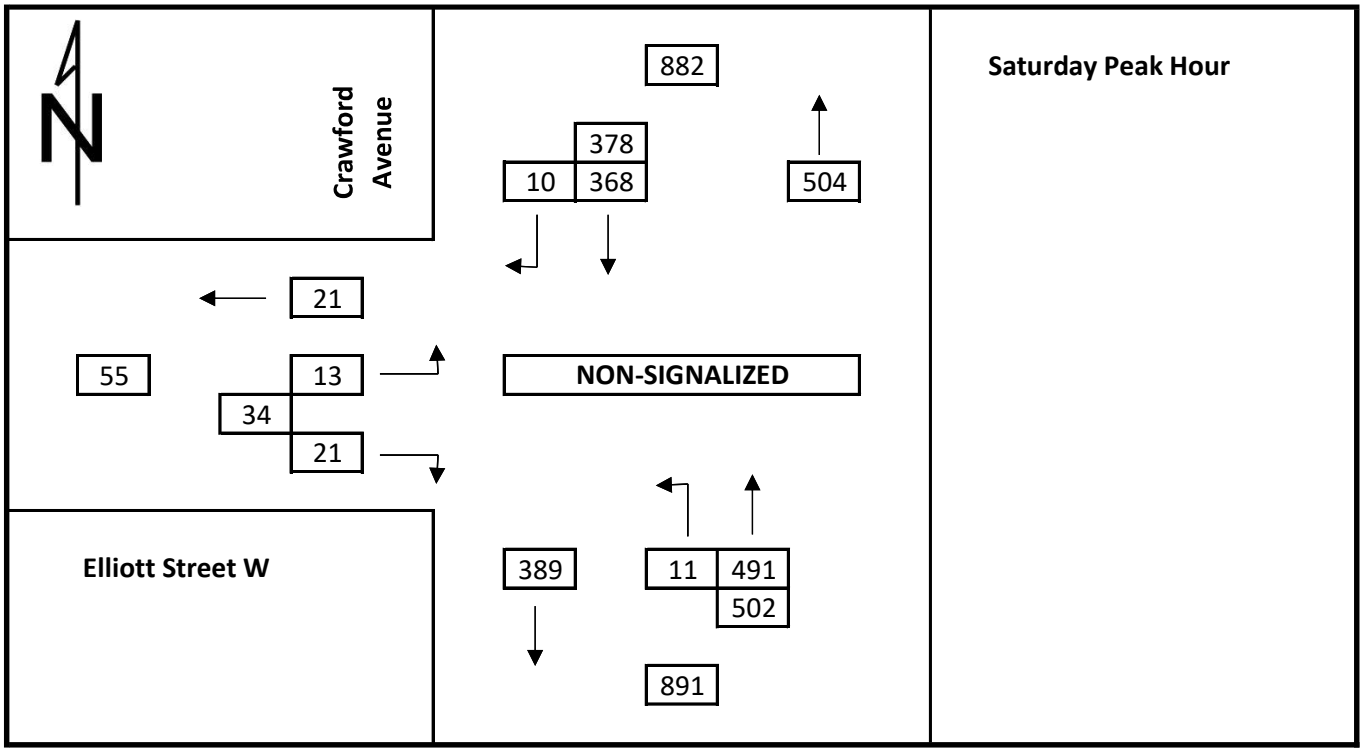
Elliott Street West at Crawford Avenue





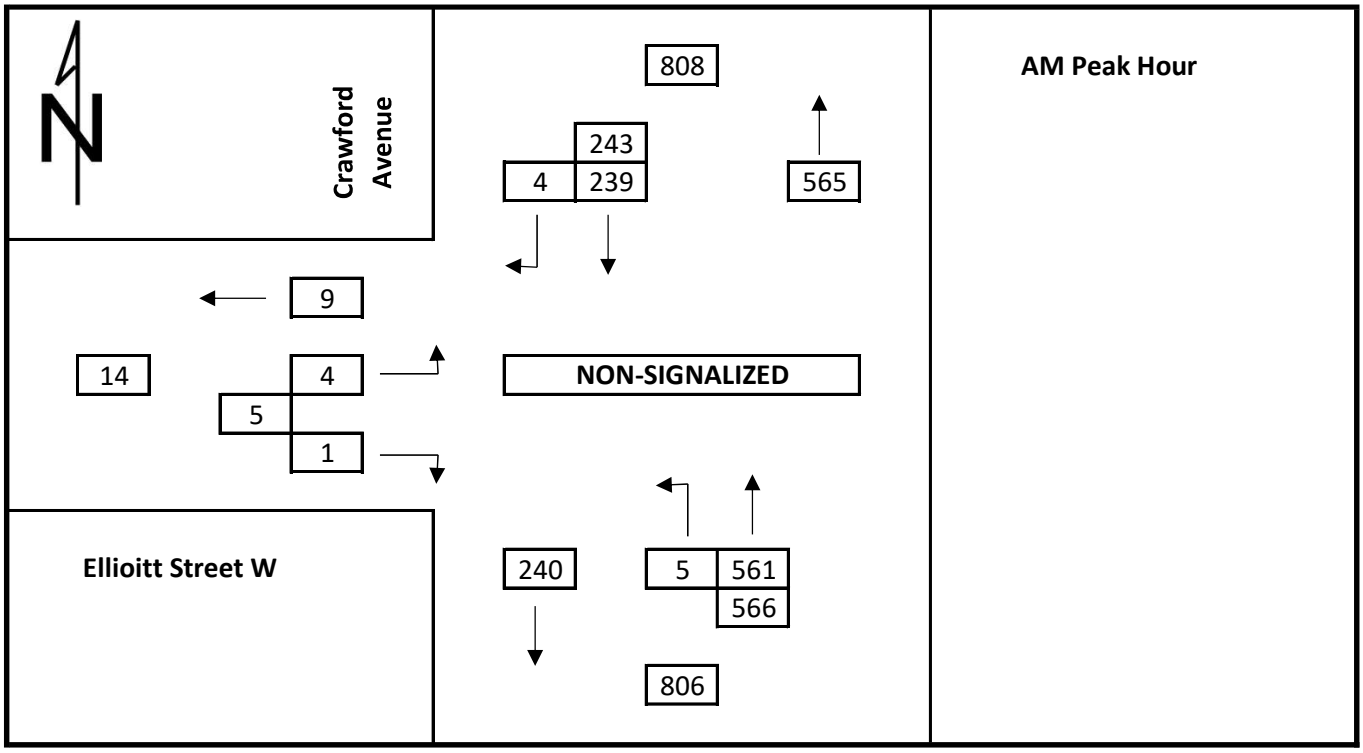
Existing Traffic Counts

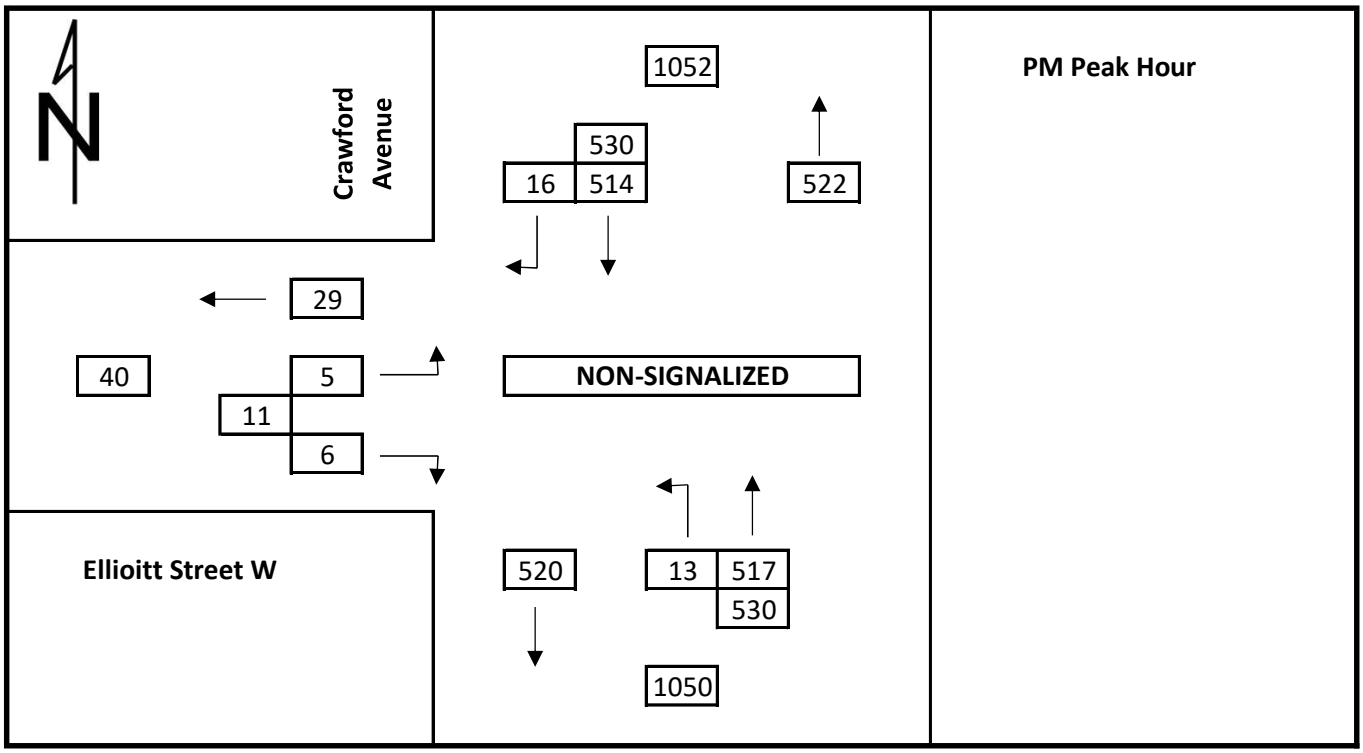
Elliott Street West at Crawford Avenue



Total Traffic 2029

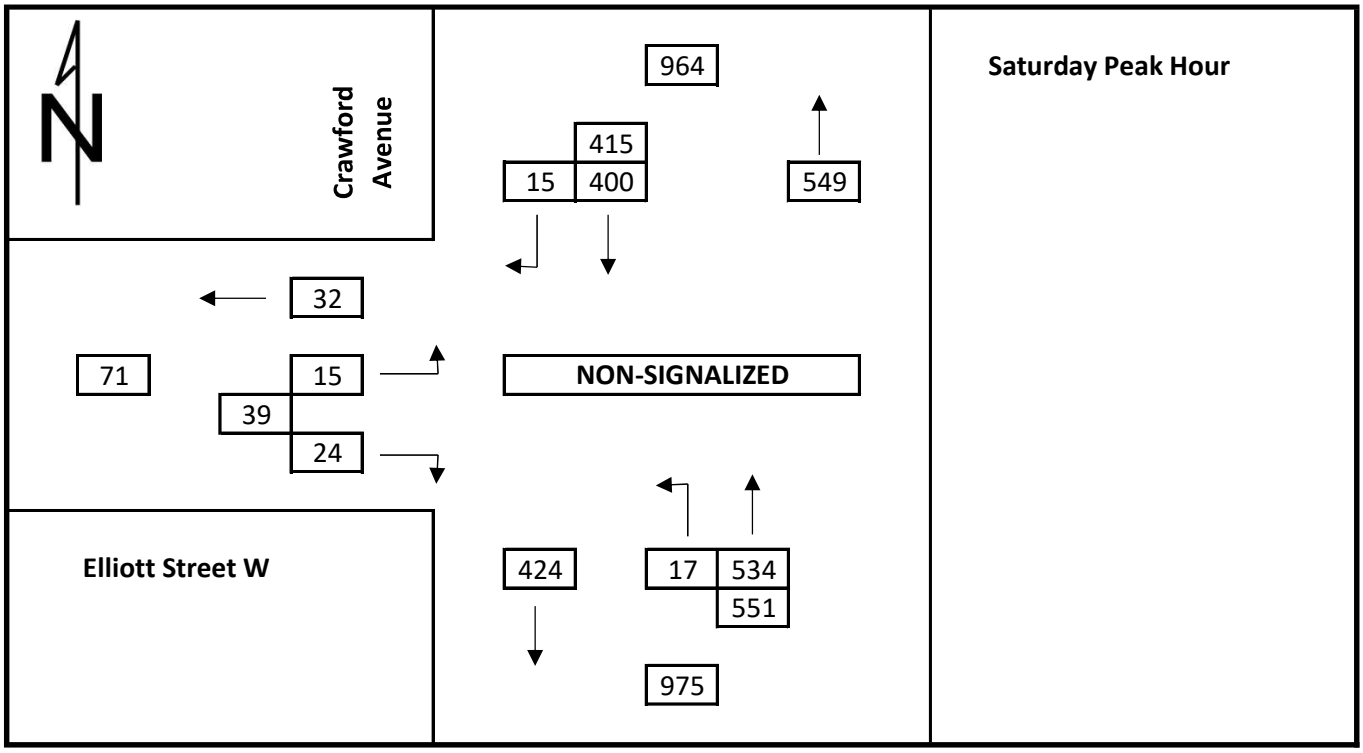
Elliott Street West at Crawford Avenue





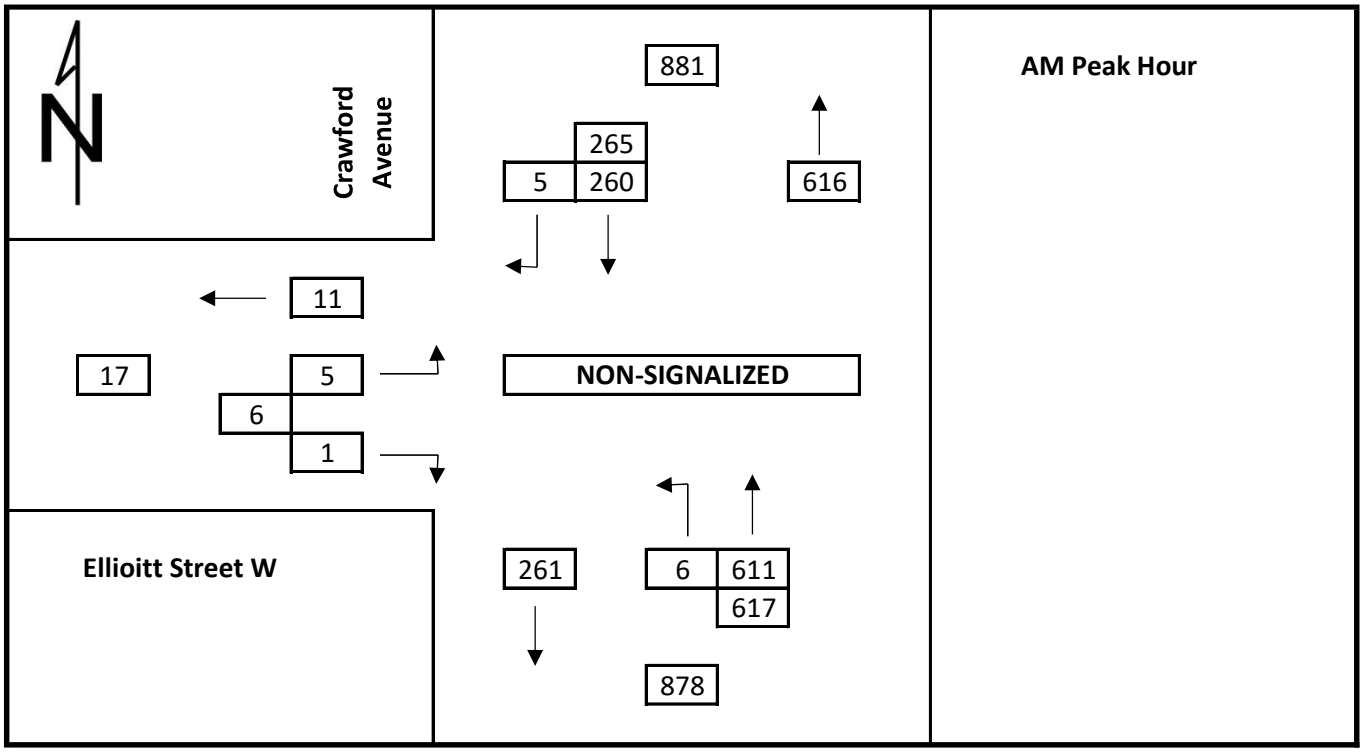
Total Traffic 2029

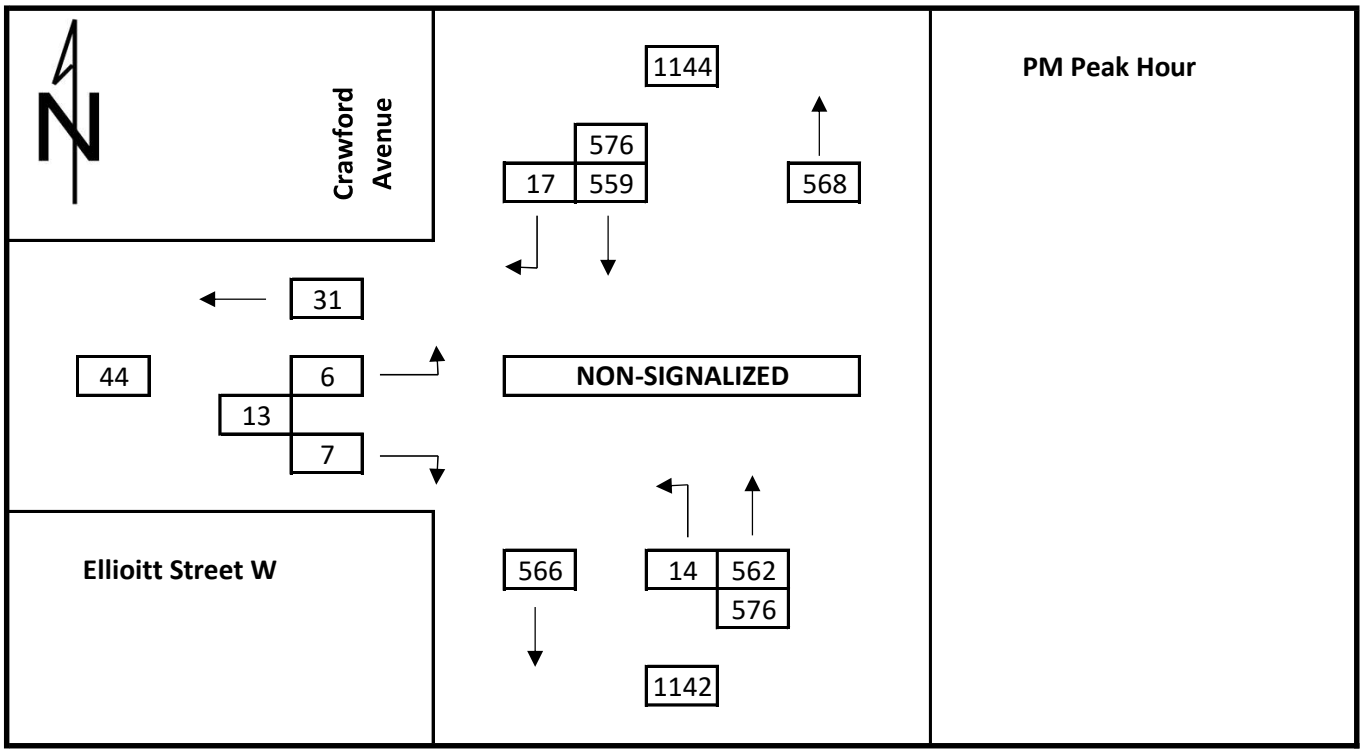
Elliott Street West at Crawford Avenue



Total Traffic 2034

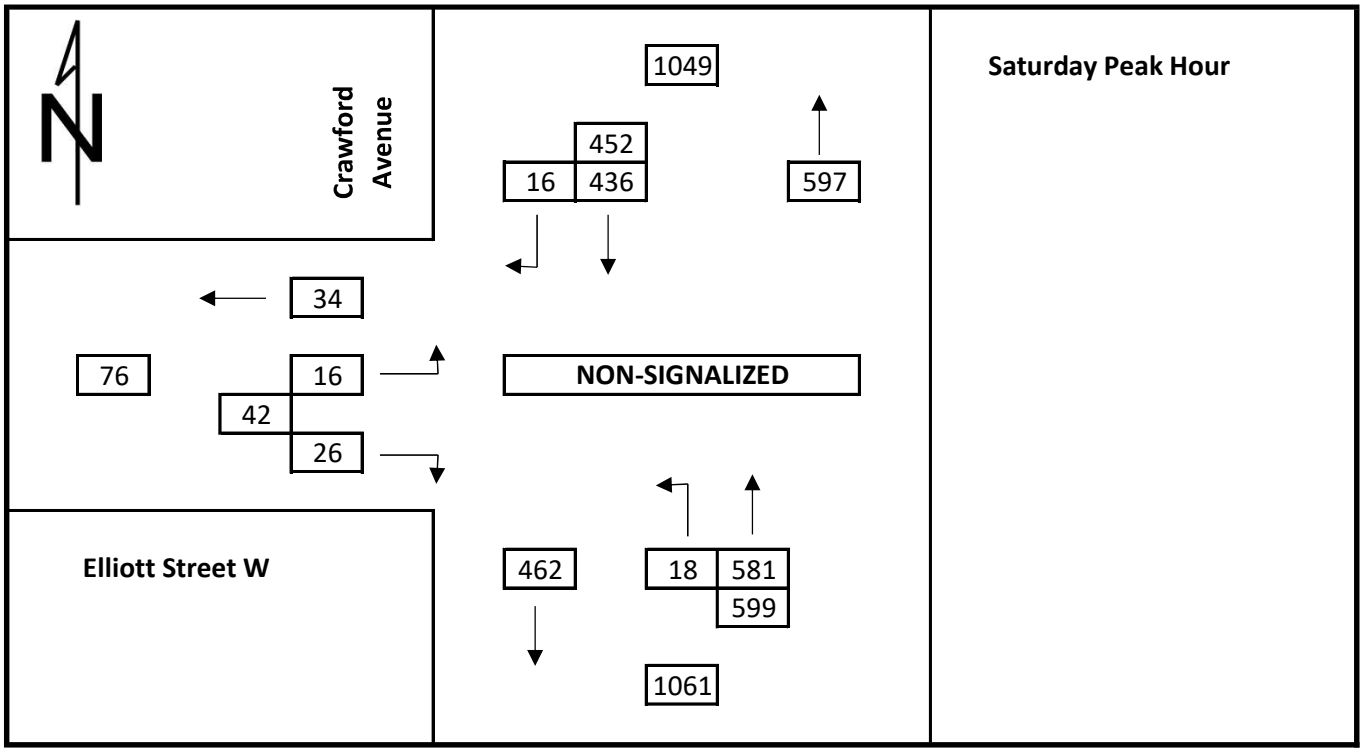
Elliott Street West at Crawford Avenue





Total Traffic 2034

Elliott Street West at Crawford Avenue



Appendix E

DETAILED SYNCHRO RESULTS

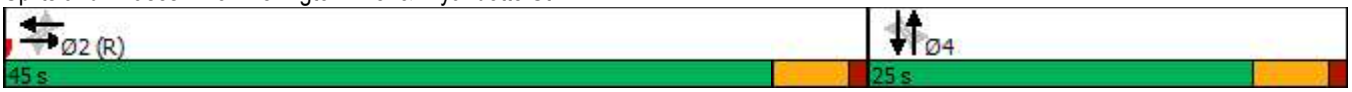
Wyandotte Street West at Wellington Avenue
Site Access at Wellington Avenue
Site Egress at Wellington Avenue
Elliott Street West at Wellington Avenue
College Avenue at Wellington Avenue
Elliott Street West at Crawford Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	310	9	21	277	9	9	22	57	16	9	7
Future Volume (vph)	6	310	9	21	277	9	9	22	57	16	9	7
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.996			0.913			0.969	
Flt Protected		0.999			0.997			0.995			0.976	
Satd. Flow (prot)	0	1667	0	0	1641	0	0	1489	0	0	1411	0
Flt Permitted		0.994			0.968			0.970			0.839	
Satd. Flow (perm)	0	1658	0	0	1593	0	0	1452	0	0	1213	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			62			8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Heavy Vehicles (%)	17%	4%	12%	2%	6%	12%	23%	2%	6%	2%	34%	29%
Adj. Flow (vph)	7	337	10	23	301	10	10	24	62	17	10	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	354	0	0	334	0	0	96	0	0	35	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	2	2		2	2		23	23		23	23	
Act Effct Green (s)		50.8			50.8			13.2			13.2	
Actuated g/C Ratio		0.73			0.73			0.19			0.19	
v/c Ratio		0.29			0.29			0.30			0.15	
Control Delay		6.1			6.1			12.7			19.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.1			6.1			12.7			19.4	
LOS		A			A			B			B	
Approach Delay		6.1			6.1			12.7			19.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (m)		13.9			12.9			4.2			3.3	
Queue Length 95th (m)		36.6			34.8			14.5			9.6	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1204			1157			459			352	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.29			0.21			0.10	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 31 (44%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.

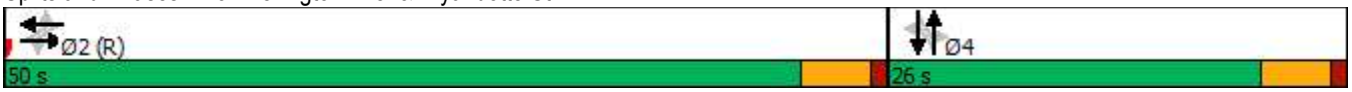


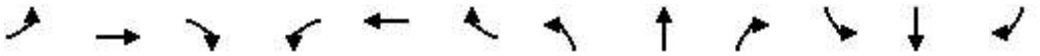
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	378	27	57	477	8	26	31	66	11	25	10
Future Volume (vph)	5	378	27	57	477	8	26	31	66	11	25	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.998			0.927			0.970	
Flt Protected		0.999			0.995			0.990			0.988	
Satd. Flow (prot)	0	1683	0	0	1689	0	0	1575	0	0	1644	0
Flt Permitted		0.995			0.920			0.922			0.932	
Satd. Flow (perm)	0	1677	0	0	1562	0	0	1466	0	0	1551	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2			72			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	5	411	29	62	518	9	28	34	72	12	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	445	0	0	589	0	0	134	0	0	50	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	50.0	50.0		50.0	50.0		26.0	26.0		26.0	26.0	
Total Split (%)	65.8%	65.8%		65.8%	65.8%		34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0		21.0	21.0		21.0	21.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	16	16		16	16		30	30		30	30	
Act Effct Green (s)		56.8			56.8			13.2			13.2	
Actuated g/C Ratio		0.75			0.75			0.17			0.17	
v/c Ratio		0.35			0.50			0.43			0.18	
Control Delay		6.0			8.0			17.7			22.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.0			8.0			17.7			22.1	
LOS		A			A			B			C	
Approach Delay		6.0			8.0			17.7			22.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			C	
Queue Length 50th (m)		18.4			29.3			8.7			5.4	
Queue Length 95th (m)		46.8			75.7			21.9			13.2	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1255			1168			457			436	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.35			0.50			0.29			0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 24 (32%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 77.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.



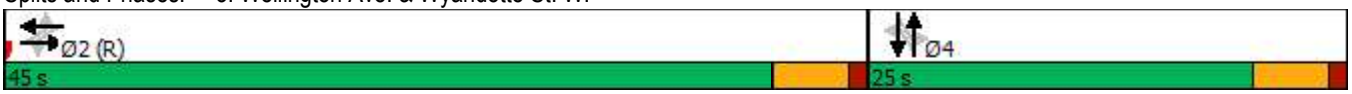


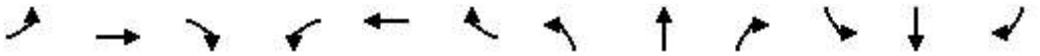
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	377	25	45	419	13	34	35	76	6	15	6
Future Volume (vph)	9	377	25	45	419	13	34	35	76	6	15	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.996			0.929			0.968	
Flt Protected		0.999			0.995			0.988			0.988	
Satd. Flow (prot)	0	1700	0	0	1700	0	0	1575	0	0	1641	0
Flt Permitted		0.989			0.932			0.921			0.924	
Satd. Flow (perm)	0	1683	0	0	1593	0	0	1468	0	0	1535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			80			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Adj. Flow (vph)	10	410	27	49	455	14	37	38	83	7	16	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	447	0	0	518	0	0	158	0	0	30	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	2	2		2	2		23	23		23	23	
Act Effct Green (s)		46.8			46.8			13.2			13.2	
Actuated g/C Ratio		0.67			0.67			0.19			0.19	
v/c Ratio		0.40			0.49			0.46			0.10	
Control Delay		7.2			8.5			17.0			18.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.2			8.5			17.0			18.4	
LOS		A			A			B			B	
Approach Delay		7.2			8.5			17.0			18.4	
Approach LOS		A			A			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)		18.7			23.9			9.9			2.8	
Queue Length 95th (m)		48.0			61.8			23.2			8.5	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1127			1065			476			443	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.40			0.49			0.33			0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 31 (44%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.



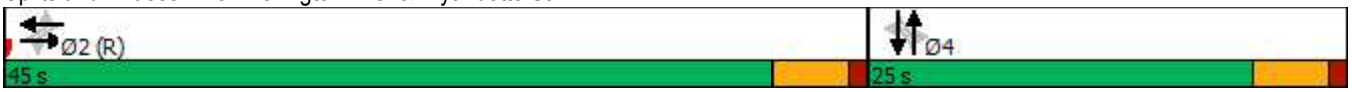


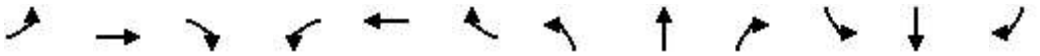
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	337	12	29	301	10	11	28	72	17	12	8
Future Volume (vph)	7	337	12	29	301	10	11	28	72	17	12	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.996			0.912			0.970	
Flt Protected		0.999			0.996			0.995			0.978	
Satd. Flow (prot)	0	1664	0	0	1640	0	0	1488	0	0	1401	0
Flt Permitted		0.993			0.952			0.969			0.874	
Satd. Flow (perm)	0	1654	0	0	1568	0	0	1449	0	0	1252	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			4			78			9	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Heavy Vehicles (%)	17%	4%	12%	2%	6%	12%	23%	2%	6%	2%	34%	29%
Adj. Flow (vph)	8	366	13	32	327	11	12	30	78	18	13	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	387	0	0	370	0	0	120	0	0	40	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	2	2		2	2		23	23		23	23	
Act Effct Green (s)		50.8			50.8			13.2			13.2	
Actuated g/C Ratio		0.73			0.73			0.19			0.19	
v/c Ratio		0.32			0.32			0.36			0.16	
Control Delay		6.3			6.4			12.8			19.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.3			6.4			12.8			19.6	
LOS		A			A			B			B	
Approach Delay		6.3			6.4			12.8			19.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			B	
Queue Length 50th (m)		15.5			14.9			5.2			3.8	
Queue Length 95th (m)		40.8			39.6			16.6			10.5	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1201			1139			469			364	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.32			0.32			0.26			0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 31 (44%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 51.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.



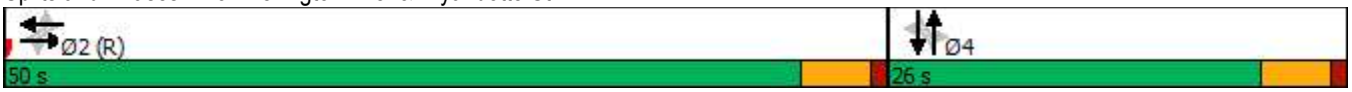


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	411	38	81	519	9	38	46	98	12	36	11
Future Volume (vph)	5	411	38	81	519	9	38	46	98	12	36	11
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.998			0.927			0.975	
Flt Protected		0.999			0.993			0.990			0.990	
Satd. Flow (prot)	0	1680	0	0	1686	0	0	1575	0	0	1656	0
Flt Permitted		0.995			0.881			0.920			0.933	
Satd. Flow (perm)	0	1673	0	0	1496	0	0	1463	0	0	1561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			2			77			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	5	447	41	88	564	10	41	50	107	13	39	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	493	0	0	662	0	0	198	0	0	64	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	50.0	50.0		50.0	50.0		26.0	26.0		26.0	26.0	
Total Split (%)	65.8%	65.8%		65.8%	65.8%		34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0		21.0	21.0		21.0	21.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	16	16		16	16		30	30		30	30	
Act Effct Green (s)		52.0			52.0			14.0			14.0	
Actuated g/C Ratio		0.68			0.68			0.18			0.18	
v/c Ratio		0.43			0.65			0.60			0.22	
Control Delay		7.4			11.6			24.2			22.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.4			11.6			24.2			22.5	
LOS		A			B			C			C	
Approach Delay		7.4			11.6			24.2			22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			C			C	
Queue Length 50th (m)		25.1			44.0			16.8			6.9	
Queue Length 95th (m)		56.4			103.1			34.0			15.8	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1148			1024			459			440	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.43			0.65			0.43			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 24 (32%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 89.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.

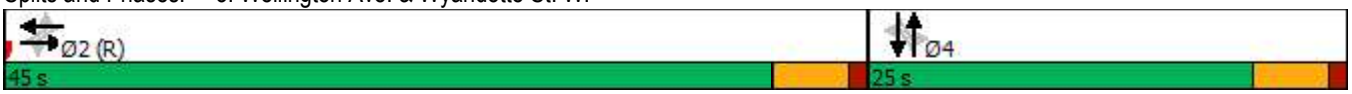


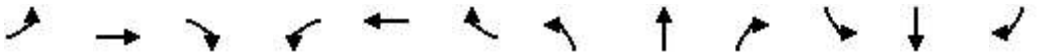
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	410	38	69	456	14	51	52	113	7	23	7
Future Volume (vph)	10	410	38	69	456	14	51	52	113	7	23	7
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.997			0.929			0.974	
Flt Protected		0.999			0.994			0.988			0.990	
Satd. Flow (prot)	0	1695	0	0	1700	0	0	1575	0	0	1654	0
Flt Permitted		0.988			0.890			0.913			0.943	
Satd. Flow (perm)	0	1676	0	0	1522	0	0	1455	0	0	1576	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			3			79			8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Adj. Flow (vph)	11	446	41	75	496	15	55	57	123	8	25	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	498	0	0	586	0	0	235	0	0	41	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	2	2		2	2		23	23		23	23	
Act Effct Green (s)		45.6			45.6			14.4			14.4	
Actuated g/C Ratio		0.65			0.65			0.21			0.21	
v/c Ratio		0.45			0.59			0.65			0.12	
Control Delay		8.4			11.0			24.8			18.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.4			11.0			24.8			18.4	
LOS		A			B			C			B	
Approach Delay		8.4			11.0			24.8			18.4	
Approach LOS		A			B			C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)		27.6			37.9			19.5			3.8	
Queue Length 95th (m)		60.7			86.3			37.4			10.1	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1096			993			472			456	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.45			0.59			0.50			0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 31 (44%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.



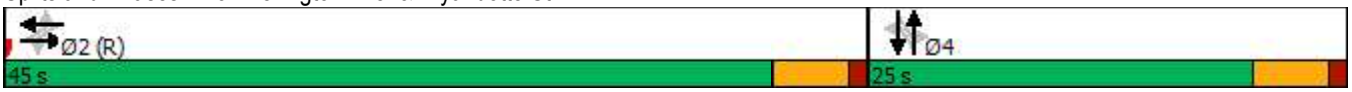


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	367	13	31	328	11	12	30	77	19	13	8
Future Volume (vph)	7	367	13	31	328	11	12	30	77	19	13	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.996			0.913			0.972	
Flt Protected		0.999			0.996			0.995			0.977	
Satd. Flow (prot)	0	1666	0	0	1640	0	0	1490	0	0	1412	0
Flt Permitted		0.993			0.949			0.968			0.866	
Satd. Flow (perm)	0	1656	0	0	1563	0	0	1450	0	0	1251	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			4			84			9	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Heavy Vehicles (%)	17%	4%	12%	2%	6%	12%	23%	2%	6%	2%	34%	29%
Adj. Flow (vph)	8	399	14	34	357	12	13	33	84	21	14	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	421	0	0	403	0	0	130	0	0	44	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	2	2		2	2		23	23		23	23	
Act Effct Green (s)		50.8			50.8			13.2			13.2	
Actuated g/C Ratio		0.73			0.73			0.19			0.19	
v/c Ratio		0.35			0.36			0.38			0.18	
Control Delay		6.6			6.7			13.1			20.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.6			6.7			13.1			20.2	
LOS		A			A			B			C	
Approach Delay		6.6			6.7			13.1			20.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			B			C	
Queue Length 50th (m)		17.4			16.7			5.7			4.3	
Queue Length 95th (m)		45.3			44.2			17.8			11.2	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1203			1135			474			363	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.35			0.36			0.27			0.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 31 (44%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.

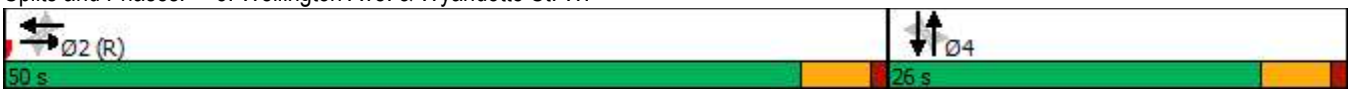


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	447	41	86	565	9	41	49	104	13	39	12
Future Volume (vph)	6	447	41	86	565	9	41	49	104	13	39	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.998			0.928			0.975	
Flt Protected		0.999			0.994			0.989			0.990	
Satd. Flow (prot)	0	1680	0	0	1688	0	0	1575	0	0	1656	0
Flt Permitted		0.992			0.874			0.915			0.928	
Satd. Flow (perm)	0	1668	0	0	1484	0	0	1457	0	0	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			2			75			13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	486	45	93	614	10	45	53	113	14	42	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	538	0	0	717	0	0	211	0	0	69	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	50.0	50.0		50.0	50.0		26.0	26.0		26.0	26.0	
Total Split (%)	65.8%	65.8%		65.8%	65.8%		34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0		21.0	21.0		21.0	21.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	16	16		16	16		30	30		30	30	
Act Effct Green (s)		51.5			51.5			14.5			14.5	
Actuated g/C Ratio		0.68			0.68			0.19			0.19	
v/c Ratio		0.47			0.71			0.62			0.23	
Control Delay		8.3			14.3			25.6			22.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.3			14.3			25.6			22.1	
LOS		A			B			C			C	
Approach Delay		8.3			14.3			25.6			22.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			B			C			C	
Queue Length 50th (m)		30.3			54.2			18.8			7.3	
Queue Length 95th (m)		66.8			#138.0			36.7			16.3	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1133			1006			456			438	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.47			0.71			0.46			0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 24 (32%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.

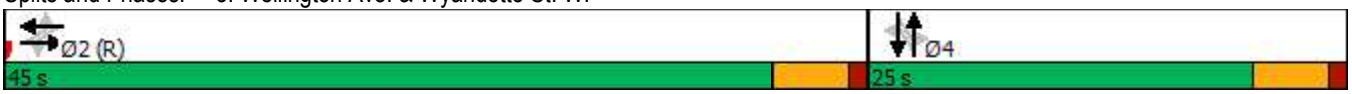


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	446	41	73	496	15	54	55	120	7	25	7
Future Volume (vph)	11	446	41	73	496	15	54	55	120	7	25	7
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.997			0.930			0.975	
Flt Protected		0.999			0.994			0.988			0.991	
Satd. Flow (prot)	0	1695	0	0	1700	0	0	1576	0	0	1658	0
Flt Permitted		0.986			0.883			0.911			0.944	
Satd. Flow (perm)	0	1673	0	0	1510	0	0	1454	0	0	1579	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			3			79			8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		176.9			260.3			96.1			116.6	
Travel Time (s)		12.7			18.7			6.9			8.4	
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
Adj. Flow (vph)	12	485	45	79	539	16	59	60	130	8	27	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	542	0	0	634	0	0	249	0	0	43	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0		25.0	25.0	
Total Split (%)	64.3%	64.3%		64.3%	64.3%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	2	2		2	2		23	23		23	23	
Act Effct Green (s)		45.2			45.2			14.8			14.8	
Actuated g/C Ratio		0.65			0.65			0.21			0.21	
v/c Ratio		0.50			0.65			0.67			0.13	
Control Delay		9.2			12.7			26.0			18.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.2			12.7			26.0			18.2	
LOS		A			B			C			B	
Approach Delay		9.2			12.7			26.0			18.3	
Approach LOS		A			B			C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)		32.3			45.0			21.3			3.9	
Queue Length 95th (m)		68.6			100.1			40.5			10.4	
Internal Link Dist (m)		152.9			236.3			72.1			92.6	
Turn Bay Length (m)												
Base Capacity (vph)		1084			976			471			456	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.50			0.65			0.53			0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 31 (44%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 96.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Wellington Ave. & Wyandotte St. W.



Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	22	99	44	10
Future Vol, veh/h	0	0	22	99	44	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	1089755904		-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	24	108	48	11

Major/Minor	Minor2		Major1	
Conflicting Flow All	-	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	48	123	96	37
Future Vol, veh/h	0	0	48	123	96	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	1089755904		-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	52	134	104	40

Major/Minor	Minor2		Major1	
Conflicting Flow All	-	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	58	138	92	38
Future Vol, veh/h	0	0	58	138	92	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	1089755904		-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	63	150	100	41

Major/Minor	Minor2		Major1	
Conflicting Flow All	-	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	22	108	47	10
Future Vol, veh/h	0	0	22	108	47	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	1089755904		-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	24	117	51	11

Major/Minor	Minor2		Major1	
Conflicting Flow All	-	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	48	134	104	37
Future Vol, veh/h	0	0	48	134	104	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	1089755904		-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	52	146	113	40

Major/Minor	Minor2		Major1	
Conflicting Flow All	-	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	58	150	101	38
Future Vol, veh/h	0	0	58	150	101	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	1089755904		-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	63	163	110	41

Major/Minor	Minor2		Major1	
Conflicting Flow All	-	0	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-
Pot Cap-1 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	7	0	99	44	0
Future Vol, veh/h	15	7	0	99	44	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	8	0	108	48	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	156	48	-	0	-	0
Stage 1	48	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	835	1021	0	-	-	0
Stage 1	974	-	0	-	-	0
Stage 2	916	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	835	1021	-	-	-	-
Mov Cap-2 Maneuver	835	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	886	-
HCM Lane V/C Ratio	-	0.027	-
HCM Control Delay (s)	-	9.2	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	37	0	123	96	0
Future Vol, veh/h	48	37	0	123	96	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	40	0	134	104	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	238	104	-	0	-	0
Stage 1	104	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	750	951	0	-	-	0
Stage 1	920	-	0	-	-	0
Stage 2	892	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	750	951	-	-	-	-
Mov Cap-2 Maneuver	750	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	826	-
HCM Lane V/C Ratio	-	0.112	-
HCM Control Delay (s)	-	9.9	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.4	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	58	38	0	138	92	0
Future Vol, veh/h	58	38	0	138	92	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	41	0	150	100	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	250	100	-	0	-	0
Stage 1	100	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	739	956	0	-	-	0
Stage 1	924	-	0	-	-	0
Stage 2	878	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	739	956	-	-	-	-
Mov Cap-2 Maneuver	739	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	812	-
HCM Lane V/C Ratio	-	0.129	-
HCM Control Delay (s)	-	10.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.4	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	7	0	108	47	0
Future Vol, veh/h	15	7	0	108	47	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	8	0	117	51	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	168	51	-	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	822	1017	0	-	-	0
Stage 1	971	-	0	-	-	0
Stage 2	908	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	822	1017	-	-	-	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	875	-
HCM Lane V/C Ratio	-	0.027	-
HCM Control Delay (s)	-	9.2	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	37	0	134	104	0
Future Vol, veh/h	48	37	0	134	104	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	40	0	146	113	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	259	113	-	0	-	0
Stage 1	113	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	730	940	0	-	-	0
Stage 1	912	-	0	-	-	0
Stage 2	881	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	730	940	-	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	809	-
HCM Lane V/C Ratio	-	0.114	-
HCM Control Delay (s)	-	10	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.4	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	58	38	0	150	101	0
Future Vol, veh/h	58	38	0	150	101	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	41	0	163	110	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	273	110	-	0	-	0
Stage 1	110	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	716	943	0	-	-	0
Stage 1	915	-	0	-	-	0
Stage 2	866	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	716	943	-	-	-	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	791	-
HCM Lane V/C Ratio	-	0.132	-
HCM Control Delay (s)	-	10.2	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.5	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	3	88	8	1	39
Future Vol, veh/h	8	3	88	8	1	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	2	6	13	2	8
Mvmt Flow	9	3	96	9	1	42

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	145	101	0	0	105	0
Stage 1	101	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.53	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	822	954	-	-	1486	-
Stage 1	896	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	821	954	-	-	1486	-
Mov Cap-2 Maneuver	821	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	853	1486	-
HCM Lane V/C Ratio	-	-	0.014	0.001	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	13	100	10	6	82
Future Vol, veh/h	20	13	100	10	6	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	2	2
Mvmt Flow	22	14	109	11	7	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	218	115	0	0	120	0
Stage 1	115	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	770	937	-	-	1468	-
Stage 1	910	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	766	937	-	-	1468	-
Mov Cap-2 Maneuver	766	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	825	1468	-
HCM Lane V/C Ratio	-	-	0.043	0.004	-
HCM Control Delay (s)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	19	108	17	4	81
Future Vol, veh/h	19	19	108	17	4	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	21	117	18	4	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	222	126	0	0	135	0
Stage 1	126	-	-	-	-	-
Stage 2	96	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	766	924	-	-	1449	-
Stage 1	900	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	764	924	-	-	1449	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	836	1449	-
HCM Lane V/C Ratio	-	-	0.049	0.003	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	4	127	9	1	49
Future Vol, veh/h	9	4	127	9	1	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	2	6	13	2	8
Mvmt Flow	10	4	138	10	1	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	198	143	0	0	148	0
Stage 1	143	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.53	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	766	905	-	-	1434	-
Stage 1	858	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	765	905	-	-	1434	-
Mov Cap-2 Maneuver	765	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	939	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	803	1434	-
HCM Lane V/C Ratio	-	-	0.018	0.001	-
HCM Control Delay (s)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	20	151	11	9	124
Future Vol, veh/h	22	20	151	11	9	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	2	2
Mvmt Flow	24	22	164	12	10	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	325	170	0	0	176	0
Stage 1	170	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	669	874	-	-	1400	-
Stage 1	860	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	664	874	-	-	1400	-
Mov Cap-2 Maneuver	664	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	750	1400	-
HCM Lane V/C Ratio	-	-	0.061	0.007	-
HCM Control Delay (s)	-	-	10.1	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	30	166	18	6	124
Future Vol, veh/h	21	30	166	18	6	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	33	180	20	7	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	339	190	0	0	200	0
Stage 1	190	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	657	852	-	-	1372	-
Stage 1	842	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	653	852	-	-	1372	-
Mov Cap-2 Maneuver	653	-	-	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	874	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	757	1372	-
HCM Lane V/C Ratio	-	-	0.073	0.005	-
HCM Control Delay (s)	-	-	10.1	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	5	135	9	1	53
Future Vol, veh/h	9	5	135	9	1	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	2	6	13	2	8
Mvmt Flow	10	5	147	10	1	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	212	152	0	0	157	0
Stage 1	152	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.53	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	752	894	-	-	1423	-
Stage 1	850	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	751	894	-	-	1423	-
Mov Cap-2 Maneuver	751	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	797	1423	-
HCM Lane V/C Ratio	-	-	0.019	0.001	-
HCM Control Delay (s)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	21	160	12	9	132
Future Vol, veh/h	24	21	160	12	9	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	20	2	2
Mvmt Flow	26	23	174	13	10	143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	344	181	0	0	187	0
Stage 1	181	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	652	862	-	-	1387	-
Stage 1	850	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	647	862	-	-	1387	-
Mov Cap-2 Maneuver	647	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1387	-
HCM Lane V/C Ratio	-	-	0.067	0.007	-
HCM Control Delay (s)	-	-	10.3	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

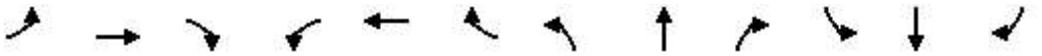
Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	31	177	20	7	132
Future Vol, veh/h	22	31	177	20	7	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	34	192	22	8	143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	362	203	0	0	214	0
Stage 1	203	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	637	838	-	-	1356	-
Stage 1	831	-	-	-	-	-
Stage 2	870	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	633	838	-	-	1356	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	739	1356	-
HCM Lane V/C Ratio	-	-	0.078	0.006	-
HCM Control Delay (s)	-	-	10.3	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

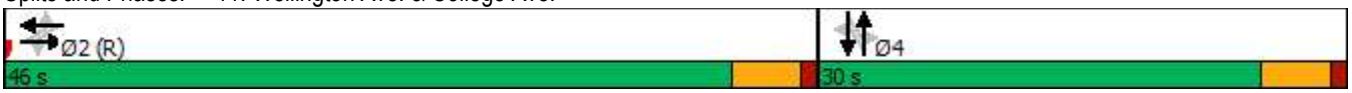


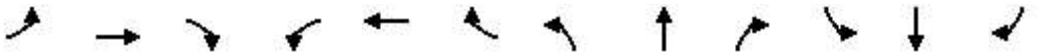
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	119	20	1	103	9	17	9	2	3	8	38
Future Volume (vph)	82	119	20	1	103	9	17	9	2	3	8	38
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.988			0.991			0.896	
Flt Protected	0.950			0.950				0.971			0.997	
Satd. Flow (prot)	1539	1619	0	1630	1555	0	0	1417	0	0	1417	0
Flt Permitted	0.679			0.661				0.789			0.983	
Satd. Flow (perm)	1100	1619	0	1134	1555	0	0	1152	0	0	1397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			9			2			41	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	8%	5%	10%	2%	12%	2%	30%	2%	2%	34%	13%	8%
Adj. Flow (vph)	89	129	22	1	112	10	18	10	2	3	9	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	151	0	1	122	0	0	30	0	0	53	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	7	7		7	7		8	8		8	8	
Act Effct Green (s)	61.8	61.8		61.8	61.8			13.0			13.0	
Actuated g/C Ratio	0.81	0.81		0.81	0.81			0.17			0.17	
v/c Ratio	0.10	0.11		0.00	0.10			0.15			0.19	
Control Delay	4.1	3.4		4.0	3.6			26.6			13.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.1	3.4		4.0	3.6			26.6			13.3	
LOS	A	A		A	A			C			B	
Approach Delay		3.7			3.6			26.6			13.3	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	3.5	5.2		0.0	4.3			3.7			1.6	
Queue Length 95th (m)	9.8	13.4		0.5	11.5			10.3			10.1	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	894	1320		922	1266			380			487	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.10	0.11		0.00	0.10			0.08			0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 37 (49%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.19			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 29.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.



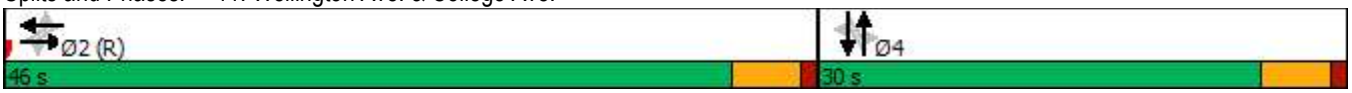


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	136	23	2	132	14	14	11	0	10	13	85
Future Volume (vph)	81	136	23	2	132	14	14	11	0	10	13	85
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.986						0.894	
Flt Protected	0.950			0.950				0.973			0.995	
Satd. Flow (prot)	1630	1664	0	1630	1662	0	0	1669	0	0	1526	0
Flt Permitted	0.657			0.648				0.864			0.971	
Satd. Flow (perm)	1127	1664	0	1112	1662	0	0	1482	0	0	1489	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			11						92	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	2%	3%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	88	148	25	2	143	15	15	12	0	11	14	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	173	0	2	158	0	0	27	0	0	117	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	4	4		4	4		5	5		5	5	
Act Effct Green (s)	57.4	57.4		57.4	57.4			13.0			13.0	
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.17			0.17	
v/c Ratio	0.10	0.14		0.00	0.13			0.11			0.35	
Control Delay	4.5	3.9		4.0	4.0			26.8			12.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.5	3.9		4.0	4.0			26.8			12.4	
LOS	A	A		A	A			C			B	
Approach Delay		4.1			4.0			26.8			12.4	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	3.4	6.2		0.1	5.7			3.5			3.3	
Queue Length 95th (m)	9.7	15.3		0.8	14.4			9.6			15.8	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	851	1261		840	1258			487			551	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.10	0.14		0.00	0.13			0.06			0.21	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 41 (54%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 6.9		Intersection LOS: A	
Intersection Capacity Utilization 40.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.

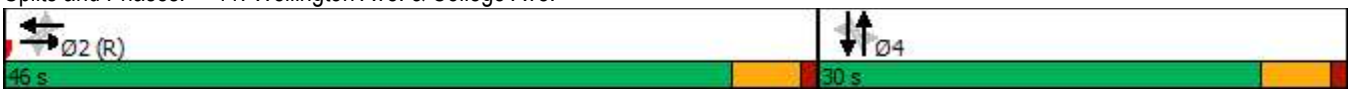


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	119	11	5	119	13	8	13	1	9	18	67
Future Volume (vph)	100	119	11	5	119	13	8	13	1	9	18	67
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.985			0.994			0.904	
Flt Protected	0.950			0.950				0.982			0.995	
Satd. Flow (prot)	1630	1693	0	1630	1675	0	0	1675	0	0	1543	0
Flt Permitted	0.666			0.667				0.878			0.971	
Satd. Flow (perm)	1143	1693	0	1144	1675	0	0	1497	0	0	1506	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			11			1			73	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	109	129	12	5	129	14	9	14	1	10	20	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	141	0	5	143	0	0	24	0	0	103	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	7	7		7	7		8	8		8	8	
Act Effct Green (s)	57.4	57.4		57.4	57.4			13.0			13.0	
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.17			0.17	
v/c Ratio	0.13	0.11		0.01	0.11			0.09			0.32	
Control Delay	4.6	4.0		4.2	4.0			25.8			13.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.6	4.0		4.2	4.0			25.8			13.8	
LOS	A	A		A	A			C			B	
Approach Delay		4.2			4.0			25.8			13.8	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	4.3	5.1		0.2	5.1			3.0			4.0	
Queue Length 95th (m)	11.6	12.9		1.3	13.0			8.7			15.8	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	863	1281		863	1267			493			544	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.13	0.11		0.01	0.11			0.05			0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 37 (49%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.

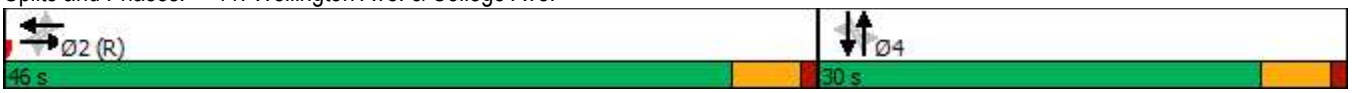


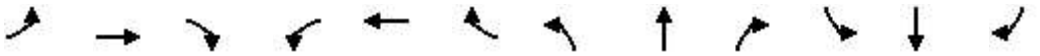
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	129	22	1	112	13	18	13	2	3	10	47
Future Volume (vph)	114	129	22	1	112	13	18	13	2	3	10	47
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.985			0.992			0.894	
Flt Protected	0.950			0.950				0.973			0.998	
Satd. Flow (prot)	1539	1619	0	1630	1553	0	0	1437	0	0	1419	0
Flt Permitted	0.670			0.653				0.820			0.988	
Satd. Flow (perm)	1086	1619	0	1120	1553	0	0	1211	0	0	1405	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			12			2			51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	8%	5%	10%	2%	12%	2%	30%	2%	2%	34%	13%	8%
Adj. Flow (vph)	124	140	24	1	122	14	20	14	2	3	11	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	164	0	1	136	0	0	36	0	0	65	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	7	7		7	7		8	8		8	8	
Act Effct Green (s)	57.4	57.4		57.4	57.4			13.0			13.0	
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.17			0.17	
v/c Ratio	0.15	0.13		0.00	0.12			0.17			0.23	
Control Delay	4.7	3.9		4.0	4.0			27.2			12.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.7	3.9		4.0	4.0			27.2			12.9	
LOS	A	A		A	A			C			B	
Approach Delay		4.3			4.0			27.2			12.9	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	5.0	5.7		0.0	4.8			4.5			1.8	
Queue Length 95th (m)	13.3	14.5		0.5	12.5			11.7			11.2	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	820	1227		845	1175			399			496	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.15	0.13		0.00	0.12			0.09			0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 37 (49%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.23			
Intersection Signal Delay: 6.8		Intersection LOS: A	
Intersection Capacity Utilization 39.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.



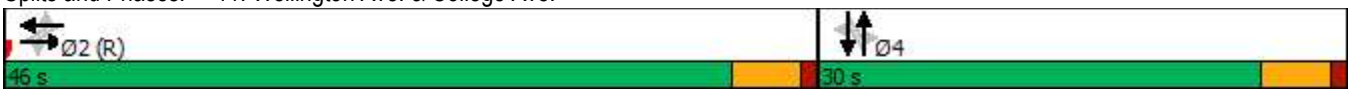


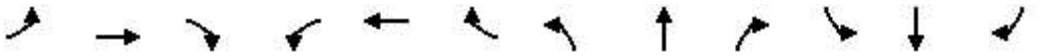
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	148	25	2	144	20	15	17	0	13	18	121
Future Volume (vph)	120	148	25	2	144	20	15	17	0	13	18	121
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.982						0.893	
Flt Protected	0.950			0.950				0.977			0.996	
Satd. Flow (prot)	1630	1664	0	1630	1656	0	0	1676	0	0	1526	0
Flt Permitted	0.644			0.639				0.863			0.975	
Satd. Flow (perm)	1105	1664	0	1096	1656	0	0	1481	0	0	1494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			14						132	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	2%	3%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	130	161	27	2	157	22	16	18	0	14	20	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	130	188	0	2	179	0	0	34	0	0	166	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	4	4		4	4		5	5		5	5	
Act Effct Green (s)	53.0	53.0		53.0	53.0			13.0			13.0	
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.17			0.17	
v/c Ratio	0.17	0.16		0.00	0.15			0.13			0.45	
Control Delay	5.0	4.2		4.0	4.3			27.3			12.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.0	4.2		4.0	4.3			27.3			12.8	
LOS	A	A		A	A			C			B	
Approach Delay		4.5			4.3			27.3			12.8	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	5.3	6.8		0.1	6.5			4.5			5.8	
Queue Length 95th (m)	13.8	16.6		0.8	16.0			11.3			m19.4	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	770	1165		764	1158			487			580	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.17	0.16		0.00	0.15			0.07			0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 41 (54%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 11: Wellington Ave. & College Ave.



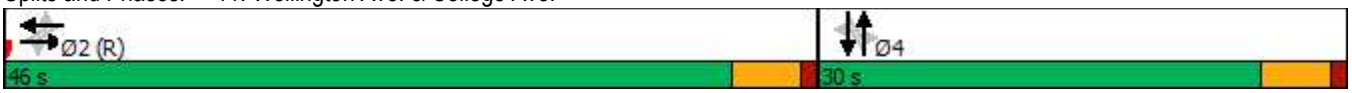


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	129	12	5	129	19	9	19	1	13	27	99
Future Volume (vph)	148	129	12	5	129	19	9	19	1	13	27	99
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.980			0.996			0.903	
Flt Protected	0.950			0.950				0.985			0.995	
Satd. Flow (prot)	1630	1693	0	1630	1667	0	0	1683	0	0	1542	0
Flt Permitted	0.655			0.660				0.908			0.973	
Satd. Flow (perm)	1124	1693	0	1132	1667	0	0	1552	0	0	1507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			15			1			108	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	161	140	13	5	140	21	10	21	1	14	29	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	161	153	0	5	161	0	0	32	0	0	151	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	7	7		7	7		8	8		8	8	
Act Effct Green (s)	53.0	53.0		53.0	53.0			13.0			13.0	
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.17			0.17	
v/c Ratio	0.21	0.13		0.01	0.14			0.12			0.44	
Control Delay	5.2	4.2		4.2	4.1			26.3			14.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.2	4.2		4.2	4.1			26.3			14.0	
LOS	A	A		A	A			C			B	
Approach Delay		4.7			4.1			26.3			14.0	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	6.7	5.6		0.2	5.7			4.1			5.7	
Queue Length 95th (m)	17.0	13.9		1.3	14.4			10.6			20.1	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	783	1183		789	1166			511			568	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.21	0.13		0.01	0.14			0.06			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 37 (49%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 40.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.

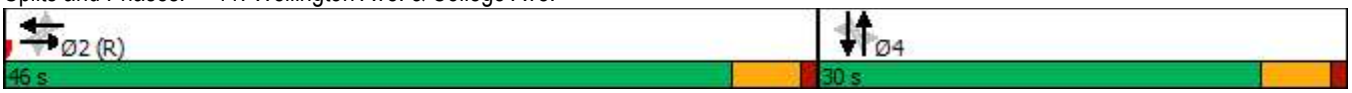


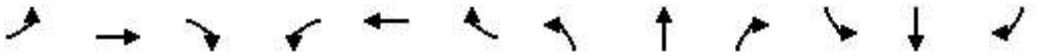
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	141	24	1	122	14	20	14	2	4	10	51
Future Volume (vph)	122	141	24	1	122	14	20	14	2	4	10	51
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.985			0.993			0.894	
Flt Protected	0.950			0.950				0.973			0.997	
Satd. Flow (prot)	1539	1619	0	1630	1553	0	0	1435	0	0	1415	0
Flt Permitted	0.663			0.644				0.811			0.985	
Satd. Flow (perm)	1074	1619	0	1105	1553	0	0	1196	0	0	1397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			12			2			55	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	8%	5%	10%	2%	12%	2%	30%	2%	2%	34%	13%	8%
Adj. Flow (vph)	133	153	26	1	133	15	22	15	2	4	11	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	179	0	1	148	0	0	39	0	0	70	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	7	7		7	7		8	8		8	8	
Act Effct Green (s)	57.4	57.4		57.4	57.4			13.0			13.0	
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.17			0.17	
v/c Ratio	0.16	0.15		0.00	0.13			0.19			0.25	
Control Delay	4.8	4.0		4.0	4.0			27.6			12.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.8	4.0		4.0	4.0			27.6			12.9	
LOS	A	A		A	A			C			B	
Approach Delay		4.3			4.0			27.6			12.9	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	5.4	6.4		0.0	5.3			4.9			2.0	
Queue Length 95th (m)	14.3	15.8		0.5	13.6			12.5			11.9	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	811	1227		834	1175			394			496	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.16	0.15		0.00	0.13			0.10			0.14	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 37 (49%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.25			
Intersection Signal Delay: 6.9		Intersection LOS: A	
Intersection Capacity Utilization 40.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.



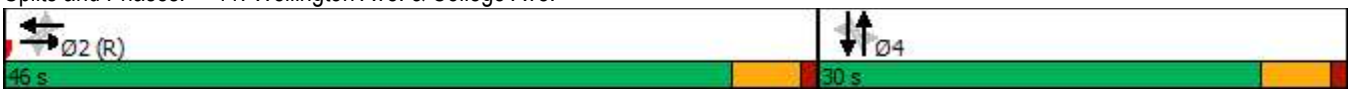


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	161	27	2	156	22	17	18	0	14	19	130
Future Volume (vph)	128	161	27	2	156	22	17	18	0	14	19	130
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979			0.981						0.892	
Flt Protected	0.950			0.950				0.977			0.996	
Satd. Flow (prot)	1630	1666	0	1630	1655	0	0	1676	0	0	1524	0
Flt Permitted	0.636			0.630				0.835			0.974	
Satd. Flow (perm)	1091	1666	0	1081	1655	0	0	1433	0	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			15						141	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	2%	3%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	139	175	29	2	170	24	18	20	0	15	21	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	204	0	2	194	0	0	38	0	0	177	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	4	4		4	4		5	5		5	5	
Act Effct Green (s)	53.0	53.0		53.0	53.0			13.0			13.0	
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.17			0.17	
v/c Ratio	0.18	0.17		0.00	0.17			0.16			0.48	
Control Delay	5.1	4.3		4.0	4.3			27.7			12.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.1	4.3		4.0	4.3			27.7			12.6	
LOS	A	A		A	A			C			B	
Approach Delay		4.6			4.3			27.7			12.6	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	5.7	7.5		0.1	7.2			5.0			6.2	
Queue Length 95th (m)	14.8	18.0		0.8	17.2			12.3			m18.7	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	761	1166		754	1158			471			585	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.18	0.17		0.00	0.17			0.08			0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 41 (54%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.6		Intersection LOS: A	
Intersection Capacity Utilization 42.5%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 11: Wellington Ave. & College Ave.

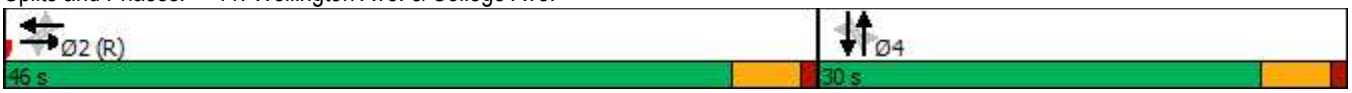


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	141	13	6	141	20	9	20	1	14	28	105
Future Volume (vph)	157	141	13	6	141	20	9	20	1	14	28	105
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	19.4		0.0	8.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	27.0			19.7			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.981			0.996			0.903	
Flt Protected	0.950			0.950				0.985			0.995	
Satd. Flow (prot)	1630	1693	0	1630	1669	0	0	1683	0	0	1542	0
Flt Permitted	0.647			0.651				0.917			0.972	
Satd. Flow (perm)	1110	1693	0	1117	1669	0	0	1567	0	0	1506	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			15			1			114	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		123.8			245.0			142.8			196.9	
Travel Time (s)		8.9			17.6			10.3			14.2	
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
Heavy Vehicles (%)	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	171	153	14	7	153	22	10	22	1	15	30	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	167	0	7	175	0	0	33	0	0	159	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	46.0	46.0		46.0	46.0		30.0	30.0		30.0	30.0	
Total Split (%)	60.5%	60.5%		60.5%	60.5%		39.5%	39.5%		39.5%	39.5%	
Maximum Green (s)	41.0	41.0		41.0	41.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	7	7		7	7		8	8		8	8	
Act Effct Green (s)	53.0	53.0		53.0	53.0			13.0			13.0	
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.17			0.17	
v/c Ratio	0.22	0.14		0.01	0.15			0.12			0.45	
Control Delay	5.3	4.3		4.2	4.2			26.4			14.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.3	4.3		4.2	4.2			26.4			14.1	
LOS	A	A		A	A			C			B	
Approach Delay		4.8			4.2			26.4			14.1	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	7.2	6.2		0.3	6.3			4.2			6.0	
Queue Length 95th (m)	18.1	15.2		1.6	15.6			10.9			20.9	
Internal Link Dist (m)		99.8			221.0			118.8			172.9	
Turn Bay Length (m)	19.4			8.0								
Base Capacity (vph)	773	1183		778	1168			516			571	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.22	0.14		0.01	0.15			0.06			0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 76			
Actuated Cycle Length: 76			
Offset: 37 (49%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Wellington Ave. & College Ave.



Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	1	4	516	220	4
Future Vol, veh/h	4	1	4	516	220	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	25	3	6	2
Mvmt Flow	4	1	4	561	239	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	810	241	243	0	-	0
Stage 1	241	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.35	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.425	-	-	-
Pot Cap-1 Maneuver	349	798	1200	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	347	798	1200	-	-	-
Mov Cap-2 Maneuver	347	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1200	-	391	-	-
HCM Lane V/C Ratio	0.004	-	0.014	-	-
HCM Control Delay (s)	8	0	14.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	9	475	472	12
Future Vol, veh/h	4	5	9	475	472	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	20	2	2	2	2
Mvmt Flow	4	5	10	516	513	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1056	520	526	0	-	0
Stage 1	520	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Critical Hdwy	6.65	6.4	4.12	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.48	2.218	-	-	-
Pot Cap-1 Maneuver	226	522	1041	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	522	1041	-	-	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	543	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1041	-	327	-	-
HCM Lane V/C Ratio	0.009	-	0.03	-	-
HCM Control Delay (s)	8.5	0	16.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	21	11	491	368	10
Future Vol, veh/h	13	21	11	491	368	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	10	2	2	2	2
Mvmt Flow	14	23	12	534	400	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	964	406	411	0	-	0
Stage 1	406	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Critical Hdwy	6.48	6.3	4.12	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.39	2.218	-	-	-
Pot Cap-1 Maneuver	276	628	1148	-	-	-
Stage 1	660	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	272	628	1148	-	-	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1148	-	419	-	-
HCM Lane V/C Ratio	0.01	-	0.088	-	-
HCM Control Delay (s)	8.2	0	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	1	5	561	239	4
Future Vol, veh/h	4	1	5	561	239	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	25	3	6	2
Mvmt Flow	4	1	5	610	260	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	882	262	264	0	-	0
Stage 1	262	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.35	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.425	-	-	-
Pot Cap-1 Maneuver	317	777	1178	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	315	777	1178	-	-	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1178	-	358	-	-
HCM Lane V/C Ratio	0.005	-	0.015	-	-
HCM Control Delay (s)	8.1	0	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	6	13	517	514	16
Future Vol, veh/h	5	6	13	517	514	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	20	2	2	2	2
Mvmt Flow	5	7	14	562	559	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1158	568	576	0	-	0
Stage 1	568	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Critical Hdwy	6.65	6.4	4.12	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.48	2.218	-	-	-
Pot Cap-1 Maneuver	195	490	997	-	-	-
Stage 1	524	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	490	997	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	512	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	997	-	286	-	-
HCM Lane V/C Ratio	0.014	-	0.042	-	-
HCM Control Delay (s)	8.7	0	18.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	24	17	534	400	15
Future Vol, veh/h	15	24	17	534	400	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	10	2	2	2	2
Mvmt Flow	16	26	18	580	435	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1059	443	451	0	-	0
Stage 1	443	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Critical Hdwy	6.48	6.3	4.12	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.39	2.218	-	-	-
Pot Cap-1 Maneuver	242	598	1109	-	-	-
Stage 1	635	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	236	598	1109	-	-	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	527	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1109	-	376	-	-
HCM Lane V/C Ratio	0.017	-	0.113	-	-
HCM Control Delay (s)	8.3	0	15.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	6	611	260	5
Future Vol, veh/h	5	1	6	611	260	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	25	3	6	2
Mvmt Flow	5	1	7	664	283	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	964	286	288	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.35	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.425	-	-	-
Pot Cap-1 Maneuver	283	753	1153	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	280	753	1153	-	-	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1153	-	313	-	-
HCM Lane V/C Ratio	0.006	-	0.021	-	-
HCM Control Delay (s)	8.1	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	7	14	562	559	17
Future Vol, veh/h	6	7	14	562	559	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	20	2	2	2	2
Mvmt Flow	7	8	15	611	608	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1258	617	626	0	-	0
Stage 1	617	-	-	-	-	-
Stage 2	641	-	-	-	-	-
Critical Hdwy	6.65	6.4	4.12	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.48	2.218	-	-	-
Pot Cap-1 Maneuver	169	459	956	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	165	459	956	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	956	-	252	-	-
HCM Lane V/C Ratio	0.016	-	0.056	-	-
HCM Control Delay (s)	8.8	0	20.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	26	18	581	436	16
Future Vol, veh/h	16	26	18	581	436	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	10	2	2	2	2
Mvmt Flow	17	28	20	632	474	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1155	483	491	0	-	0
Stage 1	483	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Critical Hdwy	6.48	6.3	4.12	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.39	2.218	-	-	-
Pot Cap-1 Maneuver	212	568	1072	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	206	568	1072	-	-	-
Mov Cap-2 Maneuver	206	-	-	-	-	-
Stage 1	590	-	-	-	-	-
Stage 2	496	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1072	-	340	-	-
HCM Lane V/C Ratio	0.018	-	0.134	-	-
HCM Control Delay (s)	8.4	0	17.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Appendix F

SIGHT LINE CALCULATIONS

Site Egress at Wellington Avenue

24-1603: 673 Wellington Avenue Commercial, Windsor, Ontario TIS - Sight Line Analysis

Design Intersection Sight Distance (TAC Geometric Design Guide for Canadian Roads)

Design Speed: 60km/h (Posted Speed Limit = 50 km/h)

Table 9.9.3: Time Gap for Case B1, Left Turn from Stop

Design Vehicle	Time Gap (t_g)(s) at Design Speed of Major Road
Passenger car	7.5
Single-unit truck	9.5
Combination truck (WB 19 and WB 20)	11.5
Longer truck	To be established by road authority

Intersection Stopping Distance **(ISD)** = 0.278 V_{major} t_g

Where:

ISD = intersection sight distance (m)
(length of the leg of sight triangle along the major road)
V_{major} = design speed of the major road (km/h)
t_g = time gap for minor road vehicle to enter the major road (s)

ISD $_{combination\ truck}$ (left turn from stop) = 0.278 x 60 x117.5 = **192 m**

Table 9.9.5: Time Gap for Case B2—Right Turn from Stop and Case B3—Crossing Maneuver

Design Vehicle	Time Gap (t_g)(s) at Design Speed of Major Road
Passenger car	6.5
Single-unit truck	8.5
Combination truck (WB 19 and WB 20)	10.5

ISD $_{combination\ truck}$ (right turn from stop) = 0.278 x 60 x 10.5 = **175 m**

Appendix G

ITE PARKING GENERATION MANUAL – 6TH EDITON REFERENCES

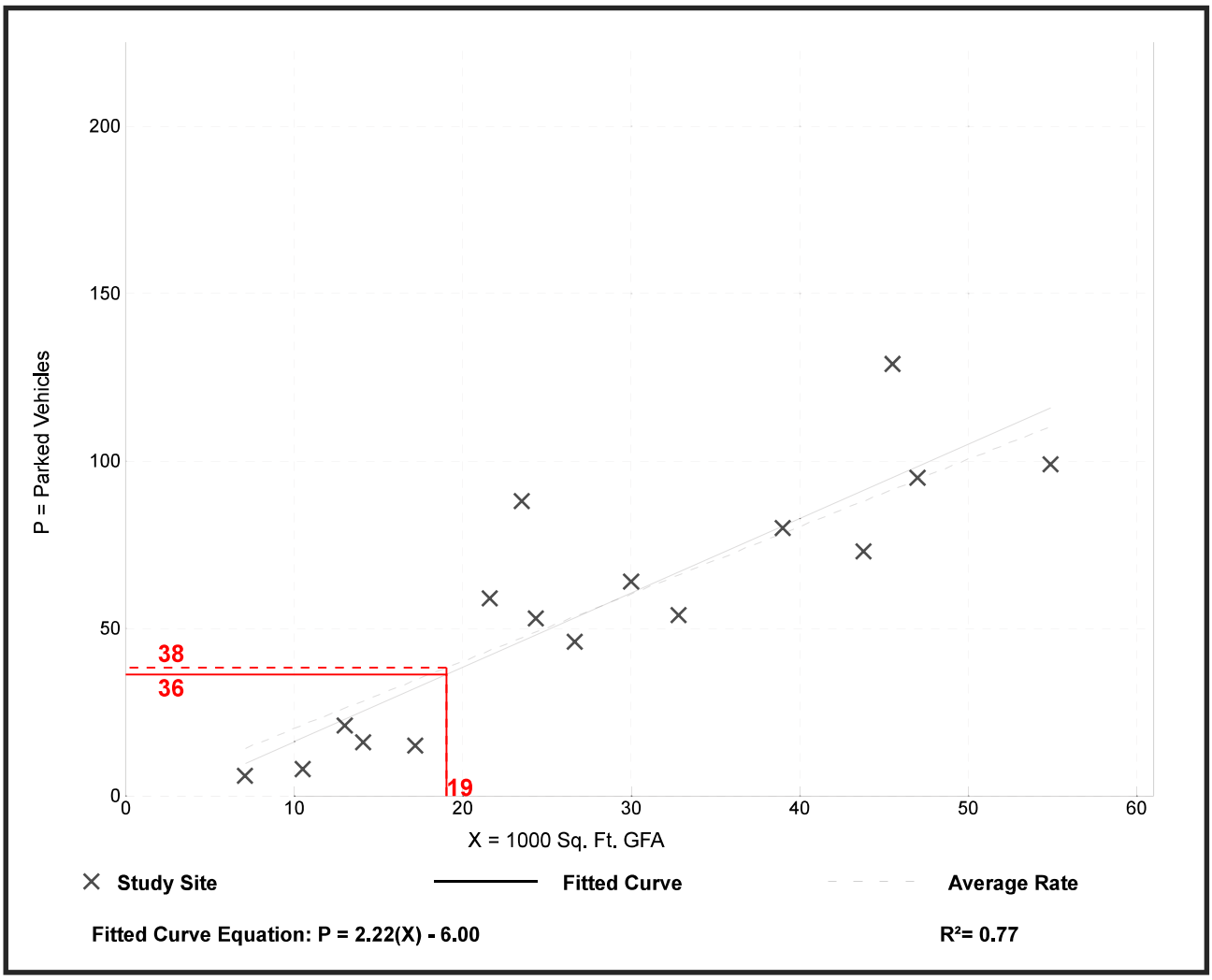
Supermarket
(850)

Peak Period Parking Demand vs: **1000 Sq. Ft. GFA**
On a: **Weekday (Monday - Thursday)**
Setting/Location: **Dense Multi-Use Urban**
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 28

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.01	0.76 - 3.74	1.63 / 2.78	***	0.67 (33%)

Data Plot and Equation



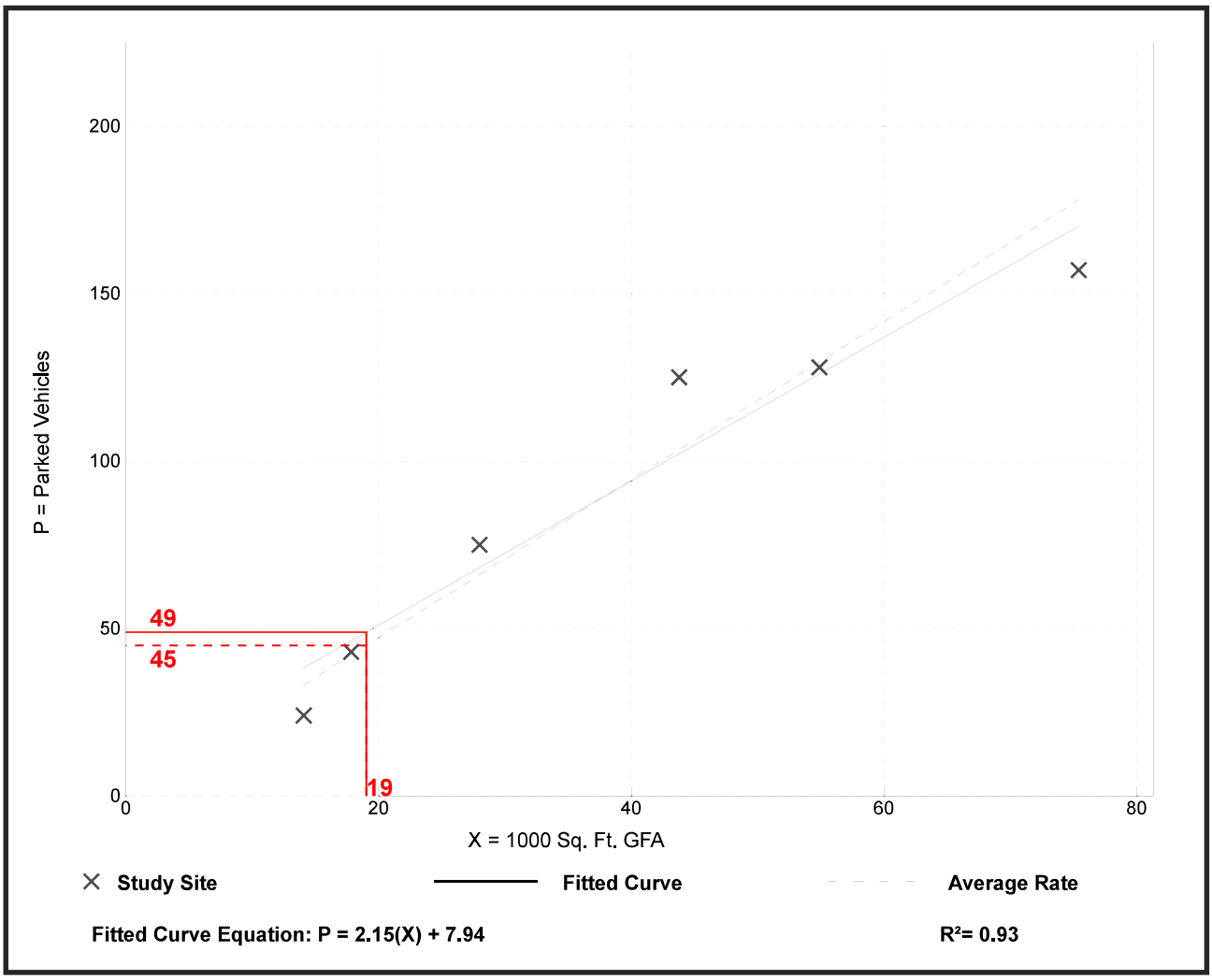
Supermarket
(850)

Peak Period Parking Demand vs: **1000 Sq. Ft. GFA**
On a: **Saturday**
Setting/Location: **Dense Multi-Use Urban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 39

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.36	1.70 - 2.85	2.16 / 2.85	***	0.36 (15%)

Data Plot and Equation



Fitted Curve Equation: P = 2.15(X) + 7.94

R^2= 0.93