# Traffic Impact Study

**for the proposed**

# Mercy Heights Redevelopment

**City of Watertown,**
**Jefferson County, New York**

Project No. 36031

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## LIST OF REFERENCES

1. Highway Capacity Manual, Fifth Edition. Transportation Research Board. National Research Council, Washington, DC. 2010.
2. New York State Department of Transportation (NYSDOT) Traffic Data Viewer. 2014. Retrieved from https://www.dot.ny.gov/tdv.
3. Trip Generation, Ninth Edition. Institute of Transportation Engineers. Washington, DC. 2012.

# EXECUTIVE SUMMARY

## OVERVIEW

The purpose of this report is to identify the potential traffic impacts associated with the proposed Mercy Heights Redevelopment in the City of Watertown, Jefferson County, New York. The operating characteristics of the proposed access points and impacts to the adjacent roadway network are identified and mitigating measures, if any, are provided to minimize capacity or safety concerns.

In an effort to define traffic impact, this analysis establishes existing traffic conditions, projects background traffic flow including area growth and/or additional traffic resulting from new development in the area, and determines the traffic operations that would result from the proposed development.

The proposed development is located at the former Mercy Hospital site bordered by Arsenal Street to the north, Stone street to the south, Sherman Street to the east, and South Massey Street to the west, in the City of Watertown, Jefferson County, New York. The site is currently shared with St. Patrick's Parish, which will remain in operation. Land uses in the vicinity of the project site include gas stations, residential, and commercial uses. The study area consists of the following intersections:

- Arsenal Street/Massey Street
- Arsenal Street/Proposed-Existing Entrance
- Arsenal Street/Sherman Street
- Sherman Street/Proposed Entrance
- Sherman Street/Stone Street
- Stone Street/Proposed Entrance
- South Massey Street/Stone Street
- South Massey Street/Proposed South Entrance
- South Massey Street/Proposed North Entrance

The proposed project includes three (3) three-story, 36,402 square-foot residential apartment buildings, two (2) two-story, 18,000 square-foot office buildings, a 5,588 square-foot community center for the residential portion of the development, and an interior parking lot at the site of the demolished Mercy Hospital. Under full development conditions, the three proposed residential buildings will front on Stone Street and South Massey Street, respectively. The two proposed office buildings will front on Arsenal Street. The proposed community center will front on Sherman Street. Access to the site is proposed through the interior parking lot with five vehicular access points, one from each of the surrounding streets, except for South Massey Street, where two access points are proposed. The parking lot would essentially function as one large, collective parking lot for all of the uses on both the project site and St. Patrick's church parcel, although different clusters of parking spaces would be on different parcels.

City of Watertown officials were contacted to discuss projects within the study area that are under construction and/or approved. Additional traffic specifically generated by job growth at Convergys, as well any unanticipated background growth in the area aside from this specific development, has been added to the existing traffic volumes at the study area intersections using a 0.25% per year growth rate for the two-year build-out period based upon a review of historical traffic data along North Massey, Arsenal and Sherman Streets collected by the NYSDOT.

## ***CONCLUSIONS & RECOMMENDATIONS***

This study evaluates the potential traffic impacts resulting from the proposed Mercy Heights Development in Watertown, NY. Based upon the collective analyses and field observations, the results indicate that the proposed development will not have significant adverse traffic impacts on the existing roadway network. The following sets forth conclusions and recommendations based upon the results of the analyses:

1. The proposed development is expected to generate approximately 86 entering/56 exiting vehicle trips during the weekday AM peak hour and 70 entering/126 exiting vehicle trips during the PM peak hour.

2. It is noted that the northbound left turn movement on South Massey Street currently operates at LOS "F" as a result of the heavy southbound left turn and through movements that require significant green time. The southbound left turn movement is currently 409(266) vph during the AM(PM) peak hours. NYSDOT typically considers a dual left turn lane when left turn volumes reach 300 vph. Providing dual left turn lanes would allow for a reduction in green time for this movement thereby improving the northbound levels of service. The signal would operate in a split phased mode with separate northbound and southbound phases. Levels of service would improve to "C" or better on all approaches. This improvement is not required as mitigation for this development, however it should be considered as an improvement whether or not the proposed Mercy Heights development moves forward.

3. The Gap Analysis shows that there will be sufficient gaps for all movements entering and exiting both the Arsenal Street and South Massey Street driveways. No turn restrictions are warranted to recommended at this time.

4. The proposed development will not result in any potentially significant adverse traffic impacts to the study area intersections with the recommended mitigation in place.

## I. INTRODUCTION

The purpose of this report is to identify the potential traffic impacts associated with the proposed Mercy Heights Re-Development in the City of Watertown, Jefferson County, New York. The operating characteristics of the proposed access points and impacts to the adjacent roadway network are identified and mitigating measures, if any, are provided to minimize capacity or safety concerns.

In an effort to define traffic impact, this analysis establishes existing traffic conditions, projects background traffic flow including area growth and/or additional traffic resulting from new development in the area, and determines the traffic operations that would result from the proposed development.

## II. LOCATION

The proposed development is located at the former Mercy Hospital site bordered by Arsenal Street to the north, Stone street to the south, Sherman Street to the east, and South Massey Street to the west, in the City of Watertown, Jefferson County, New York. The site is currently shared with St. Patrick's Parish, which will remain in operation. Land uses in the vicinity of the project site include gas stations, residential, and commercial uses. The study area consists of the intersections of:

- Arsenal Street/Massey Street
- Arsenal Street/Proposed-Existing Entrance
- Arsenal Street/Sherman Street
- Sherman Street/Proposed Entrance
- Sherman Street/Stone Street
- Stone Street/Proposed Entrance
- South Massey Street/Stone Street
- South Massey Street/Proposed South Entrance
- South Massey Street/Proposed North Entrance

The site location and study area are shown in **Figure 1** (all figures are included at the end of the report).

## III. EXISTING HIGHWAY SYSTEM

Arsenal Street (also known as NYS Route 3) is generally an east/west urban principal arterial roadway. NYS Route 3 provides service from the Fulton NY area to the west and terminates in Plattsburgh to the northeast. The segment on NYS Route 3/Arsenal Street within the study area is labeled NYS Route 3 and is under the jurisdiction and maintained by the City of Watertown. In the vicinity of the site, Arsenal Street consists of three travel lanes; one in the westbound direction and two in the eastbound direction. The posted speed limit in the vicinity of the site is 30 mph. According to the most recent traffic volume data collected by the New York State Department of Transportation (NYSDOT) in 2009, the annual average daily traffic (AADT) along Arsenal Street, east of Sherman Street is 11,682 vehicles per day (vpd).

South Massey Street (US Route 11) is owned and maintained by the City of Watertown within the vicinity of the project. The highway is functionally classified as a north/south urban principal arterial highway with two travel lanes in each direction with a posted speed limit of 30 mph in the

vicinity of the site. South Massey Street, at its intersection with Arsenal Street, also includes separate northbound and southbound left-turn lanes. According to the most recent traffic volume data collected by NYSDOT in 2014, the AADT along South Massey Street north of Arsenal Street is approximately 16,102 vpd.

Sherman Street is a City street that generally consists of one travel lane in each direction with an additional a northbound right turn lane at Arsenal Street, and a southbound right turn lane and northbound left turn lane at Stone Street. According to the most recent traffic volume data collected by NYSDOT in 2013, the AADT along Sherman Street south of Stone Street is approximately 3,763 vpd.

Stone Street is a City street that is one-way in the westbound direction between Washington Street and South Massey Street. In front of the site, Stone Street provides two westbound travel lanes. Based on recent turning movement counts at Stone Street and South Massey Street, the westbound ADT on Stone Street is approximately 2,400 vpd.

**Figure 2** illustrates the lane geometry at each of the study intersections and the AADT/ADT volumes on the study roadways.

## *IV. EXISTING TRAFFIC CONDITIONS*

### *A. Peak Intervals for Analysis*

Given the functional characteristics of the land uses proposed for the site (residential and offices), the peak hours selected for analysis are the weekday commuter AM and PM peaks. The combination of site traffic and adjacent through traffic produces the greatest demand during these time periods.

### *B. Existing Traffic Volume Data*

Weekday commuter AM (7:00-9:00AM) and PM (4:00-6:00PM) peak hour volumes were collected at the study area intersections, as noted in *Section II*, on Tuesday, June 14, and Wednesday June 15, 2016. The peak hour traffic periods generally occurred between 7:30-8:30 AM and 4:30-5:30 PM at the study intersections.

All turning movement count data was collected on a typical weekday while local schools were in session. The traffic volumes were reviewed to confirm the accuracy and relative balance of the collective traffic counts. The actual differences in traffic volumes can be attributed to temporal variations in traffic volumes as well as activity related to driveways located in the segments between the study intersections. The weekday AM and PM peak hour volumes are reflected in **Figure 3**.

### *C. Field Observations*

The study intersections were observed during both peak intervals to assess current traffic operations. Signal timing information for intersections within the study area was utilized to determine peak hour phasing plans and phase durations during each interval. This information was used to support and/or calibrate capacity analysis models described in detail later in this report.

## V. FUTURE AREA DEVELOPMENT AND LOCAL GROWTH

Construction of the proposed Mercy Heights Development is anticipated to be completed within five years. City of Watertown officials were contacted to discuss projects within the study area that are under construction and/or approved. Several developments were identified including: Samaritan Medical Center expansion, 300 new jobs at Convergys, Northern New York Community Foundation office relocation to 131 Washington Street, Roth Industries building addition at 268 Bellew Avenue South, Washington Street Properties building rehabilitation at 505 Washington Street, and the Clueless Bar re-opening as Club #9 at 545 Arsenal Street.

Given the proximity potential impact of the additional Convergys jobs, additional traffic related to this development, has been added to the existing traffic volumes at the study area intersections. The other developments noted will add minimally to traffic volumes in the study area during the peak hours studied. Therefore, an additional growth rate of 0.25% per year has been added to the study area intersections for the five-year build-out period. This growth rate was determined based upon a review of historical traffic data along North Massey, Arsenal and Sherman Streets collected by the NYSDOT and in consideration of the noted area developments. The background traffic volumes are depicted in **Figure 4**.

## VI. PROPOSED DEVELOPMENT

### A. Description

The proposed project includes three (3) three-story, 36,402 square-foot residential apartment buildings, two (2) two-story, 18,000 square-foot office buildings, a 5,588 square-foot community center for the residential portion of the development, and an interior parking lot at the site of the demolished Mercy Hospital. Under full development conditions, the three proposed residential buildings will front on Stone Street and South Massey Street, respectively. The two proposed office buildings will front on Arsenal Street. The proposed community center will front on Sherman Street. Access to the site is proposed through the interior parking lot with five vehicular access points, one from each of the surrounding streets, except for South Massey Street, where two access points are proposed. The parking lot would essentially function as one large, collective parking lot for all of the uses on both the project site and St. Patrick's church parcel, although different clusters of parking spaces would be on different parcels. **Figure 5** illustrates the proposed concept plan.

### B. Site Traffic Generation

The volume of traffic generated by a site is dependent on the intended land use and size of the development. Trip generation is an estimate of the number of trips generated by a specific building or land use. These trips represent the volume of traffic entering and exiting the development. Trip Generation, 9th Edition is used as a reference for this information. The trip rate for the peak hour of the generator may or may not coincide in time or volume with the trip rate for the peak hour of adjacent street traffic. Volumes generated during the peak hour of adjacent street traffic, in this case, the weekday AM and PM peaks, represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis. All trip generation information has been included in the appendix.

**Table I** shows the total site generated trips for the weekday AM and PM peak hours for full build out of the proposed project.

## TABLE I
## SITE GENERATED TRIPS

| DESCRIPTION | SIZE/ UNITS | AM PEAK | | PM PEAK | |
|---|---|---|---|---|---|
| | | ENTER | EXIT | ENTER | EXIT |
| Apartments | 108 Units | 11 | 46 | 50 | 27 |
| Office | 36,000 SF | 75 | 10 | 20 | 99 |
| **Total Site Generated Trips** | | **86** | **56** | **70** | **126** |

### C. *Site Traffic Distribution*

The cumulative effect of site traffic on the transportation network is dependent on the origins and destinations of that traffic and the location of the access drive serving the site.

The proposed arrival/departure distribution of traffic to be generated at this site is considered a function of several parameters, including the following:

- Employment centers in the local area and region;
- Population centers in the local area and region;
- Proximity and access to I-81;
- Site access drive locations and internal roadway circulation;
- Existing highway network;
- Existing traffic patterns; and
- Existing traffic conditions and controls

**Figures 6A and 6B** show the anticipated trip distribution pattern percentages for the proposed office and residential components of the development respectively. **Figure 7** shows the resulting total site generated traffic as assigned to the study area intersections for the weekday commuter AM and PM peak hour periods for Full Development of the proposed project.

## *VII. FULL DEVELOPMENT VOLUMES*

The projected design hour traffic volumes were developed for the weekday AM and PM peak hours by combining the future background traffic conditions (Figure 4), and projected site generated volumes for full build out of the proposed development (Figure 7). **Figure 8** illustrates the total weekday AM and PM hour volumes anticipated for the proposed development under full development conditions.

## *VIII. CAPACITY ANALYSIS*

Capacity analysis is a technique used for determining a measure of effectiveness for a section of roadway and/or intersection based on the number of vehicles during a specific time period. The measure of effectiveness used for the capacity analysis is referred to as a Level of Service (LOS). Levels of Service are calculated to provide an indication of the amount of delay that a motorist experiences while traveling along a roadway or through an intersection. Since the most amount of delay to motorists usually occurs at intersections, capacity analysis typically focuses on intersections, as opposed to highway segments.

Six Levels of Service are defined for analysis purposes. They are assigned letter designations, from "A" to "F", with LOS "A" representing the best conditions and LOS "F" the worst. Suggested ranges of service capacity and an explanation of Levels of Service are included in the Appendix.

The standard procedure for capacity analysis of signalized and un-signalized intersections is outlined in the Highway Capacity Manual (HCM 2010) published by the Transportation Research Board. Traffic analysis software, Synchro 9, which is based on procedures and methodologies contained in the HCM, was used to analyze operating conditions at study area intersections. The procedure yields a Level of Service (LOS) based on the HCM 2010 as an indicator of how well intersections operate.

Existing and background operating conditions during the peak study periods are evaluated to determine a basis for comparison with the projected future conditions. The future traffic conditions generated by the proposed development under full build out were analyzed to assess the operations of the intersections in the study area. Capacity results for existing, background, and full development conditions are listed in **Table II**. The discussion following the table summarizes capacity conditions. All capacity analysis calculations are included in the Appendices.

## TABLE II: CAPACITY ANALYSIS RESULTS

| INTERSECTION | 2016 EXISTING CONDITIONS | | 2021 BACKGROUND CONDITIONS | | FULL ACCESS DEVELOPMENT CONDITIONS | |
|---|---|---|---|---|---|---|
| | AM | PM | AM | PM | AM | PM |
| ***Arsenal Street/Massey Street (S)*** | | | | | | |
| Eastbound Left/Thru – Arsenal St | C(32.0) | C(26.4) | C(21.1) | C(36.7) | C(21.4) | C(27.6) |
| Eastbound Right – Arsenal St | B(11.4) | B(19.8) | B(19.6) | B(19.7) | B(19.8) | C(20.1) |
| Westbound Thru/Right – Arsenal St | D(36.3) | C(25.2) | D(48.6) | C(25.7) | D(49.3) | C(26.7) |
| Northbound Left – South Massey St | F(100.5) | F(*) | F(*) | F(*) | F(*) | F(*) |
| Northbound Thru/Right – South Massey St | C(29.3) | D(36.6) | D(44.0) | D(39.5) | D(45.3) | D(41.7) |
| Southbound Left – North Massey Street | C(10.3) | C(25.6) | C(24.6) | C(28.1) | C(26.0) | C(29.7) |
| Southbound Thru/Right – North Massey Street | A(6.8) | B(15.6) | B(15.7) | B(16.9) | B(16.0) | B(17.3) |
| ***Overall LOS*** | ***C(23.7)*** | ***D(45.3)*** | ***D(36.6)*** | ***D(52.0)*** | ***D(40.0)*** | ***E(62.2)*** |
| ***Arsenal Street/ Parking Lot & Gas station (Proposed Entrance) (U)*** | | | | | | |
| Eastbound Left – Arsenal Street | A(7.9) | A(8.3) | A(7.9) | A(8.4) | A(7.9) | A(8.4) |
| Westbound Left – Arsenal Street | A(9.4) | A(8.9) | A(9.6) | A(9.0) | A(9.7) | A(9.0) |
| Northbound Left/Thru/Right - Entrance | B(11.1) | B(12.2) | B(11.3) | B(12.4) | C(17.6) | D(28.4) |
| Southbound Left/Thru/Right – Gas Station etc | C(15.3) | C(17.9) | C(15.7) | C(18.8) | C(16.1) | C(19.5) |
| ***Sherman Street/ Commercial Lots Driveway/ Arsenal Street (S)*** | | | | | | |
| Eastbound Left/Thru/Right – Arsenal Street | B(12.0) | B(13.2) | B(12.2) | B(13.4) | B(12.3) | B(13.5) |
| Westbound Thru – Arsenal Street | B(10.2) | B(12.8) | A(9.8) | B(12.6) | A(9.9) | B(12.6) |
| Westbound Right – Arsenal Street | A(3.1) | A(0.1) | A(2.8) | A(0.7) | A(2.7) | A(0.7) |
| Northbound Left/Thru – Sherman Street | B(13.0) | B(14.5) | B(14.1) | B(16.1) | B(14.4) | B(16.6) |
| Northbound Right – Sherman Street | A(5.9) | A(4.9) | A(6.3) | A(5.1) | A(5.7) | A(5.2) |
| Southbound L/T/R – Commercial Driveway | A(10.0 | A(9.1) | A(9.2) | B(11.5) | A(9.4) | B(11.7) |
| ***Overall LOS*** | ***B(11.2)*** | ***B(12.6)*** | ***B(11.4)*** | ***B(13.2)*** | ***B(11.4)*** | ***B(13.3)*** |
| ***Sherman Street/ Proposed Entrance (U)*** | | | | | | |
| Eastbound Left/Right – Proposed Entrance | NA | | NA | | B(10.6) | B(11.3) |
| Northbound Left – Sherman Street | | | | | A(7.5) | A(7.7) |

| INTERSECTION | 2016 EXISTING CONDITIONS | | 2021 BACKGROUND CONDITIONS | | FULL ACCESS DEVELOPMENT CONDITIONS | |
|---|---|---|---|---|---|---|
| | AM | PM | AM | PM | AM | PM |
| ***Sherman Street/ Stone Street*** | | | | | | |
| Westbound Left/Thru – Stone Street | A(4.6) | B(10.5) | A(6.3) | B(10.8) | A(6.4) | B(10.8) |
| Westbound Right – Stone Street | A(2.3) | A(3.8) | A(2.9) | A(3.9) | A(3.2) | A(4.0) |
| Northbound Left – Sherman Street | A(3.3) | A(9.6) | A(4.7) | A(9.5) | A(4.8) | A(9.6) |
| Northbound Thru – Sherman Street | A(3.3) | A(8.9) | A(4.6) | A(9.2) | A(4.9) | A(9.2) |
| Southbound Thru – Sherman Street | A(3.3) | A(9.0) | A(4.8) | A(9.1) | A(4.8) | A(9.2) |
| Southbound Right – Sherman Street | A(0.0) | A(1.3) | A(0.0) | A(1.4) | A(0.0) | A(1.4) |
| ***Overall LOS*** | ***A(3.4)*** | ***A(8.7)*** | ***A(4.7)*** | ***A(8.8)*** | ***A(4.8)*** | ***A(8.8)*** |
| ***Stone Street/ Rexford Place/ Proposed Entrance*** | | | | | | |
| Southbound Right – Proposed Entrance | NA | | NA | | A(8.7) | A(9.5) |
| ***South Massey Street/ Stone Street (S)*** | | | | | | |
| Eastbound L/T/R – Stone Street | A(5.7) | A(5.9) | A(5.7) | A(5.9) | A(6.8) | A(6.2) |
| Westbound Left – Stone Street | B(13.0) | B(19.2) | B(13.0) | B(19.3) | B(14.2) | B(19.9) |
| Westbound Thru/Right – Stone Street | A(9.7) | C(20.5) | A(9.8) | C(21.0) | B(10.2) | C(21.4) |
| Northbound Left/Thru – S Massey Street | A(6.8) | B(11.7) | A(6.9) | B(11.9) | A(8.7) | B(12.7) |
| Southbound Thru/Right – S Massey Street | A(5.6) | A(7.4) | A(5.6) | A(7.4) | A(6.6) | A(7.6) |
| ***Overall LOS*** | ***A(6.3)*** | ***B(11.1)*** | ***A(6.3)*** | ***B(11.2)*** | ***A(7.6)*** | ***B(11.7)*** |
| ***South Massey Street/ Proposed South Driveway*** | | | | | | |
| Westbound – Proposed South Driveway | NA | | NA | | B(12.6) | C(24.7) |
| Southbound Left – South Massey Street | | | | | A(8.3) | A(9.3) |
| ***South Massey Street/ Proposed North Driveway*** | | | | | | |
| Westbound – Proposed South Driveway | NA | | NA | | B(12.0) | B(11.9) |
| Southbound Left – South Massey Street | | | | | B(10.2) | B(14.8) |

Notes:
C(15.6) = Level of Service(Delay in seconds per vehicle)
(S) = Signalized; (U) = Un-signalized
NA = Approach does not exist and/or was not analyzed during this condition

Table II summarizes the capacity analysis results of the existing, 2021 background, and full development conditions. The results indicate that no significant changes in levels of service are anticipated as a result of the proposed of development at any of the study area intersections during the three peak hours studied. It is noted that the northbound left turn movement on South Massey Street currently operates at LOS "F" as a result of the heavy southbound left turn and through movements that require significant green time. The southbound left turn movement is currently 409(266) vph during the AM(PM) peak hours. NYSDOT typically considers a dual left turn lane when left turn volumes reach 300 vph. Providing dual left turn lanes would allow for a reduction in green time for this movement thereby improving the northbound levels of service. The signal would operate in a split phased mode with separate northbound and southbound phases. Levels of service would improve to "C" or better on all approaches. This improvement is not required as mitigation for this development and is not included in any of the following analyses, however it should be considered as an improvement whether or not the proposed Mercy Heights development moves forward.

Minor changes in levels of service will occur at the Arsenal Street/South Massey Street intersection and at South Massey Street/Stone Street. The eastbound right turn movement during the PM peak

hour will change from LOS "B" to "C" at Arsenal Street/South Massey Street intersection between background and full development conditions. In addition, the overall intersection LOS changes from "D" to "E". The change in LOS from "B" to "C" is the result of a borderline condition and is the result of an increase in delay of 0.4 seconds per vehicle. The overall LOS can be improved to "D" with minor signal timing changes that would be produced by the controller as traffic volumes change at this intersection during the peak hours. No mitigation is warranted or recommended at this location.

At the South Massey Street/Stone Street intersection the westbound thru/right turn lane is projected to change from LOS "A" to "B" with a corresponding increase in delay of 0.4 seconds during the AM peak hour between background and full development conditions. Again this is the result of a borderline condition. All levels of service remain at acceptable levels and no mitigation is warranted or recommended.

## *IX. GAP ANALYSIS*

A Gap Analysis was performed along both Arsenal Street and South Massey Street at the proposed driveway locations to determine the availability of gaps for traffic to enter (left-turns) and exit (left and right turns) the proposed driveways. For un-signalized intersections such as these, gap availability can be used as a surrogate methodology for evaluating the ability of side road traffic to enter and exit the fronting traffic stream.

The availability of gaps within the traffic stream primarily determines the side road driver behavior and delay for both entering and exiting motorists. A gap study counts the actual gaps in existing traffic available for a vehicle to enter or exit the side road. The difference between the actual number of gaps and the projected demand for a particular traffic movement can then be calculated as a reserve or deficit capacity.

The 2010 Highway Capacity Manual provides data relative to gap sizes that motorists find acceptable to execute the required maneuver. SRF & Associates performed a gap analysis at the proposed driveway location along Arsenal Street as well as the proposed north driveway along South Massey Street on Tuesday, June 14th, Wednesday June 15th and Tuesday, June 21st, 2016 during the AM and PM peak hours to evaluate potential future operating conditions. **Table III** indicates the acceptable gap duration, the number of existing gaps based on the duration, the projected traffic volume for the movement, and the resulting reserve (or deficit) capacity during the AM and PM peak hours.

### TABLE III
### PEAK HOUR GAP ANALYSIS RESULTS

| *INTERSECTION* | *MOVEMENT* | *ACCEPTABLE GAP DURATION* | *EXISTING GAPS BASED ON COLLECTED DATA (VPH)* | *PROJECTED VOLUME (VPH)* | *RESERVE CAPACITY (VPH)* |
|---|---|---|---|---|---|
| Arsenal St/Proposed Driveway | Right turns exiting site | 6.9 sec | 228(365) | 2(18) | 226(347) |
| | Left turns exiting site | 7.5 sec | 155(36) | 1(14) | 154(22) |
| | Left turns entering site | 4.1 sec | 260(218) | 8(4) | 252(214) |

| | | | | | |
|---|---|---|---|---|---|
| South Massey St/Proposed Driveway | Right turns exiting site | 6.9 sec | 359(92) | 3(31) | 356(61) |
| | Left turns exiting site | 7.5 sec | 210(88) | 1(9) | 209(79) |
| | Left turns entering site | 4.1 sec | 570(139) | 16(7) | 554(132) |

Note:
00(00) = AM(PM) Peak Hour

Based on the field observations, gap study, the operation and phasing of the traffic signal at Arsenal St/South Massey Street, and the projected site generated traffic volumes, it is anticipated that there will be sufficient gaps to accommodate all of the turns in and out of the site at both the Arsenal Street and South Massey Street driveways. No turn restrictions are warranted to recommended at this time.

## X. CONCLUSIONS & RECOMMENDATIONS

This study evaluates the potential traffic impacts resulting from the proposed Mercy Heights Development in Watertown, NY. Based upon the collective analyses and field observations, the results indicate that the proposed development will not have significant adverse traffic impacts on the existing roadway network. The following sets forth conclusions and recommendations based upon the results of the analyses:

1. The proposed development is expected to generate approximately 86 entering/56 exiting vehicle trips during the weekday AM peak hour and 70 entering/126 exiting vehicle trips during the PM peak hour.

2. It is noted that the northbound left turn movement on South Massey Street currently operates at LOS "F" as a result of the heavy southbound left turn and through movements that require significant green time. The southbound left turn movement is currently 409(266) vph during the AM(PM) peak hours. NYSDOT typically considers a dual left turn lane when left turn volumes reach 300 vph. Providing dual left turn lanes would allow for a reduction in green time for this movement thereby improving the northbound levels of service. The signal would operate in a split phased mode with separate northbound and southbound phases. Levels of service would improve to "C" or better on all approaches. This improvement is not required as mitigation for this development, however it should be considered as an improvement whether or not the proposed Mercy Heights development moves forward.

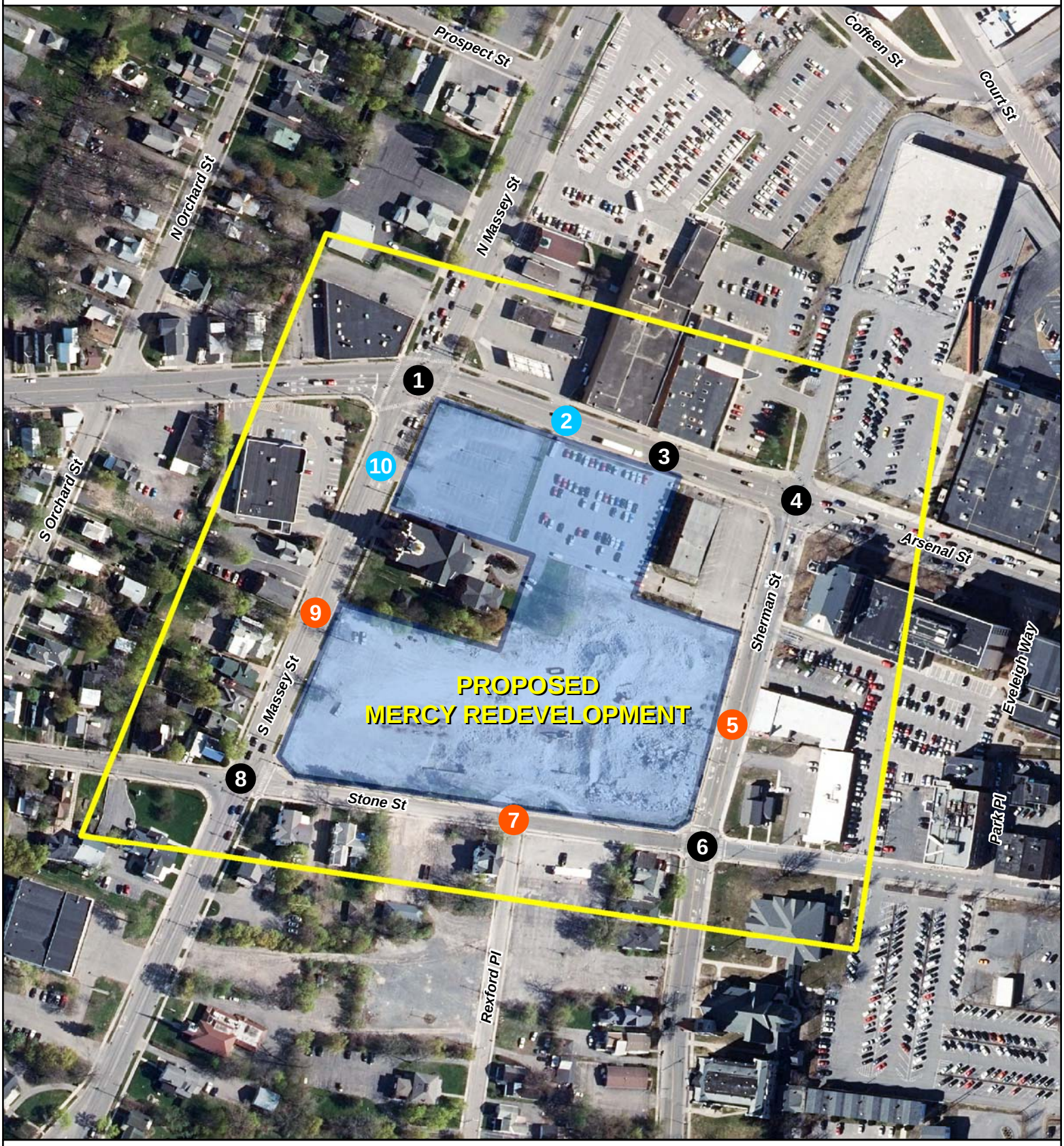
3. The Gap Analysis shows that there will be sufficient gaps for all movements entering and exiting both the Arsenal Street and South Massey Street driveways. No turn restrictions are warranted to recommended at this time.

4. The proposed development will not result in any potentially significant adverse traffic impacts to the study area intersections with the recommended mitigation in place.

## XI. FIGURES

Figures 1 through 8 are included on the following pages.

# FIGURE 1 - SITE LOCATION AND STUDY AREA




**Legend**

**Intersection Type**

- Study
- Study/Proposed
- Proposed

Site Location

Study Area

**PROPOSED**
**MERCY REDEVELOPMENT**
**CITY OF WATERTOWN, NY**

Feet
0 125 250 500

N

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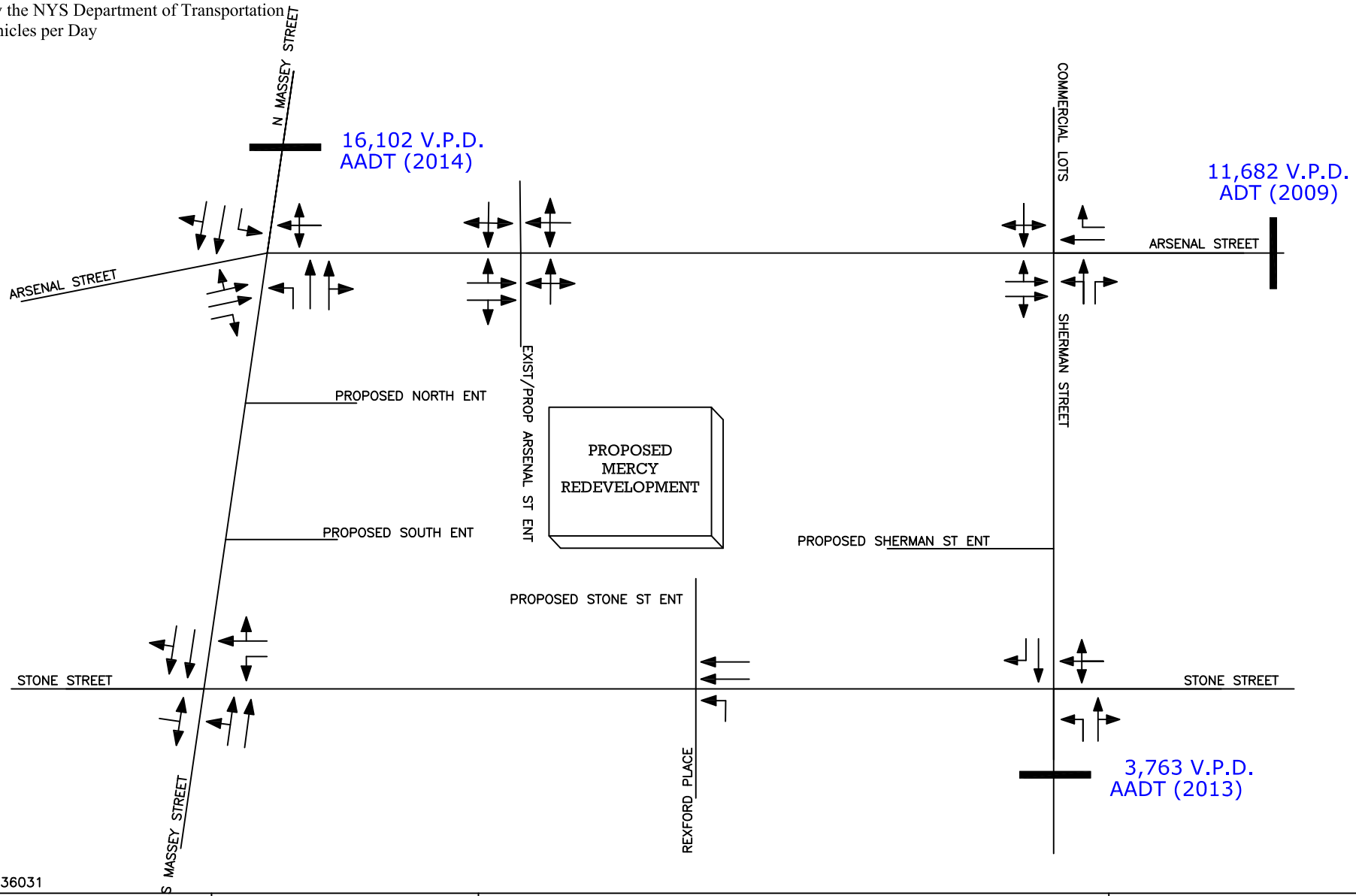
NOTES:
All counts by the NYS Department of Transportation
V.P.D. = Vehicles per Day

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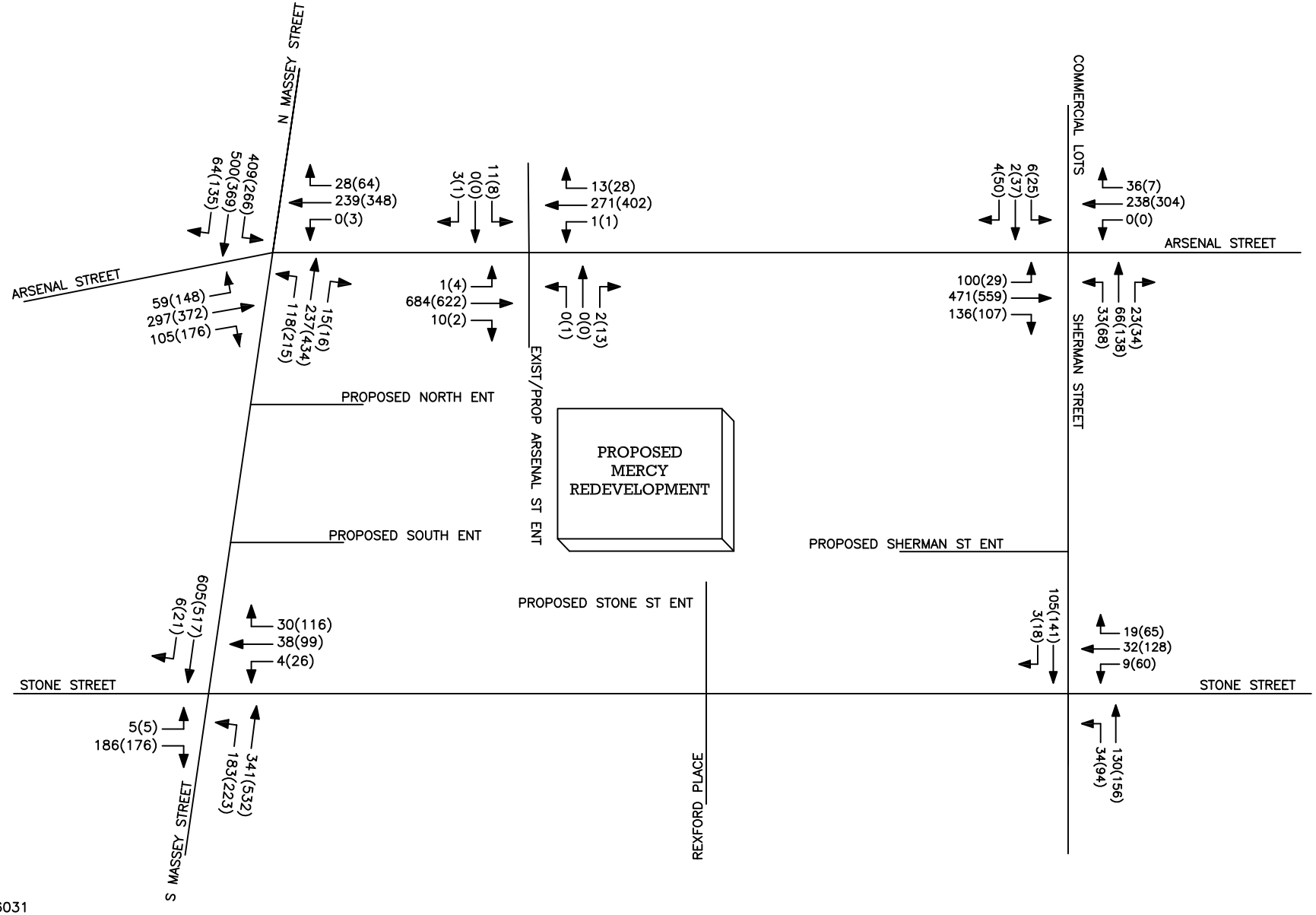
NOT TO SCALE

# FIGURE 2

LANE GEOMETRY &
AVERAGE DAILY TRAFFIC

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

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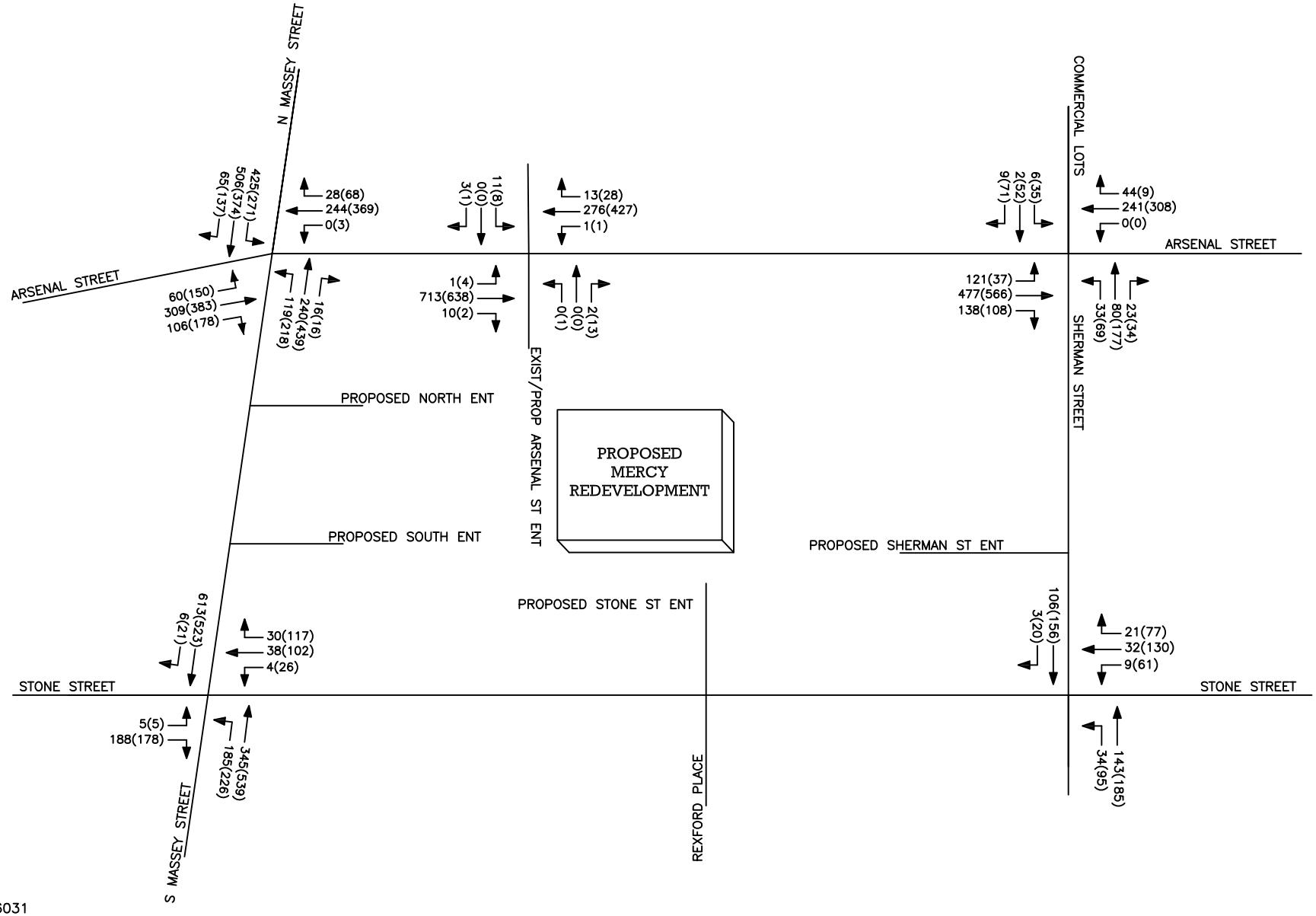
# FIGURE 3

PEAK HOUR VOLUMES
2016 EXISTING CONDITIONS

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

00(00) = AM(PM)




PROJECT NO: 36031

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# FIGURE 4

PEAK HOUR VOLUMES
2021 BACKGROUND CONDITIONS

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

00(00) = AM(PM)

PROJECT DATA:

APPLICANT:

1. COR ARSENAL STREET COMPANY, LLC
   540 TOWNE DRIVE
   FAYETTEVILLE, NEW YORK 13066

2. TAX MAP No.: 10-02-101, 10-02-116 & 10-02-113

3. EXISTING ZONING: COMMERCIAL

4. TOTAL LOT AREA: 5.71± ACRES
   ST. PATRICK'S LOT AREA 1.79 ± ACRES

| ZONING REQUIREMENTS: | REQUIRED | PROVIDED |
|---|---|---|
| MIN. LOT AREA: | 1,000 SF | 5.71± ACRES |
| FRONT SETBACK: | 20' | --- ** |
| SIDE SETBACK: | 5' | 8.9' |
| REAR SETBACK: | 25' | N/A |
| PARKING STALL SIZE: | 9'x18' | 9'x18' |

** NOTE: FRONT YARD EXCEPTIONS

IN CASES OTHER THAN CORNER LOTS, OTHER PROVISIONS OF THIS CHAPTER, NOTWITHSTANDING, NO BUILDING IN ANY DISTRICT NEED HAVE A FRONT YARD GREATER IN DEPTH THAN THE AVERAGE DEPTH OF THE FRONT YARDS OF THE LOTS NEXT THERETO ON EITHER SIDE. A VACANT LOT OR LOT WITH A FRONT YARD GREATER THAN THE MINIMUM DEPTH BEING COUNTED AS IF IT WERE THE MINIMUM FRONT YARD FOR THE DISTRICT IN WHICH IT IS LOCATED, BUT IN NO CASE SHALL THE FRONT YARD IN ANY RESIDENCE DISTRICT BE LESS THAN 10 FEET IN DEPTH.

PARKING RATIO (RESIDENTIAL) – COMMERCIAL ZONE

| BUILDING | SQUARE FEET | TOTAL NO. OF UNITS | PARKING SPACES REQUIRED | PARKING RATIO | PARKING SPACES PROVIDED | PARKING RATIO PROVIDED |
|---|---|---|---|---|---|---|
| C1 | 36,402 | 36 | 40 | 1.0/UNIT+10% | 40 | 1.0/UNIT+10% |
| C2 | 36,402 | 36 | 40 | 1.0/UNIT+10% | 40 | 1.0/UNIT+10% |
| C3 | 36,402 | 36 | 40 | 1.0/UNIT+10% | 40 | 1.0/UNIT+10% |
| CLUB HOUSE | 5,588 | N/A | 28 | 5.0/1,000 | 43 | 7.7/1,000 |
| TOTAL | | | 148 | | 163 | |

PARKING RATIO (OFFICE) – COMMERCIAL ZONE

| BUILDING | SQUARE FEET | TOTAL NO. OF UNITS | PARKING SPACES REQUIRED | PARKING RATIO | PARKING SPACES PROVIDED | PARKING RATIO PROVIDED |
|---|---|---|---|---|---|---|
| OFFICE 1 | 17,000 | N/A | 85 | 5.0/1,000 | 85 | 5.0/1,000 |
| OFFICE 2 | 17,000 | N/A | 85 | 5.0/1,000 | 85 | 5.0/1,000 |
| TOTAL | 34,000 | | 170 | | 170 | |

PARKING RATIO (ASSEMBLY) – COMMERCIAL ZONE

| BUILDING | TOTAL # OF OCCUPANTS | PARKING SPACES REQUIRED | EXISTING PARKING ON CHURCH PROPERTY | PARKING SPACES PROVIDED |
|---|---|---|---|---|
| ST. PATRICK'S CHURCH | 399 | 67 | 81 | 86 |

* NOTE:

1. TOTAL PARKING REQUIRED: 395 SPACES
   TOTAL PARKING PROVIDED: 419 SPACES

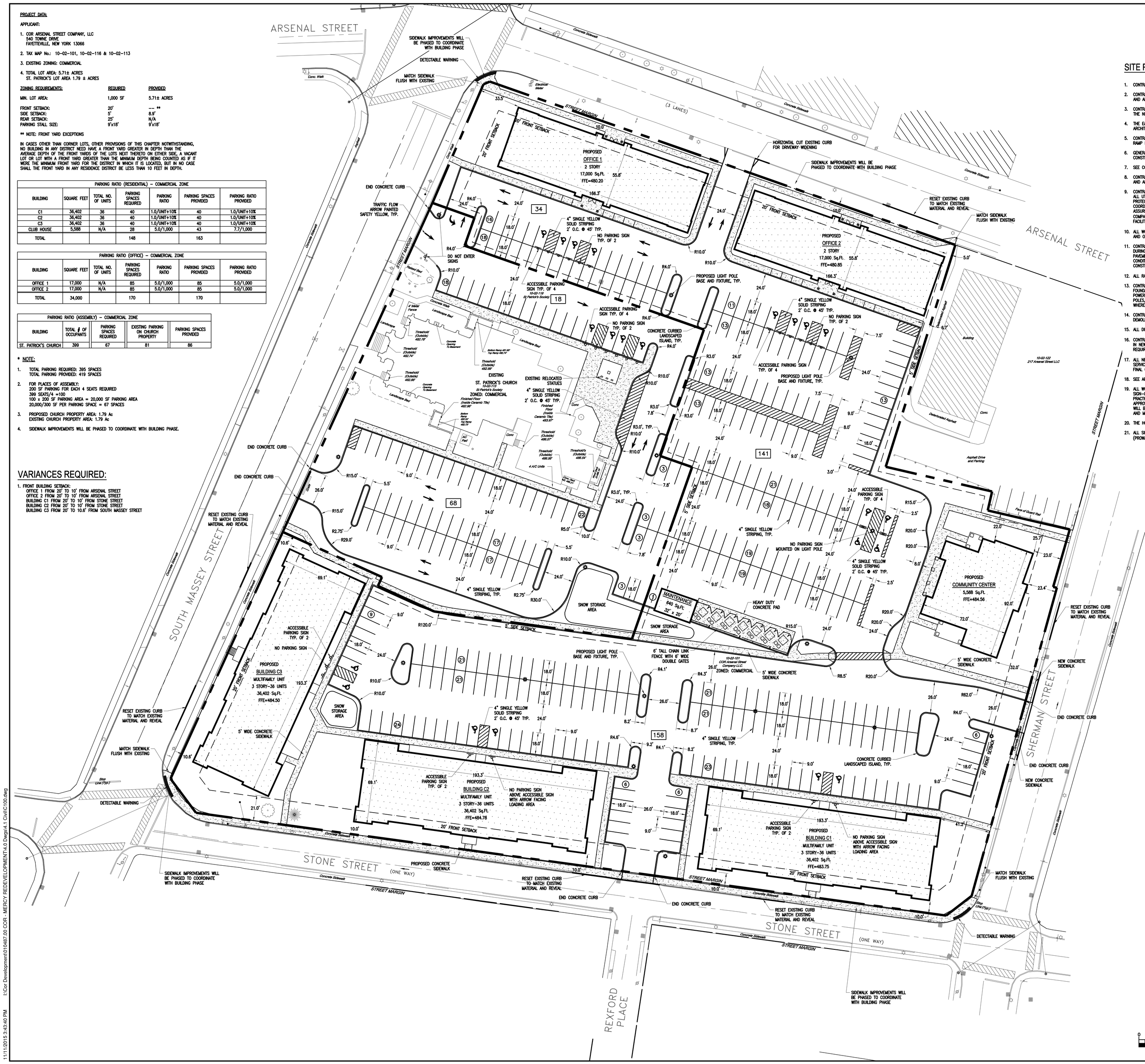
2. FOR PLACES OF ASSEMBLY:
   200 SF PARKING FOR EACH 4 SEATS REQUIRED
   399 SEATS/4 =100
   100 x 200 SF PARKING AREA = 20,000 SF PARKING AREA
   20,000/300 SF PER PARKING SPACE = 67 SPACES

3. PROPOSED CHURCH PROPERTY AREA: 1.79 Ac
   EXISTING CHURCH PROPERTY AREA: 1.79 Ac

4. SIDEWALK IMPROVEMENTS WILL BE PHASED TO COORDINATE WITH BUILDING PHASE.

## VARIANCES REQUIRED:

1. FRONT BUILDING SETBACK:
   OFFICE 1 FROM 20' TO 10' FROM ARSENAL STREET
   OFFICE 2 FROM 20' TO 10' FROM ARSENAL STREET
   BUILDING C1 FROM 20' TO 10' FROM STONE STREET
   BUILDING C2 FROM 20' TO 10' FROM STONE STREET
   BUILDING C3 FROM 20' TO 10.6' FROM SOUTH MASSEY STREET




## SITE PLAN NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS AND MONUMENTS.
2. CONTRACTOR SHALL MATCH PROPOSED CURB, CONCRETE, AND PAVEMENT TO EXISTING IN GRADE AND ALIGNMENT.
3. CONTRACTOR SHALL REMOVE PAVEMENT & CONCRETE IN ACCORDANCE WITH SPECIFICATIONS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION.
4. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR ACTUAL DIMENSIONS, PORCH AND RAMP LOCATIONS.
6. GENERAL CONTRACTOR IS TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES AS DESIGNATED ON PLANS.
7. SEE COVER SHEET FOR LIST OF UTILITY COMPANIES.
8. CONTRACTOR SHALL PROVIDE PIPE BOLLARDS FOR PROTECTION OF ALL ABOVE GROUND UTILITIES AND APPURTENANCES IN DRIVE AREA, AS WELL AS, TO PROTECT ALL ACCESSIBLE SIGNS.
9. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES, TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, GAS, ELECTRICAL, AND TELEPHONE SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED, AS WELL AS, COORDINATE WITH ANY UTILITY COMPANIES FOR APPROVED LOCATIONS AND SCHEDULING OF TIE-INS/ CONNECTIONS TO THEIR FACILITIES.
10. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
11. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, STRUCTURES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN, EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND NOTIFY CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION START.
12. ALL RADII ARE 5' TO FACE OF CURB, UNLESS OTHERWISE NOTED.
13. CONTRACTOR TO REMOVE OR RELOCATE, WHEN APPLICABLE, ALL EXISTING BUILDINGS, FOUNDATIONS, BASEMENTS, CONNECTING IMPROVEMENTS, DRAIN PIPES, SANITARY SEWER PIPES, POWER POLES, AND GUY WIRES, WATER METERS AND WATER LINES, WELLS, SIDEWALKS, SIGN POLES, UTILITIES AND ASPHALT, SHOWN AND NOT SHOWN, WITHIN CONSTRUCTION LIMITS AND WHERE NEEDED, TO ALLOW FOR NEW CONSTRUCTION AS SHOWN.
14. CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, AND FEDERAL REGULATIONS IN DISPOSING OF DEMOLISHED MATERIALS REMOVED FROM THIS SITE.
15. ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. CONTRACTOR IS RESPONSIBLE FOR RELOCATING AND/OR PLACING PEDESTRIAN CROSSING SIGNS IN NEW LOCATION AS INDICATED ON PLANS. CONTRACTOR TO VERIFY EXACT NUMBER OF SIGNS REQUIRED.
17. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND FINAL CONNECTION OF SERVICES.
18. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
19. ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN WILL REQUIRE SIGN-OFF FROM A PROFESSIONAL ENGINEER, LICENSED AND CURRENTLY REGISTERED TO PRACTICE IN THE STATE OF NEW YORK, THAT THE WORK WAS BUILT ACCORDING TO THE APPROVED SITE PLAN AND APPLICABLE CITY OF WATERTOWN STANDARDS. COMPACTION TESTING WILL BE REQUIRED FOR ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN AND MUST BE SUBMITTED TO THE CITY OF WATERTOWN CODES DEPARTMENT.
20. THE HORIZONTAL DATUM IS BASED ON NYS CENTRAL ZONE NAD83.
21. ALL SIDEWALK WORK WITHIN THE CITY RIGHT-OF-WAY IS TO MEET PUBLIC-RIGHT-OF-WAY (PROWAG) STANDARDS. SEE NYSDOT STAND SHEETS 608-01.

## SITE PLAN LEGEND

| | |
|---|---|
| EXISTING PROPERTY LINE | |
| PROPOSED BUILDING | |
| PROPOSED CURB | |
| PROPOSED PARKING SPACES | 5 |
| PROPOSED CONCRETE PAVEMENT | |
| PROPOSED LIGHT POLE AND BASE | |
| CHAIN LINK FENCE | x |

0 30 60 90 FT
1" = 30' SCALE BAR

Call 811 Before You Dig

# MERCY HEIGHTS

City of Watertown
Jefferson County
State of New York

## COR Arsenal Street Company, LLC

540 Towne Drive
Fayetteville, NY 13066


Bergmann associates
architects // engineers // planners

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
28 East Main Street
200 First Federal Plaza
Rochester, NY 14614

office: 585.232.5135
fax: 585.232.4652

www.bergmannpc.com


REVISIONS

| NO. | DATE | DESCRIPTION | REV. | CK'D |
|---|---|---|---|---|

PRELIMINARY
NOT FOR
CONSTRUCTION

PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEW YORK.
LICENSE NO. 80472
EXPIRATION DATE: 05/2017

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2015 ENERGY CONSTRUCTION CONSERVATION CODE OF THE STATE OF NEW YORK.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Note:
Unauthorized alteration or addition to this drawing is a violation of the New York State Education Law Article 145, Section 7209.


| | |
|---|---|
| Project Manager: A. HART, RLA | Checked By: J. BASILE, PE |
| Designed By: J. BUSH | Drawn By: J. BUSH |
| Date Issued: MAY 23, 2016 | Scale: 1" = 30' |
| Project Number: 010487.00 | |

## SITE PLAN

Drawing Number:

# C100



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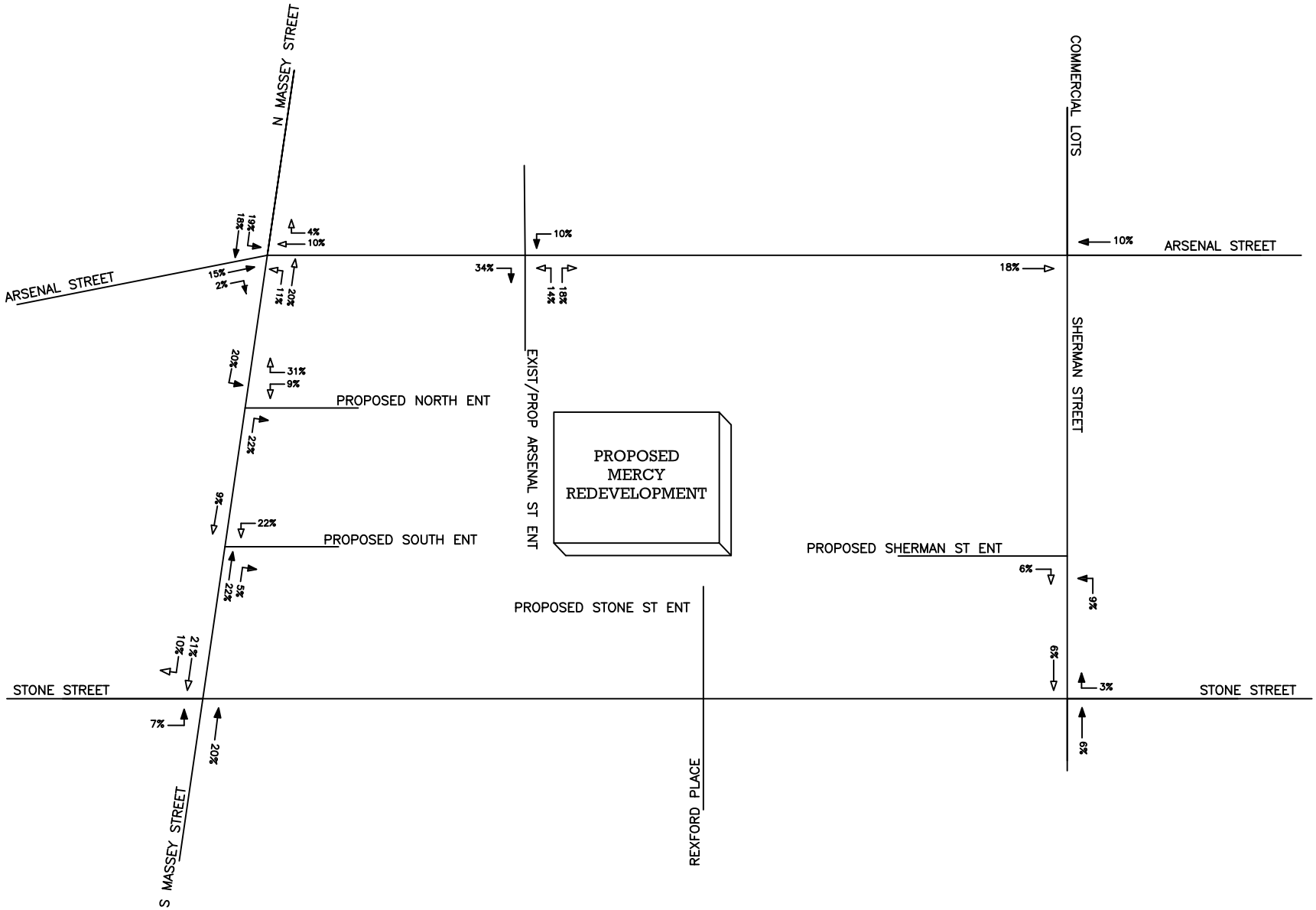


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# FIGURE 6-A

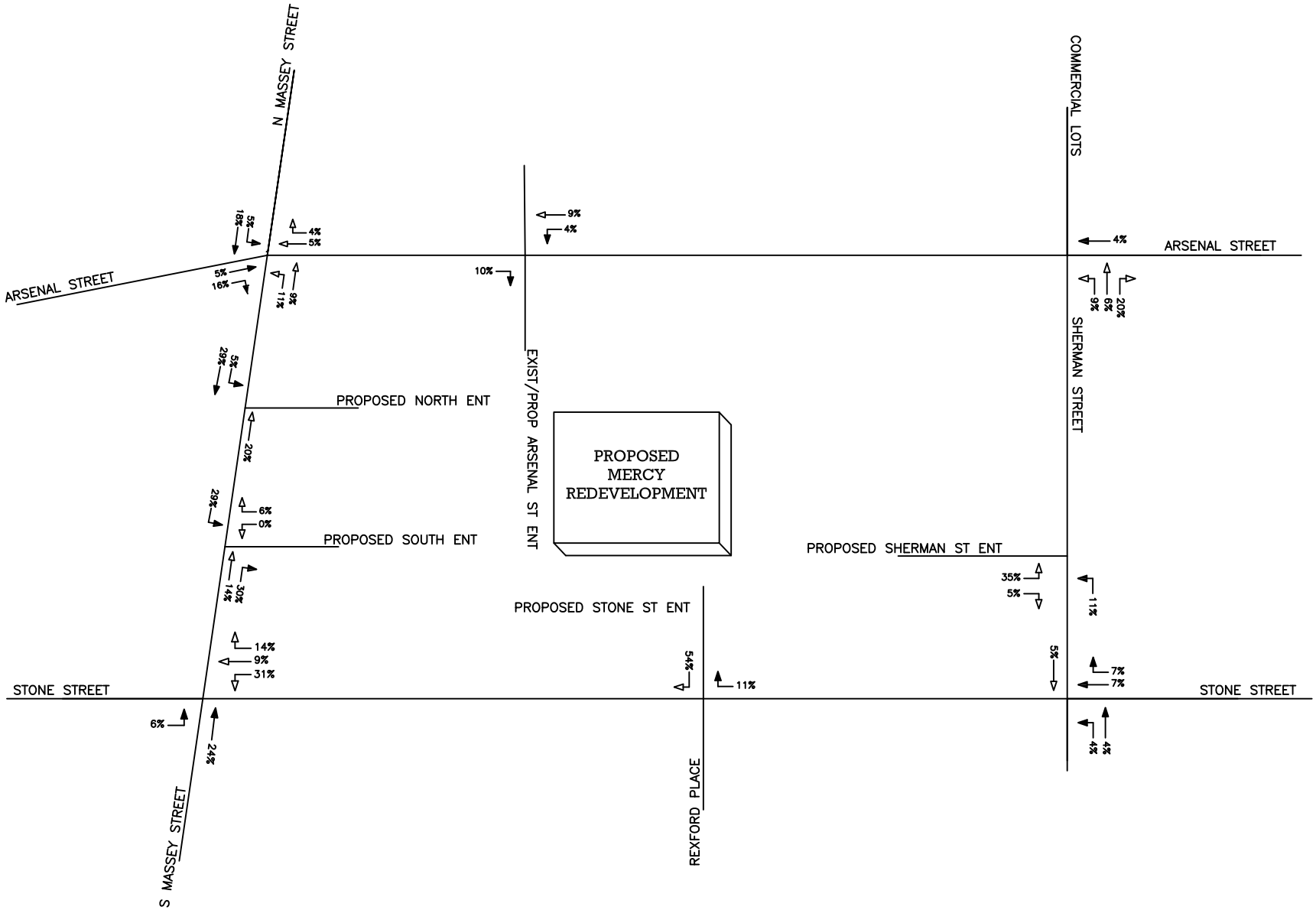
TRIP DISTRIBUTION
OFFICE FULL ACCESS

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

00(00) = AM(PM)

→ = ENTERING TRIPS
→ = EXITING TRIPS




PROJECT NO: 36031

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# FIGURE 6-B

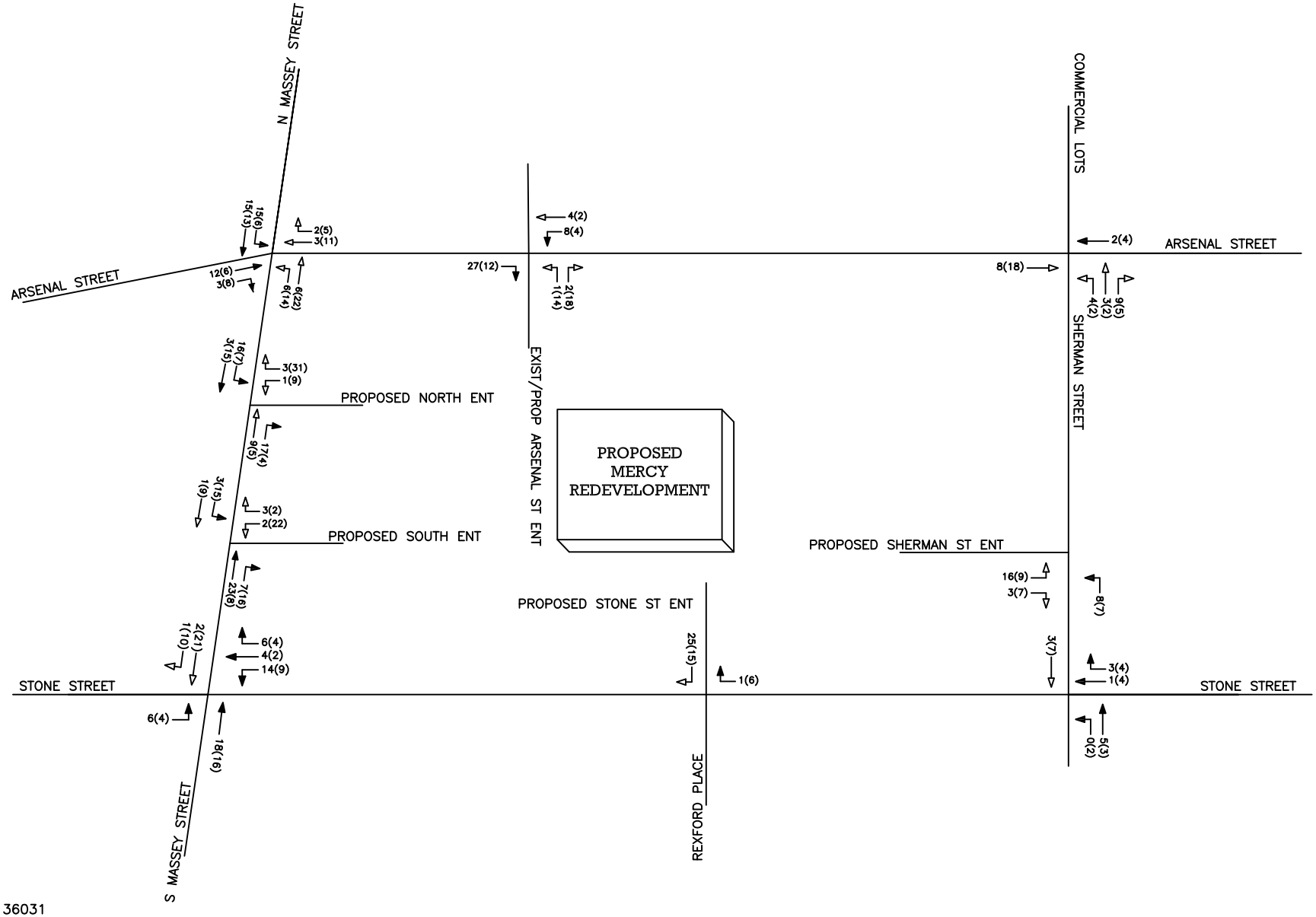
TRIP DISTRIBUTION
RESIDENTIAL FULL ACCESS

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

00(00) = AM(PM)

→ = ENTERING TRIPS
→ = EXITING TRIPS




PROJECT NO: 36031

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NOT TO SCALE

# FIGURE 7

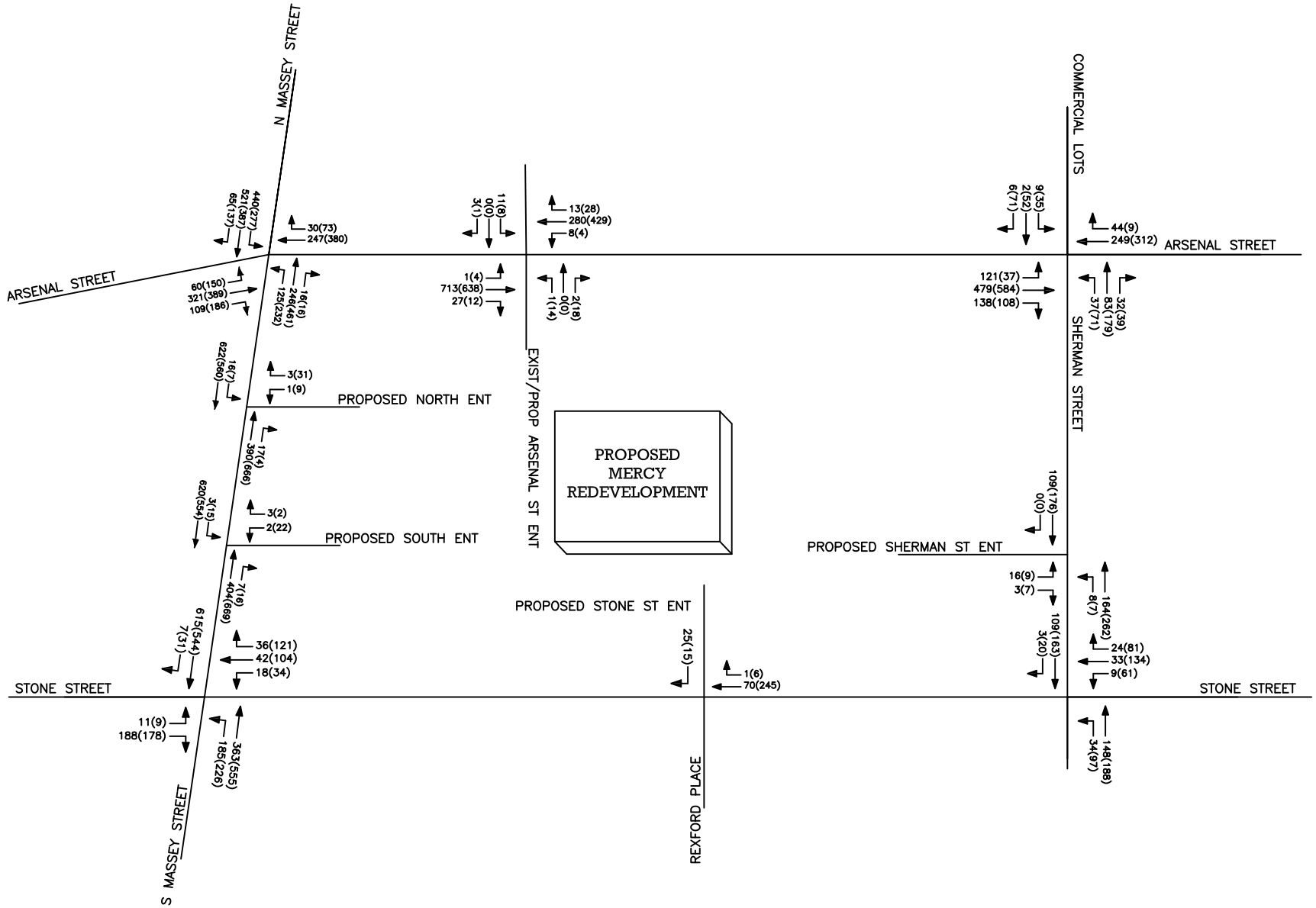
SITE GENERATED TRIPS

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

00(00) = AM(PM)

→ = ENTERING TRIPS
→ = EXITING TRIPS




PROJECT NO: 36031

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NOT TO SCALE

# FIGURE 8

PEAK HOUR VOLUMES
FULL DEVELOPMENT CONDITIONS

MERCY HEIGHTS,
CITY OF WATERTOWN, NY

KEY

00(00) = AM(PM)

# APPENDICES

# A1

# Collected Traffic Volume Data

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Massey.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 1

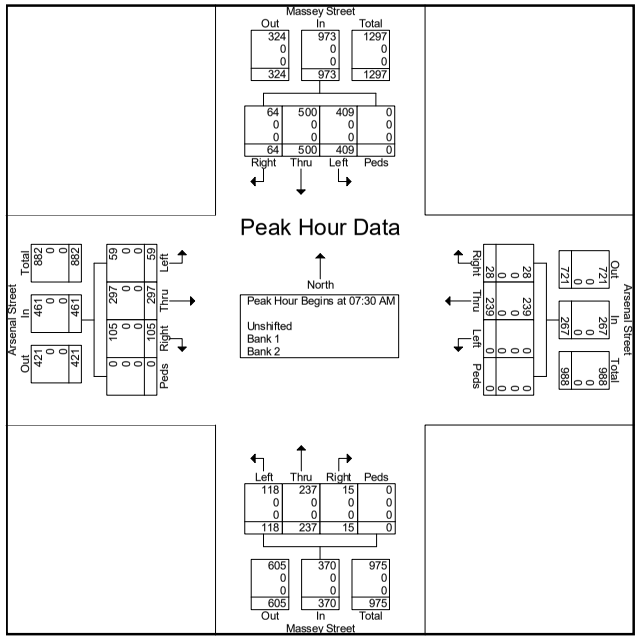
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Massey Street Southbound | | | | Arsenal Street Westbound | | | | Massey Street Northbound | | | | Arsenal Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 07:00 AM | 7 | 90 | 56 | 0 | 3 | 15 | 0 | 0 | 2 | 28 | 10 | 0 | 19 | 49 | 14 | 0 | 293 |
| 07:15 AM | 11 | 112 | 91 | 0 | 2 | 39 | 0 | 0 | 3 | 59 | 15 | 0 | 27 | 44 | 11 | 0 | 414 |
| 07:30 AM | 17 | 130 | 108 | 0 | 4 | 59 | 0 | 0 | 4 | 61 | 28 | 0 | 20 | 70 | 17 | 0 | 518 |
| 07:45 AM | 13 | 152 | 120 | 0 | 5 | 59 | 0 | 0 | 6 | 60 | 40 | 0 | 30 | 79 | 17 | 0 | 581 |
| Total | 48 | 484 | 375 | 0 | 14 | 172 | 0 | 0 | 15 | 208 | 93 | 0 | 96 | 242 | 59 | 0 | 1806 |
| 08:00 AM | 20 | 112 | 79 | 0 | 5 | 61 | 0 | 0 | 1 | 55 | 26 | 0 | 32 | 70 | 15 | 0 | 476 |
| 08:15 AM | 14 | 106 | 102 | 0 | 14 | 60 | 0 | 0 | 4 | 61 | 24 | 0 | 23 | 78 | 10 | 0 | 496 |
| 08:30 AM | 22 | 100 | 84 | 0 | 6 | 66 | 0 | 0 | 1 | 68 | 27 | 0 | 37 | 74 | 21 | 0 | 506 |
| 08:45 AM | 24 | 96 | 91 | 0 | 9 | 71 | 0 | 0 | 1 | 56 | 29 | 0 | 23 | 88 | 25 | 0 | 513 |
| Total | 80 | 414 | 356 | 0 | 34 | 258 | 0 | 0 | 7 | 240 | 106 | 0 | 115 | 310 | 71 | 0 | 1991 |
| Grand Total | 128 | 898 | 731 | 0 | 48 | 430 | 0 | 0 | 22 | 448 | 199 | 0 | 211 | 552 | 130 | 0 | 3797 |
| Apprch % | 7.3 | 51.1 | 41.6 | 0 | 10 | 90 | 0 | 0 | 3.3 | 67 | 29.7 | 0 | 23.6 | 61.8 | 14.6 | 0 | |
| Total % | 3.4 | 23.7 | 19.3 | 0 | 1.3 | 11.3 | 0 | 0 | 0.6 | 11.8 | 5.2 | 0 | 5.6 | 14.5 | 3.4 | 0 | |
| Unshifted | 128 | 898 | 731 | 0 | 48 | 430 | 0 | 0 | 22 | 448 | 199 | 0 | 211 | 552 | 130 | 0 | 3797 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Massey.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 2

| | Massey Street Southbound | | | | | Arsenal Street Westbound | | | | | Massey Street Northbound | | | | | Arsenal Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 07:30 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:30 AM | 17 | 130 | 108 | 0 | 255 | 4 | 59 | 0 | 0 | 63 | 4 | **61** | 28 | 0 | 93 | 20 | 70 | **17** | 0 | 107 | 518 |
| 07:45 AM | 13 | **152** | **120** | 0 | **285** | 5 | 59 | 0 | 0 | 64 | **6** | 60 | **40** | 0 | **106** | 30 | **79** | 17 | 0 | **126** | **581** |
| 08:00 AM | **20** | 112 | 79 | 0 | 211 | 5 | **61** | 0 | 0 | 66 | 1 | 55 | 26 | 0 | 82 | **32** | 70 | 15 | 0 | 117 | 476 |
| 08:15 AM | 14 | 106 | 102 | 0 | 222 | **14** | 60 | 0 | 0 | **74** | 4 | 61 | 24 | 0 | 89 | 23 | 78 | 10 | 0 | 111 | 496 |
| Total Volume | 64 | 500 | 409 | 0 | 973 | 28 | 239 | 0 | 0 | 267 | 15 | 237 | 118 | 0 | 370 | 105 | 297 | 59 | 0 | 461 | 2071 |
| % App. Total | 6.6 | 51.4 | 42 | 0 | | 10.5 | 89.5 | 0 | 0 | | 4.1 | 64.1 | 31.9 | 0 | | 22.8 | 64.4 | 12.8 | 0 | | |
| PHF | .800 | .822 | .852 | .000 | .854 | .500 | .980 | .000 | .000 | .902 | .625 | .971 | .738 | .000 | .873 | .820 | .940 | .868 | .000 | .915 | .891 |
| Unshifted | 64 | 500 | 409 | 0 | 973 | 28 | 239 | 0 | 0 | 267 | 15 | 237 | 118 | 0 | 370 | 105 | 297 | 59 | 0 | 461 | 2071 |
| % Unshifted | | | | | | | | | | | | | | | | | | | | | |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Massey.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 1

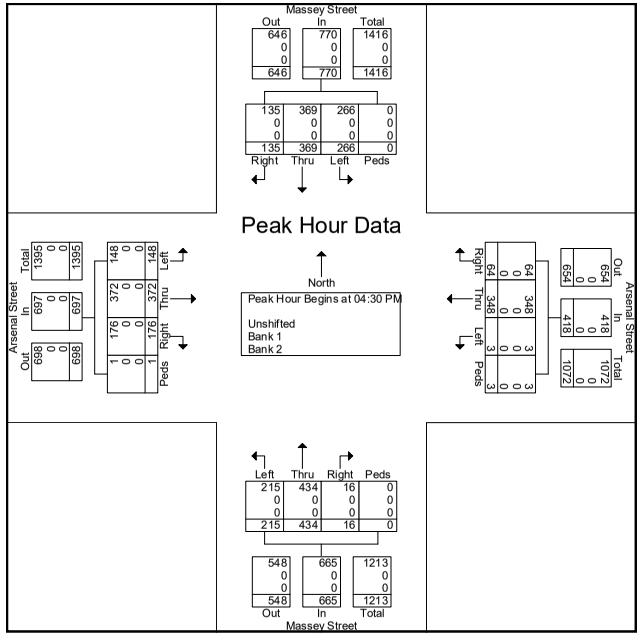
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Massey Street Southbound | | | | Arsenal Street Westbound | | | | Massey Street Northbound | | | | Arsenal Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 04:00 PM | 32 | 83 | 61 | 0 | 15 | 98 | 0 | 0 | 5 | 101 | 47 | 0 | 55 | 93 | 40 | 0 | 630 |
| 04:15 PM | 29 | 75 | 58 | 0 | 16 | 91 | 0 | 0 | 1 | 82 | 36 | 0 | 44 | 81 | 46 | 0 | 559 |
| 04:30 PM | 28 | 113 | 72 | 0 | 23 | 77 | 0 | 3 | 1 | 124 | 47 | 0 | 36 | 91 | 33 | 1 | 649 |
| 04:45 PM | 25 | 80 | 61 | 0 | 13 | 96 | 0 | 0 | 0 | 93 | 61 | 0 | 32 | 88 | 50 | 0 | 599 |
| Total | 114 | 351 | 252 | 0 | 67 | 362 | 0 | 3 | 7 | 400 | 191 | 0 | 167 | 353 | 169 | 1 | 2437 |
| 05:00 PM | 49 | 90 | 64 | 0 | 12 | 98 | 1 | 0 | 1 | 106 | 57 | 0 | 54 | 102 | 35 | 0 | 669 |
| 05:15 PM | 33 | 86 | 69 | 0 | 16 | 77 | 2 | 0 | 14 | 111 | 50 | 0 | 54 | 91 | 30 | 0 | 633 |
| 05:30 PM | 31 | 69 | 42 | 0 | 17 | 83 | 0 | 0 | 5 | 61 | 32 | 0 | 32 | 95 | 29 | 0 | 496 |
| 05:45 PM | 31 | 63 | 39 | 0 | 15 | 75 | 0 | 0 | 1 | 73 | 35 | 0 | 38 | 82 | 30 | 0 | 482 |
| Total | 144 | 308 | 214 | 0 | 60 | 333 | 3 | 0 | 21 | 351 | 174 | 0 | 178 | 370 | 124 | 0 | 2280 |
| Grand Total | 258 | 659 | 466 | 0 | 127 | 695 | 3 | 3 | 28 | 751 | 365 | 0 | 345 | 723 | 293 | 1 | 4717 |
| Apprch % | 18.7 | 47.7 | 33.7 | 0 | 15.3 | 83.9 | 0.4 | 0.4 | 2.4 | 65.6 | 31.9 | 0 | 25.3 | 53.1 | 21.5 | 0.1 | |
| Total % | 5.5 | 14 | 9.9 | 0 | 2.7 | 14.7 | 0.1 | 0.1 | 0.6 | 15.9 | 7.7 | 0 | 7.3 | 15.3 | 6.2 | 0 | |
| Unshifted | 258 | 659 | 466 | 0 | 127 | 695 | 3 | 3 | 28 | 751 | 365 | 0 | 345 | 723 | 293 | 1 | 4717 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**


File Name : Arsenal.Massey.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 2

| | Massey Street Southbound | | | | | Arsenal Street Westbound | | | | | Massey Street Northbound | | | | | Arsenal Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 | 28 | **113** | **72** | | **213** | **23** | 77 | 0 | **3** | 103 | 1 | **124** | | | | | | **1** | | | |
| **04:45 PM** | **25** | **80** | **61** | **0** | **166** | **13** | **96** | **0** | **0** | **109** | **0** | **93** | **61** | 0 | 154 | 32 | 88 | **50** | **0** | **170** | **599** |
| **05:00 PM** | **49** | **90** | **64** | **0** | **203** | **12** | **98** | **1** | **0** | **111** | 1 | 106 | 57 | 0 | 164 | **54** | **102** | 35 | 0 | **191** | **669** |
| 05:15 PM | 33 | 86 | 69 | 0 | 188 | 16 | 77 | **2** | | | **14** | | | | **175** | 54 | 91 | 30 | 0 | 175 | 633 |
| Total Volume | 135 | 369 | 266 | 0 | 770 | 64 | 348 | 3 | 3 | 418 | 16 | 434 | 215 | 0 | 665 | 176 | 372 | 148 | 1 | 697 | 2550 |
| % App. Total | 17.5 | 47.9 | 34.5 | 0 | | 15.3 | 83.3 | 0.7 | 0.7 | | 2.4 | 65.3 | 32.3 | 0 | | 25.3 | 53.4 | 21.2 | 0.1 | | |
| PHF | .689 | .816 | .924 | .000 | .904 | .696 | .888 | .375 | .250 | .941 | .286 | .875 | .881 | .000 | .950 | .815 | .912 | .740 | .250 | .912 | .953 |
| Unshifted | 135 | 369 | 266 | 0 | 770 | 64 | 348 | 3 | 3 | 418 | 16 | 434 | 215 | 0 | 665 | 176 | 372 | 148 | 1 | 697 | 2550 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.ParkingLot.AM
Site Code : 00360311
Start Date : 6/15/2016
Page No : 1

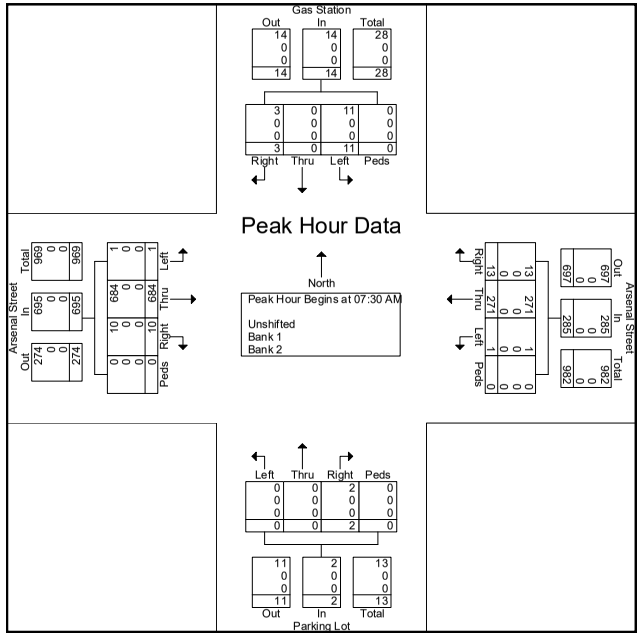
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Gas Station Southbound | | | | Arsenal Street Westbound | | | | Parking Lot Northbound | | | | Arsenal Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 07:00 AM | 0 | 0 | 5 | 0 | 3 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 2 | 0 | 131 |
| 07:15 AM | 1 | 0 | 6 | 0 | 5 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127 | 1 | 0 | 177 |
| 07:30 AM | 1 | 0 | 3 | 0 | 3 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 172 | 0 | 0 | 245 |
| 07:45 AM | 0 | 0 | 3 | 0 | 2 | 61 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 202 | 0 | 0 | 272 |
| Total | 2 | 0 | 17 | 0 | 13 | 186 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 599 | 3 | 0 | 825 |
| 08:00 AM | 0 | 0 | 2 | 0 | 3 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 1 | 0 | 220 |
| 08:15 AM | 2 | 0 | 3 | 0 | 5 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 166 | 0 | 0 | 259 |
| 08:30 AM | 0 | 0 | 1 | 0 | 2 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 134 | 0 | 0 | 213 |
| 08:45 AM | 1 | 0 | 1 | 0 | 2 | 63 | 0 | 0 | 3 | 0 | 1 | 0 | 16 | 143 | 0 | 0 | 230 |
| Total | 3 | 0 | 7 | 0 | 12 | 274 | 0 | 0 | 3 | 0 | 1 | 0 | 34 | 587 | 1 | 0 | 922 |
| Grand Total | 5 | 0 | 24 | 0 | 25 | 460 | 1 | 0 | 5 | 0 | 1 | 0 | 36 | 1186 | 4 | 0 | 1747 |
| Apprch % | 17.2 | 0 | 82.8 | 0 | 5.1 | 94.7 | 0.2 | 0 | 83.3 | 0 | 16.7 | 0 | 2.9 | 96.7 | 0.3 | 0 | |
| Total % | 0.3 | 0 | 1.4 | 0 | 1.4 | 26.3 | 0.1 | 0 | 0.3 | 0 | 0.1 | 0 | 2.1 | 67.9 | 0.2 | 0 | |
| Unshifted | 5 | 0 | 24 | 0 | 25 | 460 | 1 | 0 | 5 | 0 | 1 | 0 | 36 | 1186 | 4 | 0 | 1747 |
| % Unshifted | 100 | 0 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 100 | 100 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**


File Name : Arsenal.ParkingLot.AM
Site Code : 00360311
Start Date : 6/15/2016
Page No : 2

| | Gas Station Southbound | | | | | Arsenal Street Westbound | | | | | Parking Lot Northbound | | | | | Arsenal Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 07:30 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:30 AM | 1 | 0 | **3** | | | | | | | | | | | | | | | | | | |
| **07:45 AM** | **0** | **0** | **3** | **0** | **3** | **2** | **61** | **1** | **0** | **64** | **2** | **0** | **0** | **0** | **2** | 1 | **202** | 0 | 0 | **203** | **272** |
| 08:00 AM | 0 | 0 | 2 | 0 | 2 | 3 | 70 | 0 | 0 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | **1** | | | |
| **08:15 AM** | **2** | **0** | **3** | **0** | **5** | **5** | **75** | **0** | **0** | **80** | 0 | 0 | 0 | 0 | 0 | **8** | **166** | **0** | **0** | **174** | **259** |
| Total Volume | 3 | 0 | 11 | 0 | 14 | 13 | 271 | 1 | 0 | 285 | 2 | 0 | 0 | 0 | 2 | 10 | 684 | 1 | 0 | 695 | 996 |
| % App. Total | 21.4 | 0 | 78.6 | 0 | | 4.6 | 95.1 | 0.4 | 0 | | 100 | 0 | 0 | 0 | | 1.4 | 98.4 | 0.1 | 0 | | |
| PHF | .375 | .000 | .917 | .000 | .700 | .650 | .903 | .250 | .000 | .891 | .250 | .000 | .000 | .000 | .250 | .313 | .847 | .250 | .000 | .856 | .915 |
| Unshifted | 3 | 0 | 11 | 0 | 14 | 13 | 271 | 1 | 0 | 285 | 2 | 0 | 0 | 0 | 2 | 10 | 684 | 1 | 0 | 695 | 996 |
| % Unshifted | 100 | 0 | 100 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.ParkingLot.PM
Site Code : 00360311
Start Date : 6/14/2016
Page No : 1

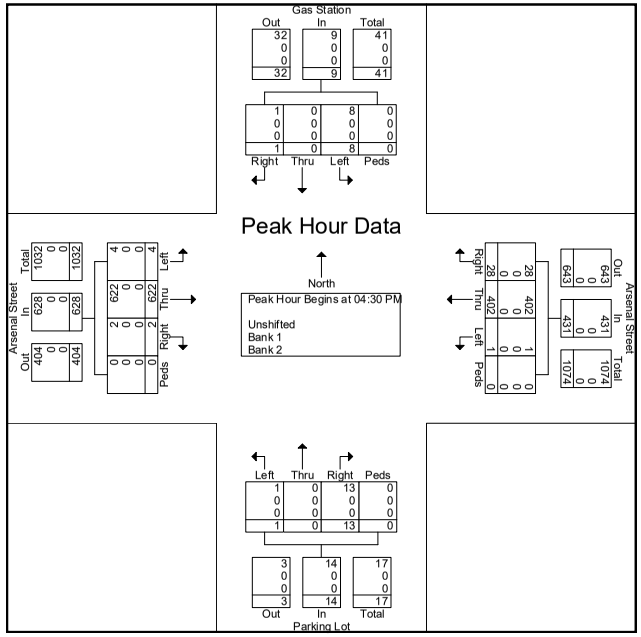
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Gas Station Southbound | | | | Arsenal Street Westbound | | | | Parking Lot Northbound | | | | Arsenal Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 04:00 PM | 1 | 0 | 4 | 0 | 6 | 108 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 162 | 0 | 0 | 283 |
| 04:15 PM | 1 | 0 | 3 | 0 | 8 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 138 | 0 | 0 | 257 |
| 04:30 PM | 0 | 0 | 3 | 0 | 9 | 102 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 165 | 1 | 0 | 282 |
| 04:45 PM | 0 | 0 | 1 | 0 | 10 | 106 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 142 | 0 | 0 | 261 |
| Total | 2 | 0 | 11 | 0 | 33 | 422 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 607 | 1 | 0 | 1083 |
| 05:00 PM | 1 | 0 | 1 | 0 | 4 | 99 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 158 | 0 | 0 | 276 |
| 05:15 PM | 0 | 0 | 3 | 0 | 5 | 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 157 | 3 | 0 | 263 |
| 05:30 PM | 0 | 0 | 5 | 0 | 2 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 143 | 4 | 0 | 260 |
| 05:45 PM | 0 | 0 | 0 | 0 | 5 | 91 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 127 | 0 | 0 | 224 |
| Total | 1 | 0 | 9 | 0 | 16 | 391 | 0 | 0 | 13 | 1 | 0 | 0 | 0 | 585 | 7 | 0 | 1023 |
| Grand Total | 3 | 0 | 20 | 0 | 49 | 813 | 1 | 0 | 14 | 1 | 1 | 0 | 4 | 1192 | 8 | 0 | 2106 |
| Apprch % | 13 | 0 | 87 | 0 | 5.7 | 94.2 | 0.1 | 0 | 87.5 | 6.2 | 6.2 | 0 | 0.3 | 99 | 0.7 | 0 | |
| Total % | 0.1 | 0 | 0.9 | 0 | 2.3 | 38.6 | 0 | 0 | 0.7 | 0 | 0 | 0 | 0.2 | 56.6 | 0.4 | 0 | |
| Unshifted | 3 | 0 | 20 | 0 | 49 | 813 | 1 | 0 | 14 | 1 | 1 | 0 | 4 | 1192 | 8 | 0 | 2106 |
| % Unshifted | 100 | 0 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.ParkingLot.PM
Site Code : 00360311
Start Date : 6/14/2016
Page No : 2

| | Gas Station Southbound | | | | | Arsenal Street Westbound | | | | | Parking Lot Northbound | | | | | Arsenal Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:30 PM | | | | | | | | | | | | | | | | | | | | | |
| 04:30 PM | 0 | 0 | **3** | | **3** | 9 | 102 | **1** | | | | | | | | **1** | **165** | 1 | 0 | **167** | **282** |
| 04:45 PM | 0 | 0 | 1 | 0 | 1 | **10** | **106** | | | **116** | 0 | 0 | **1** | 0 | 1 | 1 | 142 | 0 | 0 | 143 | 261 |
| 05:00 PM | **1** | | | | | | | | | | **13** | | | | **13** | 0 | 158 | 0 | 0 | 158 | 276 |
| 05:15 PM | 0 | 0 | 3 | 0 | 3 | 5 | 95 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 157 | **3** | | | |
| Total Volume | 1 | 0 | 8 | 0 | 9 | 28 | 402 | 1 | 0 | 431 | 13 | 0 | 1 | 0 | 14 | 2 | 622 | 4 | 0 | 628 | 1082 |
| % App. Total | 11.1 | 0 | 88.9 | 0 | | 6.5 | 93.3 | 0.2 | 0 | | 92.9 | 0 | 7.1 | 0 | | 0.3 | 99 | 0.6 | 0 | | |
| PHF | .250 | .000 | .667 | .000 | .750 | .700 | .948 | .250 | .000 | .929 | .250 | .000 | .250 | .000 | .269 | .500 | .942 | .333 | .000 | .940 | .959 |
| Unshifted | 1 | 0 | 8 | 0 | 9 | 28 | 402 | 1 | 0 | 431 | 13 | 0 | 1 | 0 | 14 | 2 | 622 | 4 | 0 | 628 | 1082 |
| % Unshifted | 100 | 0 | 100 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 0 | 100 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Sherman.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 1

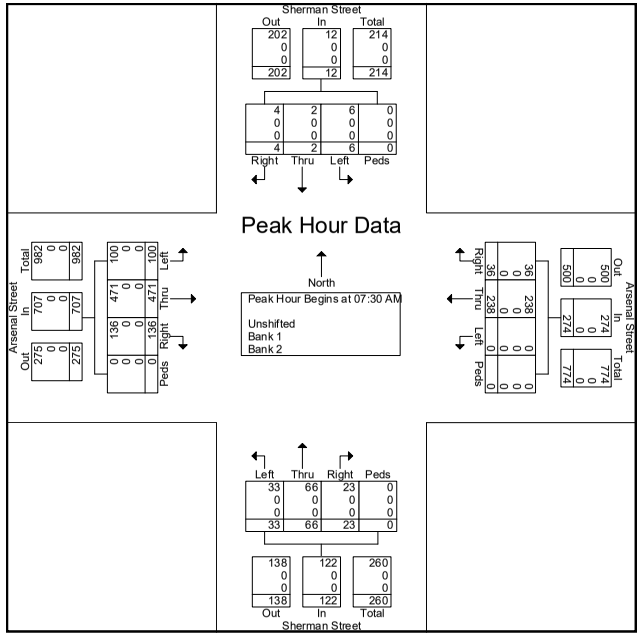
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Sherman Street Southbound | | | | Arsenal Street Westbound | | | | Sherman Street Northbound | | | | Arsenal Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 07:00 AM | 1 | 2 | 0 | 0 | 0 | 19 | 0 | 0 | 5 | 10 | 4 | 0 | 19 | 71 | 9 | 0 | 140 |
| 07:15 AM | 0 | 1 | 0 | 0 | 4 | 36 | 0 | 0 | 1 | 7 | 6 | 0 | 32 | 89 | 22 | 0 | 198 |
| 07:30 AM | 2 | 1 | 0 | 0 | 13 | 52 | 0 | 0 | 3 | 16 | 5 | 0 | 27 | 122 | 28 | 0 | 269 |
| 07:45 AM | 1 | 0 | 4 | 0 | 15 | 68 | 0 | 0 | 6 | 21 | 3 | 0 | 39 | 121 | 49 | 0 | 327 |
| Total | 4 | 4 | 4 | 0 | 32 | 175 | 0 | 0 | 15 | 54 | 18 | 0 | 117 | 403 | 108 | 0 | 934 |
| 08:00 AM | 1 | 1 | 1 | 0 | 3 | 62 | 0 | 0 | 7 | 11 | 9 | 0 | 30 | 112 | 11 | 0 | 248 |
| 08:15 AM | 0 | 0 | 1 | 0 | 5 | 56 | 0 | 0 | 7 | 18 | 16 | 0 | 40 | 116 | 12 | 0 | 271 |
| 08:30 AM | 1 | 0 | 1 | 0 | 11 | 57 | 0 | 0 | 6 | 11 | 17 | 0 | 26 | 95 | 18 | 0 | 243 |
| 08:45 AM | 1 | 1 | 4 | 0 | 14 | 79 | 1 | 0 | 13 | 22 | 14 | 0 | 26 | 108 | 28 | 0 | 311 |
| Total | 3 | 2 | 7 | 0 | 33 | 254 | 1 | 0 | 33 | 62 | 56 | 0 | 122 | 431 | 69 | 0 | 1073 |
| Grand Total | 7 | 6 | 11 | 0 | 65 | 429 | 1 | 0 | 48 | 116 | 74 | 0 | 239 | 834 | 177 | 0 | 2007 |
| Apprch % | 29.2 | 25 | 45.8 | 0 | 13.1 | 86.7 | 0.2 | 0 | 20.2 | 48.7 | 31.1 | 0 | 19.1 | 66.7 | 14.2 | 0 | |
| Total % | 0.3 | 0.3 | 0.5 | 0 | 3.2 | 21.4 | 0 | 0 | 2.4 | 5.8 | 3.7 | 0 | 11.9 | 41.6 | 8.8 | 0 | |
| Unshifted | 7 | 6 | 11 | 0 | 65 | 429 | 1 | 0 | 48 | 116 | 74 | 0 | 239 | 834 | 177 | 0 | 2007 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Sherman.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 2

| | Sherman Street Southbound | | | | | Arsenal Street Westbound | | | | | Sherman Street Northbound | | | | | Arsenal Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 07:30 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:30 AM | **2** | **1** | 0 | 0 | 3 | 13 | 52 | 0 | 0 | 65 | 3 | 16 | 5 | 0 | 24 | 27 | **122** | 28 | 0 | 177 | 269 |
| 07:45 AM | 1 | 0 | **4** | | **5** | **15** | **68** | | | **83** | 6 | **21** | | | | | | **49** | | **209** | **327** |
| 08:00 AM | 1 | 1 | 1 | 0 | 3 | 3 | 62 | 0 | 0 | 65 | **7** | | | | | | | | | | |
| **08:15 AM** | **0** | **0** | **1** | **0** | **1** | **5** | **56** | **0** | **0** | **61** | **7** | **18** | **16** | 0 | **41** | **40** | **116** | **12** | **0** | **168** | **271** |
| Total Volume | 4 | 2 | 6 | 0 | 12 | 36 | 238 | 0 | 0 | 274 | 23 | 66 | 33 | 0 | 122 | 136 | 471 | 100 | 0 | 707 | 1115 |
| % App. Total | 33.3 | 16.7 | 50 | 0 | | 13.1 | 86.9 | 0 | 0 | | 18.9 | 54.1 | 27 | 0 | | 19.2 | 66.6 | 14.1 | 0 | | |
| PHF | .500 | .500 | .375 | .000 | .600 | .600 | .875 | .000 | .000 | .825 | .821 | .786 | .516 | .000 | .744 | .850 | .965 | .510 | .000 | .846 | .852 |
| Unshifted | 4 | 2 | 6 | 0 | 12 | 36 | 238 | 0 | 0 | 274 | 23 | 66 | 33 | 0 | 122 | 136 | 471 | 100 | 0 | 707 | 1115 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Sherman.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 1

**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Sherman Street Southbound | | | | Arsenal Street Westbound | | | | Sherman Street Northbound | | | | Arsenal Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 04:00 PM | 6 | 2 | 8 | 0 | 5 | 84 | 0 | 0 | 12 | 32 | 17 | 0 | 21 | 146 | 11 | 0 | 344 |
| 04:15 PM | 7 | 3 | 1 | 0 | 5 | 89 | 0 | 0 | 2 | 32 | 22 | 0 | 19 | 113 | 13 | 0 | 306 |
| 04:30 PM | 22 | 15 | 11 | 0 | 1 | 75 | 0 | 0 | 11 | 48 | 13 | 0 | 22 | 138 | 9 | 0 | 365 |
| 04:45 PM | 8 | 5 | 4 | 0 | 0 | 85 | 0 | 0 | 5 | 21 | 16 | 0 | 22 | 124 | 9 | 0 | 299 |
| Total | 43 | 25 | 24 | 0 | 11 | 333 | 0 | 0 | 30 | 133 | 68 | 0 | 84 | 521 | 42 | 0 | 1314 |
| 05:00 PM | 10 | 10 | 7 | 0 | 3 | 76 | 0 | 0 | 10 | 47 | 20 | 0 | 40 | 153 | 9 | 0 | 385 |
| 05:15 PM | 10 | 7 | 3 | 0 | 3 | 68 | 0 | 0 | 8 | 21 | 19 | 0 | 23 | 144 | 2 | 1 | 309 |
| 05:30 PM | 7 | 3 | 7 | 0 | 2 | 73 | 0 | 0 | 7 | 19 | 18 | 0 | 14 | 128 | 3 | 0 | 281 |
| 05:45 PM | 2 | 3 | 1 | 0 | 4 | 74 | 1 | 0 | 4 | 14 | 12 | 0 | 11 | 111 | 0 | 0 | 237 |
| Total | 29 | 23 | 18 | 0 | 12 | 291 | 1 | 0 | 29 | 101 | 69 | 0 | 88 | 536 | 14 | 1 | 1212 |
| Grand Total | 72 | 48 | 42 | 0 | 23 | 624 | 1 | 0 | 59 | 234 | 137 | 0 | 172 | 1057 | 56 | 1 | 2526 |
| Apprch % | 44.4 | 29.6 | 25.9 | 0 | 3.5 | 96.3 | 0.2 | 0 | 13.7 | 54.4 | 31.9 | 0 | 13.4 | 82.2 | 4.4 | 0.1 | |
| Total % | 2.9 | 1.9 | 1.7 | 0 | 0.9 | 24.7 | 0 | 0 | 2.3 | 9.3 | 5.4 | 0 | 6.8 | 41.8 | 2.2 | 0 | |
| Unshifted | 72 | 48 | 42 | 0 | 23 | 624 | 1 | 0 | 59 | 234 | 137 | 0 | 172 | 1057 | 56 | 1 | 2526 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**SRF & Associates**
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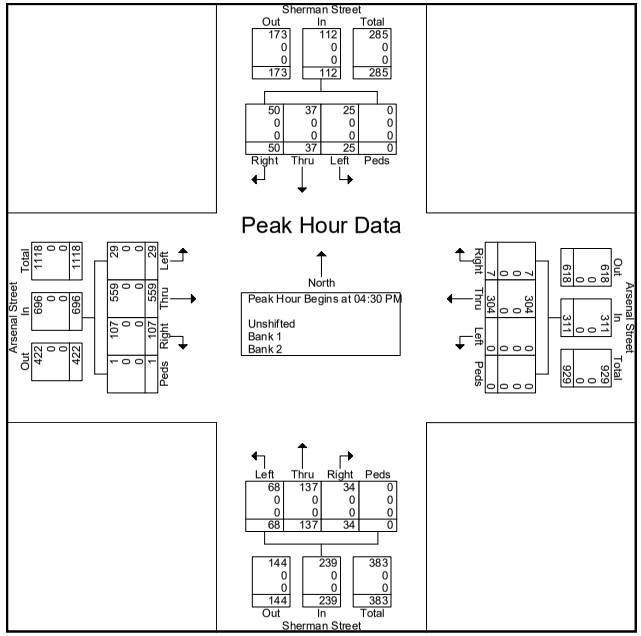
**Rochester, NY 14623**

File Name : Arsenal.Sherman.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 2

| | Sherman Street Southbound | | | | | Arsenal Street Westbound | | | | | Sherman Street Northbound | | | | | Arsenal Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 | **22** | **15** | **11** | | **48** | 1 | 75 | 0 | 0 | 76 | **11** | **48** | | | | | | **9** | | | |
| **04:45 PM** | **8** | **5** | **4** | **0** | **17** | **0** | **85** | **0** | **0** | **85** | 5 | 21 | 16 | 0 | 42 | 22 | 124 | 9 | 0 | 155 | 299 |
| 05:00 PM | 10 | 10 | 7 | 0 | 27 | **3** | 76 | 0 | 0 | 79 | 10 | 47 | **20** | 0 | **77** | **40** | **153** | 9 | 0 | **202** | **385** |
| 05:15 PM | 10 | 7 | 3 | 0 | 20 | 3 | 68 | 0 | 0 | 71 | 8 | 21 | 19 | 0 | 48 | 23 | 144 | 2 | **1** | | |
| Total Volume | 50 | 37 | 25 | 0 | 112 | 7 | 304 | 0 | 0 | 311 | 34 | 137 | 68 | 0 | 239 | 107 | 559 | 29 | 1 | 696 | 1358 |
| % App. Total | 44.6 | 33 | 22.3 | 0 | | 2.3 | 97.7 | 0 | 0 | | 14.2 | 57.3 | 28.5 | 0 | | 15.4 | 80.3 | 4.2 | 0.1 | | |
| PHF | .568 | .617 | .568 | .000 | .583 | .583 | .894 | .000 | .000 | .915 | .773 | .714 | .850 | .000 | .776 | .669 | .913 | .806 | .250 | .861 | .882 |
| Unshifted | 50 | 37 | 25 | 0 | 112 | 7 | 304 | 0 | 0 | 311 | 34 | 137 | 68 | 0 | 239 | 107 | 559 | 29 | 1 | 696 | 1358 |
| % Unshifted | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Massey.Stone.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 1

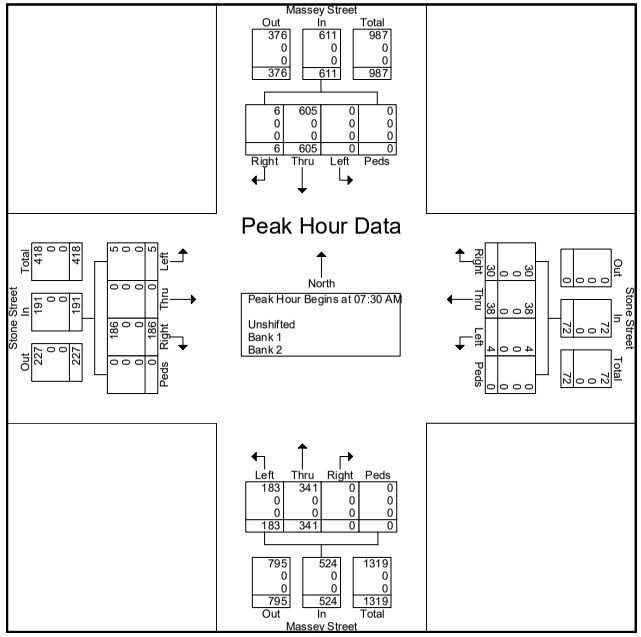
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Massey Street Southbound | | | | Stone Street Westbound | | | | Massey Street Northbound | | | | Stone Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 07:00 AM | 0 | 109 | 0 | 0 | 6 | 3 | 2 | 0 | 0 | 33 | 30 | 0 | 24 | 0 | 0 | 0 | 207 |
| 07:15 AM | 0 | 133 | 0 | 0 | 4 | 3 | 1 | 0 | 0 | 69 | 29 | 0 | 32 | 0 | 2 | 0 | 273 |
| 07:30 AM | 2 | 148 | 0 | 0 | 9 | 7 | 0 | 0 | 0 | 87 | 29 | 0 | 40 | 0 | 0 | 0 | 322 |
| 07:45 AM | 1 | 184 | 0 | 0 | 6 | 10 | 1 | 0 | 0 | 98 | 47 | 0 | 61 | 0 | 3 | 0 | 411 |
| Total | 3 | 574 | 0 | 0 | 25 | 23 | 4 | 0 | 0 | 287 | 135 | 0 | 157 | 0 | 5 | 0 | 1213 |
| 08:00 AM | 2 | 148 | 0 | 0 | 7 | 11 | 1 | 0 | 0 | 71 | 48 | 0 | 39 | 0 | 1 | 0 | 328 |
| 08:15 AM | 1 | 125 | 0 | 0 | 8 | 10 | 2 | 0 | 0 | 85 | 59 | 0 | 46 | 0 | 1 | 0 | 337 |
| 08:30 AM | 3 | 129 | 0 | 0 | 12 | 10 | 0 | 0 | 0 | 88 | 40 | 0 | 27 | 0 | 0 | 0 | 309 |
| 08:45 AM | 0 | 127 | 0 | 0 | 12 | 11 | 0 | 0 | 0 | 83 | 35 | 0 | 35 | 0 | 0 | 0 | 303 |
| Total | 6 | 529 | 0 | 0 | 39 | 42 | 3 | 0 | 0 | 327 | 182 | 0 | 147 | 0 | 2 | 0 | 1277 |
| Grand Total | 9 | 1103 | 0 | 0 | 64 | 65 | 7 | 0 | 0 | 614 | 317 | 0 | 304 | 0 | 7 | 0 | 2490 |
| Apprch % | 0.8 | 99.2 | 0 | 0 | 47.1 | 47.8 | 5.1 | 0 | 0 | 66 | 34 | 0 | 97.7 | 0 | 2.3 | 0 | |
| Total % | 0.4 | 44.3 | 0 | 0 | 2.6 | 2.6 | 0.3 | 0 | 0 | 24.7 | 12.7 | 0 | 12.2 | 0 | 0.3 | 0 | |
| Unshifted | 9 | 1103 | 0 | 0 | 64 | 65 | 7 | 0 | 0 | 614 | 317 | 0 | 304 | 0 | 7 | 0 | 2490 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 100 | 0 | 100 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**


File Name : Massey.Stone.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 2

| | Massey Street Southbound | | | | | Stone Street Westbound | | | | | Massey Street Northbound | | | | | Stone Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 07:30 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:30 AM | **2** | | | | | **9** | 7 | 0 | 0 | 16 | 0 | 87 | 29 | 0 | 116 | 40 | 0 | 0 | 0 | 40 | 322 |
| 07:45 AM | 1 | **184** | 0 | 0 | **185** | 6 | 10 | 1 | 0 | 17 | 0 | **98** | | | **145** | **61** | | **3** | | **64** | **411** |
| 08:00 AM | 2 | 148 | 0 | 0 | 150 | 7 | **11** | | | | | | | | | | | | | | |
| **08:15 AM** | **1** | **125** | **0** | **0** | **126** | **8** | **10** | **2** | **0** | **20** | 0 | 85 | **59** | 0 | 144 | 46 | 0 | 1 | 0 | 47 | 337 |
| Total Volume | 6 | 605 | 0 | 0 | 611 | 30 | 38 | 4 | 0 | 72 | 0 | 341 | 183 | 0 | 524 | 186 | 0 | 5 | 0 | 191 | 1398 |
| % App. Total | 1 | 99 | 0 | 0 | | 41.7 | 52.8 | 5.6 | 0 | | 0 | 65.1 | 34.9 | 0 | | 97.4 | 0 | 2.6 | 0 | | |
| PHF | .750 | .822 | .000 | .000 | .826 | .833 | .864 | .500 | .000 | .900 | .000 | .870 | .775 | .000 | .903 | .762 | .000 | .417 | .000 | .746 | .850 |
| Unshifted | 6 | 605 | 0 | 0 | 611 | 30 | 38 | 4 | 0 | 72 | 0 | 341 | 183 | 0 | 524 | 186 | 0 | 5 | 0 | 191 | 1398 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 100 | 0 | 100 | 100 | 0 | 100 | 0 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Massey.Stone.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 1

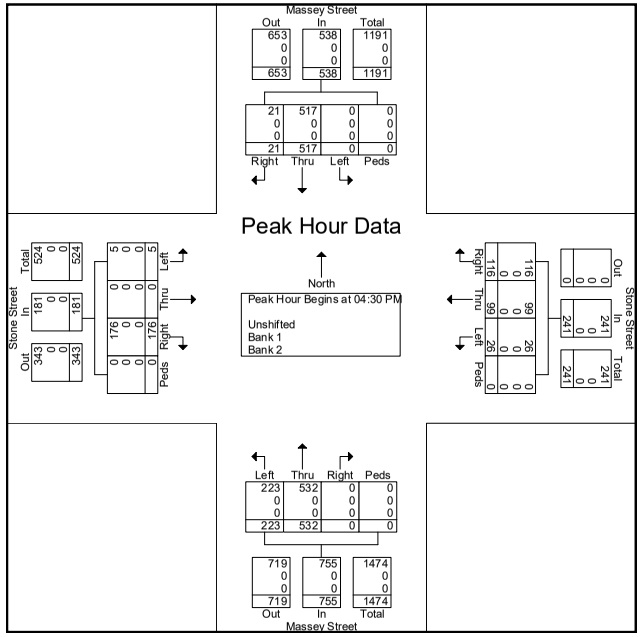
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Massey Street Southbound | | | | Stone Street Westbound | | | | Massey Street Northbound | | | | Stone Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 04:00 PM | 3 | 137 | 0 | 0 | 31 | 30 | 3 | 2 | 0 | 114 | 70 | 0 | 64 | 0 | 2 | 0 | 456 |
| 04:15 PM | 1 | 128 | 0 | 0 | 21 | 33 | 2 | 0 | 0 | 91 | 49 | 0 | 61 | 0 | 2 | 0 | 388 |
| 04:30 PM | 9 | 144 | 0 | 0 | 41 | 27 | 10 | 0 | 0 | 135 | 53 | 0 | 57 | 0 | 2 | 0 | 478 |
| 04:45 PM | 2 | 124 | 0 | 0 | 24 | 19 | 6 | 0 | 0 | 117 | 47 | 0 | 35 | 0 | 1 | 0 | 375 |
| Total | 15 | 533 | 0 | 0 | 117 | 109 | 21 | 2 | 0 | 457 | 219 | 0 | 217 | 0 | 7 | 0 | 1697 |
| 05:00 PM | 6 | 123 | 0 | 0 | 32 | 30 | 6 | 0 | 0 | 138 | 59 | 0 | 44 | 0 | 1 | 0 | 439 |
| 05:15 PM | 4 | 126 | 0 | 0 | 19 | 23 | 4 | 0 | 0 | 142 | 64 | 0 | 40 | 0 | 1 | 0 | 423 |
| 05:30 PM | 1 | 109 | 0 | 0 | 14 | 12 | 1 | 0 | 0 | 82 | 60 | 0 | 34 | 0 | 3 | 0 | 316 |
| 05:45 PM | 0 | 95 | 0 | 0 | 14 | 11 | 4 | 0 | 0 | 99 | 40 | 0 | 46 | 0 | 0 | 0 | 309 |
| Total | 11 | 453 | 0 | 0 | 79 | 76 | 15 | 0 | 0 | 461 | 223 | 0 | 164 | 0 | 5 | 0 | 1487 |
| Grand Total | 26 | 986 | 0 | 0 | 196 | 185 | 36 | 2 | 0 | 918 | 442 | 0 | 381 | 0 | 12 | 0 | 3184 |
| Apprch % | 2.6 | 97.4 | 0 | 0 | 46.8 | 44.2 | 8.6 | 0.5 | 0 | 67.5 | 32.5 | 0 | 96.9 | 0 | 3.1 | 0 | |
| Total % | 0.8 | 31 | 0 | 0 | 6.2 | 5.8 | 1.1 | 0.1 | 0 | 28.8 | 13.9 | 0 | 12 | 0 | 0.4 | 0 | |
| Unshifted | 26 | 986 | 0 | 0 | 196 | 185 | 36 | 2 | 0 | 918 | 442 | 0 | 381 | 0 | 12 | 0 | 3184 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 0 | 100 | 0 | 100 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**


File Name : Massey.Stone.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 2

| | Massey Street Southbound | | | | | Stone Street Westbound | | | | | Massey Street Northbound | | | | | Stone Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 | **9** | **144** | 0 | 0 | **153** | **41** | 27 | **10** | | **78** | 0 | 135 | 53 | 0 | 188 | **57** | | **2** | | **59** | **478** |
| 04:45 PM | 2 | 124 | 0 | 0 | 126 | 24 | 19 | 6 | 0 | 49 | 0 | 117 | 47 | 0 | 164 | 35 | 0 | 1 | 0 | 36 | 375 |
| 05:00 PM | 6 | 123 | 0 | 0 | 129 | 32 | **30** | | | | | | | | | | | | | | |
| **05:15 PM** | **4** | **126** | **0** | **0** | **130** | **19** | **23** | **4** | **0** | **46** | **0** | **142** | **64** | 0 | **206** | 40 | 0 | 1 | 0 | 41 | 423 |
| Total Volume | 21 | 517 | 0 | 0 | 538 | 116 | 99 | 26 | 0 | 241 | 0 | 532 | 223 | 0 | 755 | 176 | 0 | 5 | 0 | 181 | 1715 |
| % App. Total | 3.9 | 96.1 | 0 | 0 | | 48.1 | 41.1 | 10.8 | 0 | | 0 | 70.5 | 29.5 | 0 | | 97.2 | 0 | 2.8 | 0 | | |
| PHF | .583 | .898 | .000 | .000 | .879 | .707 | .825 | .650 | .000 | .772 | .000 | .937 | .871 | .000 | .916 | .772 | .000 | .625 | .000 | .767 | .897 |
| Unshifted | 21 | 517 | 0 | 0 | 538 | 116 | 99 | 26 | 0 | 241 | 0 | 532 | 223 | 0 | 755 | 176 | 0 | 5 | 0 | 181 | 1715 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 100 | 0 | 100 | 100 | 0 | 100 | 0 | 100 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Sherman.Stone.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 1

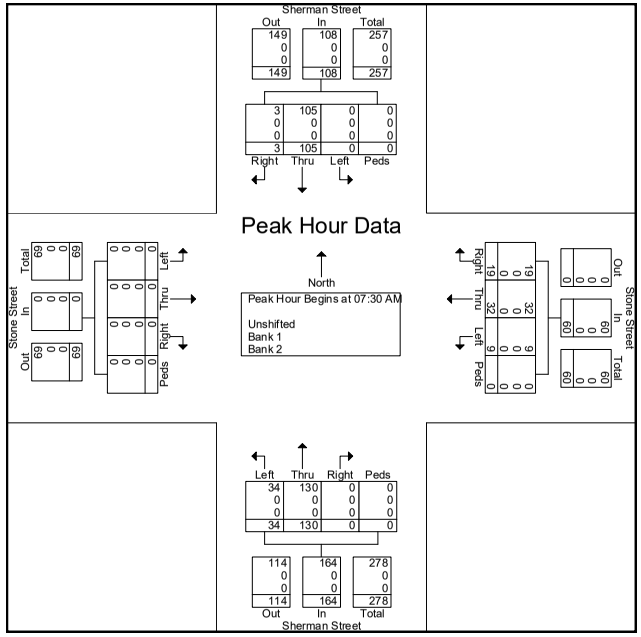
**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Sherman Street Southbound | | | | Stone Street Westbound | | | | Sherman Street Northbound | | | | Stone Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 07:00 AM | 1 | 19 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 15 | 2 | 0 | 0 | 0 | 0 | 0 | 44 |
| 07:15 AM | 1 | 26 | 0 | 0 | 3 | 2 | 1 | 0 | 0 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 50 |
| 07:30 AM | 0 | 31 | 0 | 0 | 5 | 7 | 0 | 0 | 0 | 28 | 9 | 0 | 0 | 0 | 0 | 0 | 80 |
| 07:45 AM | 1 | 34 | 0 | 0 | 3 | 10 | 2 | 0 | 0 | 34 | 6 | 0 | 0 | 0 | 0 | 0 | 90 |
| Total | 3 | 110 | 0 | 0 | 12 | 25 | 3 | 0 | 0 | 90 | 21 | 0 | 0 | 0 | 0 | 0 | 264 |
| 08:00 AM | 1 | 22 | 0 | 0 | 5 | 8 | 3 | 0 | 0 | 28 | 12 | 0 | 0 | 0 | 0 | 0 | 79 |
| 08:15 AM | 1 | 18 | 0 | 0 | 6 | 7 | 4 | 0 | 0 | 40 | 7 | 0 | 0 | 0 | 0 | 0 | 83 |
| 08:30 AM | 1 | 17 | 0 | 0 | 10 | 12 | 4 | 0 | 0 | 40 | 11 | 0 | 0 | 0 | 0 | 0 | 95 |
| 08:45 AM | 0 | 17 | 0 | 0 | 7 | 10 | 5 | 0 | 0 | 44 | 13 | 0 | 0 | 0 | 0 | 0 | 96 |
| Total | 3 | 74 | 0 | 0 | 28 | 37 | 16 | 0 | 0 | 152 | 43 | 0 | 0 | 0 | 0 | 0 | 353 |
| Grand Total | 6 | 184 | 0 | 0 | 40 | 62 | 19 | 0 | 0 | 242 | 64 | 0 | 0 | 0 | 0 | 0 | 617 |
| Apprch % | 3.2 | 96.8 | 0 | 0 | 33.1 | 51.2 | 15.7 | 0 | 0 | 79.1 | 20.9 | 0 | 0 | 0 | 0 | 0 | |
| Total % | 1 | 29.8 | 0 | 0 | 6.5 | 10 | 3.1 | 0 | 0 | 39.2 | 10.4 | 0 | 0 | 0 | 0 | 0 | |
| Unshifted | 6 | 184 | 0 | 0 | 40 | 62 | 19 | 0 | 0 | 242 | 64 | 0 | 0 | 0 | 0 | 0 | 617 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## SRF & Associates
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Sherman.Stone.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 2

| | Sherman Street Southbound | | | | | Stone Street Westbound | | | | | Sherman Street Northbound | | | | | Stone Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:30 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:30 AM | 0 | 31 | 0 | 0 | 31 | 5 | 7 | 0 | 0 | 12 | 0 | 28 | 9 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 80 |
| 07:45 AM | **1** | **34** | 0 | 0 | **35** | 3 | **10** | | | | | | | | | | | | | | **90** |
| 08:00 AM | 1 | 22 | 0 | 0 | 23 | 5 | 8 | 3 | 0 | 16 | 0 | 28 | **12** | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 79 |
| 08:15 AM | 1 | 18 | 0 | 0 | 19 | **6** | 7 | **4** | | **17** | 0 | **40** | | | **47** | 0 | 0 | 0 | 0 | 0 | 83 |
| Total Volume | 3 | 105 | 0 | 0 | 108 | 19 | 32 | 9 | 0 | 60 | 0 | 130 | 34 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 332 |
| % App. Total | 2.8 | 97.2 | 0 | 0 | | 31.7 | 53.3 | 15 | 0 | | 0 | 79.3 | 20.7 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .750 | .772 | .000 | .000 | .771 | .792 | .800 | .563 | .000 | .882 | .000 | .813 | .708 | .000 | .872 | .000 | .000 | .000 | .000 | .000 | .922 |
| Unshifted | 3 | 105 | 0 | 0 | 108 | 19 | 32 | 9 | 0 | 60 | 0 | 130 | 34 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 332 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Sherman.Stone.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 1

**Groups Printed- Unshifted - Bank 1 - Bank 2**

| | Sherman Street Southbound | | | | Stone Street Westbound | | | | Sherman Street Northbound | | | | Stone Street Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| 04:00 PM | 4 | 27 | 0 | 0 | 14 | 39 | 15 | 0 | 0 | 50 | 23 | 0 | 0 | 0 | 0 | 0 | 172 |
| 04:15 PM | 2 | 17 | 0 | 0 | 15 | 28 | 9 | 0 | 0 | 34 | 20 | 0 | 0 | 0 | 0 | 0 | 125 |
| 04:30 PM | 3 | 36 | 0 | 0 | 24 | 50 | 21 | 0 | 0 | 41 | 22 | 0 | 0 | 0 | 0 | 0 | 197 |
| 04:45 PM | 2 | 32 | 0 | 0 | 13 | 29 | 5 | 0 | 0 | 27 | 21 | 0 | 0 | 0 | 0 | 0 | 129 |
| Total | 11 | 112 | 0 | 0 | 66 | 146 | 50 | 0 | 0 | 152 | 86 | 0 | 0 | 0 | 0 | 0 | 623 |
| 05:00 PM | 9 | 43 | 0 | 0 | 22 | 33 | 28 | 0 | 0 | 44 | 27 | 0 | 0 | 0 | 0 | 0 | 206 |
| 05:15 PM | 4 | 30 | 0 | 0 | 6 | 16 | 6 | 0 | 0 | 44 | 24 | 0 | 0 | 0 | 0 | 0 | 130 |
| 05:30 PM | 3 | 18 | 0 | 0 | 7 | 15 | 2 | 0 | 0 | 33 | 9 | 0 | 0 | 0 | 0 | 0 | 87 |
| 05:45 PM | 0 | 13 | 0 | 0 | 3 | 18 | 2 | 0 | 0 | 27 | 11 | 0 | 0 | 0 | 0 | 0 | 74 |
| Total | 16 | 104 | 0 | 0 | 38 | 82 | 38 | 0 | 0 | 148 | 71 | 0 | 0 | 0 | 0 | 0 | 497 |
| Grand Total | 27 | 216 | 0 | 0 | 104 | 228 | 88 | 0 | 0 | 300 | 157 | 0 | 0 | 0 | 0 | 0 | 1120 |
| Apprch % | 11.1 | 88.9 | 0 | 0 | 24.8 | 54.3 | 21 | 0 | 0 | 65.6 | 34.4 | 0 | 0 | 0 | 0 | 0 | |
| Total % | 2.4 | 19.3 | 0 | 0 | 9.3 | 20.4 | 7.9 | 0 | 0 | 26.8 | 14 | 0 | 0 | 0 | 0 | 0 | |
| Unshifted | 27 | 216 | 0 | 0 | 104 | 228 | 88 | 0 | 0 | 300 | 157 | 0 | 0 | 0 | 0 | 0 | 1120 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**SRF & Associates**
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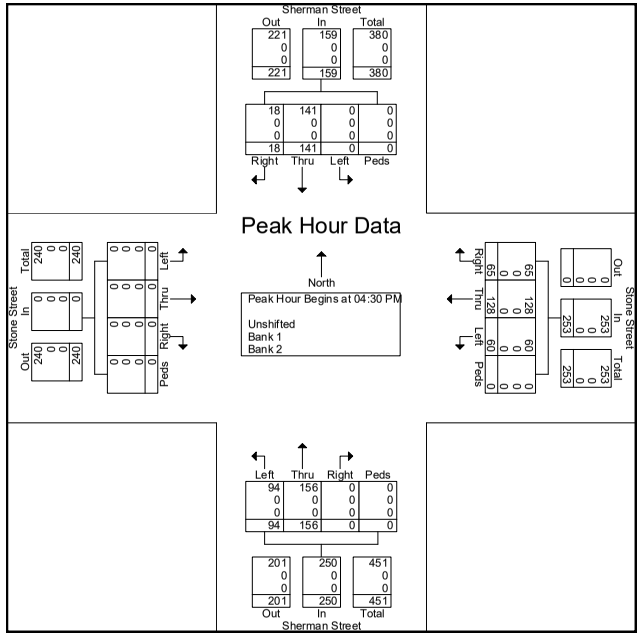
**Rochester, NY 14623**

File Name : Sherman.Stone.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 2

| | Sherman Street Southbound | | | | | Stone Street Westbound | | | | | Sherman Street Northbound | | | | | Stone Street Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | 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 | 3 | 36 | 0 | 0 | 39 | **24** | **50** | | | **95** | 0 | 41 | 22 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 197 |
| 04:45 PM | 2 | 32 | 0 | 0 | 34 | 13 | 29 | 5 | 0 | 47 | 0 | 27 | 21 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 129 |
| 05:00 PM | **9** | **43** | 0 | 0 | **52** | 22 | 33 | **28** | | | | **44** | **27** | 0 | **71** | 0 | 0 | 0 | 0 | 0 | **206** |
| 05:15 PM | 4 | 30 | 0 | 0 | 34 | 6 | 16 | 6 | 0 | 28 | 0 | 44 | 24 | 0 | 68 | 0 | 0 | 0 | 0 | 0 | 130 |
| Total Volume | 18 | 141 | 0 | 0 | 159 | 65 | 128 | 60 | 0 | 253 | 0 | 156 | 94 | 0 | 250 | 0 | 0 | 0 | 0 | 0 | 662 |
| % App. Total | 11.3 | 88.7 | 0 | 0 | | 25.7 | 50.6 | 23.7 | 0 | | 0 | 62.4 | 37.6 | 0 | | 0 | 0 | 0 | 0 | | |
| PHF | .500 | .820 | .000 | .000 | .764 | .677 | .640 | .536 | .000 | .666 | .000 | .886 | .870 | .000 | .880 | .000 | .000 | .000 | .000 | .000 | .803 |
| Unshifted | 18 | 141 | 0 | 0 | 159 | 65 | 128 | 60 | 0 | 253 | 0 | 156 | 94 | 0 | 250 | 0 | 0 | 0 | 0 | 0 | 662 |
| % Unshifted | 100 | 100 | 0 | 0 | 100 | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| % Bank 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Arsenal.Driveway5.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 1

Directions Printed: Combined

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:30:00 AM | 0 | 9 | 5 | 1 | 5 | 2 | 0 | 3 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 2 | 32 | 8 - 9 |
| 7:45:00 AM | 0 | 24 | 7 | 6 | 8 | 1 | 2 | 2 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 55 | 4 - 5 |
| 8:00:00 AM | 1 | 13 | 10 | 1 | 5 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 46 | 6 - 7 |
| 8:15:00 AM | 0 | 2 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 8 - 9 |
| Grand Total | 1 | 48 | 22 | 9 | 19 | 7 | 4 | 7 | 7 | 4 | 1 | 3 | 1 | 3 | 1 | 4 | 140 | 6 - 7 |
| Total % | | 34.3 | 15.7 | 6.4 | 13.6 | 5.0 | 2.9 | 5.0 | 5.0 | 2.9 | 0.7 | 2.1 | 0.7 | 2.1 | 0.7 | 2.9 | | |

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**Rochester, NY 14623**

File Name : Arsenal.Driveway5.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 1

Directions Printed: Combined

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 04:30 PM | 0 | 43 | 7 | 5 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 60 | 2 - 3 |
| 04:45 PM | 0 | 44 | 8 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 57 | 2 - 3 |
| Total | 0 | 87 | 15 | 7 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 117 | 2 - 3 |
| 05:00 PM | 0 | 22 | 11 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 2 - 3 |
| 05:15 PM | 0 | 13 | 3 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 2 - 3 |
| Grand Total | 0 | 122 | 29 | 8 | 4 | 4 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 173 | 2 - 3 |
| Total % | | 70.5 | 16.8 | 4.6 | 2.3 | 2.3 | 0.6 | 0.0 | 1.2 | 0.6 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.6 | | |

**SRF & Associates**
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**Rochester, NY 14623**

File Name : Arsenal.Driveway5.AM
Site Code : 00036031
Start Date : 6/15/2016
Page No : 1

Directions Printed: Direction 1 - Eastbound

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:30:00 AM | 0 | 5 | 4 | 1 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 1 | 0 | 2 | 31 | 10 - 11 |
| 7:45:00 AM | 0 | 5 | 1 | 5 | 4 | 2 | 4 | 1 | 2 | 2 | 3 | 1 | 0 | 0 | 0 | 2 | 32 | 10 - 11 |
| 8:00:00 AM | 1 | 1 | 4 | 2 | 1 | 2 | 4 | 1 | 1 | 3 | 2 | 0 | 0 | 3 | 0 | 3 | 27 | 12 - 13 |
| 8:15:00 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 4 | 20 - 21 |
| Grand Total | 1 | 12 | 9 | 8 | 9 | 8 | 10 | 4 | 5 | 7 | 7 | 3 | 0 | 4 | 0 | 8 | 94 | 12 - 13 |
| Total % | | 12.8 | 9.6 | 8.5 | 9.6 | 8.5 | 10.6 | 4.3 | 5.3 | 7.4 | 7.4 | 3.2 | 0.0 | 4.3 | 0.0 | 8.5 | | |

**SRF & Associates**
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**Rochester, NY 14623**

File Name : Arsenal.Driveway5.PM
Site Code : 00036031
Start Date : 6/14/2016
Page No : 1

Directions Printed: Direction 1 - Eastbound

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 04:30 PM | 0 | 45 | 10 | 4 | 6 | 1 | 0 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 7 | 81 | 2 - 3 |
| 04:45 PM | 0 | 27 | 10 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 10 | 56 | 4 - 5 |
| Total | 0 | 72 | 20 | 7 | 7 | 2 | 0 | 2 | 1 | 1 | 2 | 1 | 1 | 3 | 1 | 17 | 137 | 2 - 3 |
| 05:00 PM | 0 | 16 | 10 | 5 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 7 | 47 | 4 - 5 |
| 05:15 PM | 0 | 17 | 5 | 2 | 6 | 4 | 3 | 2 | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 4 | 50 | 8 - 9 |
| Grand Total | 0 | 105 | 35 | 14 | 15 | 6 | 3 | 4 | 2 | 4 | 5 | 4 | 3 | 4 | 2 | 28 | 234 | 4 - 5 |
| Total % | | 44.9 | 15.0 | 6.0 | 6.4 | 2.6 | 1.3 | 1.7 | 0.9 | 1.7 | 2.1 | 1.7 | 1.3 | 1.7 | 0.9 | 12.0 | | |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Massey.Driveway6.AM
Site Code : 11111111
Start Date : 6/15/2016
Page No : 1

Directions Printed: Combined

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:30:00 AM | 0 | 9 | 15 | 5 | 10 | 2 | 3 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 53 | 6 - 7 |
| 7:45:00 AM | 0 | 8 | 8 | 8 | 5 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 37 | 6 - 7 |
| 8:00:00 AM | 0 | 16 | 9 | 8 | 2 | 4 | 3 | 2 | 0 | 3 | 2 | 0 | 1 | 1 | 2 | 0 | 53 | 6 - 7 |
| 8:15:00 AM | 0 | 18 | 14 | 6 | 3 | 3 | 6 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 58 | 4 - 5 |
| Grand Total | 0 | 51 | 46 | 27 | 20 | 10 | 13 | 7 | 4 | 6 | 4 | 1 | 1 | 1 | 5 | 5 | 201 | 6 - 7 |
| Total % | | 25.4 | 22.9 | 13.4 | 10.0 | 5.0 | 6.5 | 3.5 | 2.0 | 3.0 | 2.0 | 0.5 | 0.5 | 0.5 | 2.5 | 2.5 | | |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Massey.Driveway6.PM
Site Code : 00360311
Start Date : 6/21/2016
Page No : 1

Directions Printed: Combined

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:29:00 PM | 0 | 11 | 6 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 27 | 4 - 5 |
| 4:44:00 PM | 0 | 20 | 7 | 5 | 2 | 2 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 43 | 4 - 5 |
| 4:59:00 PM | 0 | 15 | 12 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 35 | 4 - 5 |
| Total | 0 | 46 | 25 | 11 | 6 | 4 | 4 | 0 | 1 | 1 | 2 | 0 | 2 | 1 | 1 | 1 | 105 | 4 - 5 |
| 5:14:00 PM | 0 | 18 | 12 | 6 | 3 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 48 | 4 - 5 |
| Grand Total | 0 | 64 | 37 | 17 | 9 | 6 | 6 | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 2 | 153 | 4 - 5 |
| Total % | | 41.8 | 24.2 | 11.1 | 5.9 | 3.9 | 3.9 | 0.7 | 1.3 | 0.7 | 2.0 | 0.7 | 1.3 | 0.7 | 0.7 | 1.3 | | |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Massey.Driveway6.AM
Site Code : 11111111
Start Date : 6/15/2016
Page No : 1

Directions Printed: Direction 1 - Northbound

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:30:00 AM | 0 | 5 | 9 | 4 | 7 | 1 | 4 | 5 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 3 | 46 | 8 - 9 |
| 7:45:00 AM | 0 | 5 | 5 | 7 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 5 | 33 | 6 - 7 |
| 8:00:00 AM | 0 | 11 | 6 | 8 | 3 | 3 | 2 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 3 | 3 | 47 | 6 - 7 |
| 8:15:00 AM | 0 | 10 | 12 | 1 | 3 | 0 | 5 | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 2 | 4 | 47 | 8 - 9 |
| Grand Total | 0 | 31 | 32 | 20 | 16 | 5 | 12 | 8 | 8 | 6 | 4 | 4 | 4 | 2 | 6 | 15 | 173 | 8 - 9 |
| Total % | | 17.9 | 18.5 | 11.6 | 9.2 | 2.9 | 6.9 | 4.6 | 4.6 | 3.5 | 2.3 | 2.3 | 2.3 | 1.2 | 3.5 | 8.7 | | |

**SRF & Associates**
**3495 Winton Place, Building E, Suite 110**
**Rochester, NY 14623**

File Name : Massey.Driveway6.PM
Site Code : 00360311
Start Date : 6/21/2016
Page No : 1

Directions Printed: Direction 1 - Northbound

| Start Time | Volume | 2 - 3 | 4 - 5 | 6 - 7 | 8 - 9 | 10 - 11 | 12 - 13 | 14 - 15 | 16 - 17 | 18 - 19 | 20 - 21 | 22 - 23 | 24 - 25 | 26 - 27 | 28 - 29 | >29 | Int. Total | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:29:00 PM | 0 | 10 | 6 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 25 | 4 - 5 |
| 4:44:00 PM | 0 | 24 | 6 | 2 | 1 | 3 | 2 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 43 | 2 - 3 |
| 4:59:00 PM | 0 | 12 | 9 | 2 | 1 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 31 | 4 - 5 |
| Total | 0 | 46 | 21 | 7 | 3 | 6 | 5 | 0 | 4 | 0 | 1 | 1 | 2 | 1 | 0 | 2 | 99 | 4 - 5 |
| 5:14:00 PM | 0 | 8 | 16 | 3 | 1 | 2 | 1 | 1 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 37 | 4 - 5 |
| Grand Total | 0 | 54 | 37 | 10 | 4 | 8 | 6 | 1 | 7 | 0 | 2 | 2 | 2 | 1 | 0 | 2 | 136 | 4 - 5 |
| Total % | | 39.7 | 27.2 | 7.4 | 2.9 | 5.9 | 4.4 | 0.7 | 5.1 | 0.0 | 1.5 | 1.5 | 1.5 | 0.7 | 0.0 | 1.5 | | |

# A2

## Miscellaneous Traffic Data and Calculations

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# Proposed Mercy Re-development, City of Watertown, NY

Documentation of Ambient Traffic Volume Growth

| Roadway | Segment | Placement | 2009 | 2014 | 2016 | Annual Growth |
|---|---|---|---|---|---|---|
| North Massey Street | Arsenal to Coffeen | 30' south of Prospect | | 16,102 | 14,160 | -6.22% |
| Arsenal Street | Massey to Rt 11 Junction | .2 E of N Massey St | 11,682 | | 9,340 | -3.15% |

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Proposed Site Access - Left In (Arsenal St)

Proposed Mercy Heights Re-development, City of Watertown, NY

AM Peak Hour # of *one-way* gaps (in seconds) between:

| 4.1 | 6.3 | 8.5 | 10.7 | 12.9 | 15.1 | 17.3 | 19.5 or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 9 | | | | | | | | 9 |
| | 9 | | | | | | | 18 |
| | | 9 | | | | | | 27 |
| | | | 9 | | | | | 36 |
| | | | | 7 | | | | 35 |
| | | | | | 5 | | | 30 |
| | | | | | | 7 | | 49 |
| | | | | | | | 7 | 56 |
| | | | | | | | | **260** |

PM Peak Hour # of *one-way* gaps (in seconds) between:

| 4.1 | 6.3 | 8.5 | 10.7 | 12.9 | 15.1 | 17.3 | 19.5 or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 35 | | | | | | | | 35 |
| | 15 | | | | | | | 30 |
| | | 13 | | | | | | 39 |
| | | | 5 | | | | | 20 |
| | | | | 3 | | | | 15 |
| | | | | | 3 | | | 18 |
| | | | | | | 3 | | 21 |
| | | | | | | | 5 | 40 |
| | | | | | | | | **218** |

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Proposed Site Access - Left Out (Arsenal St)

Proposed Mercy Heights Re-development, City of Watertown, NY

AM Peak Hour # of *two-way* gaps (in seconds) between:

| 7.5 | 11 | 14.5 | 18 | 21.5 | 25 | 28.5 | or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 24 | | | | | | | | 24 |
| | 9 | | | | | | | 18 |
| | | 12 | | | | | | 36 |
| | | | 4 | | | | | 16 |
| | | | | 3 | | | | 15 |
| | | | | | 3 | | | 18 |
| | | | | | | 4 | | 28 |
| | | | | | | | | **155** |

PM Peak Hour # of *two-way* gaps (in seconds) between:

| 7.5 | 11 | 14.5 | 18 | 21.5 | 25 | 28.5 | or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | 8 |
| | 3 | | | | | | | 6 |
| | | 2 | | | | | | 6 |
| | | | 1 | | | | | 4 |
| | | | | 1 | | | | 5 |
| | | | | | 0 | | | 0 |
| | | | | | | 1 | | 7 |
| | | | | | | | | **36** |

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Proposed Site Access - Right Out (Arsenal St)

Proposed Mercy Heights Re-development, City of Watertown, NY

AM Peak Hour # of *one-way* gaps (in seconds) between:

| **6.9** | **10.2** | **13.5** | **16.8** | **20.1** | **23.4** | **27** | **or greater** | **Right Turn Capacity** |
|---|---|---|---|---|---|---|---|---|
| 14 | | | | | | | | 14 |
| | 14 | | | | | | | 28 |
| | | 8 | | | | | | 24 |
| | | | 10 | | | | | 40 |
| | | | | 8 | | | | 40 |
| | | | | | 2 | | | 12 |
| | | | | | | 10 | | 70 |
| | | | | | | | | **228** |

PM Peak Hour # of *one-way* gaps (in seconds) between:

| **6.9** | **10.2** | **13.5** | **16.8** | **20.1** | **23.4** | **27** | **or greater** | **Right Turn Capacity** |
|---|---|---|---|---|---|---|---|---|
| 21 | | | | | | | | 21 |
| | 7 | | | | | | | 14 |
| | | 5 | | | | | | 15 |
| | | | 5 | | | | | 20 |
| | | | | 7 | | | | 35 |
| | | | | | 6 | | | 36 |
| | | | | | | 32 | | 224 |
| | | | | | | | | **365** |

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Proposed Site Access - Left In (Massey St)

Proposed Mercy Heights Re-development, City of Watertown, NY

AM Peak Hour # of *one-way* gaps (in seconds) between:

| 4.1 | 6.3 | 8.5 | 10.7 | 12.9 | 15.1 | 17.3 | 19.5 or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 33 | | | | | | | | 33 |
| | 21 | | | | | | | 42 |
| | | 13 | | | | | | 39 |
| | | | 8 | | | | | 32 |
| | | | | 11 | | | | 55 |
| | | | | | 8 | | | 48 |
| | | | | | | 7 | | 49 |
| | | | | | | | 34 | 272 |
| | | | | | | | | **570** |

PM Peak Hour # of *one-way* gaps (in seconds) between:

| 4.1 | 6.3 | 8.5 | 10.7 | 12.9 | 15.1 | 17.3 | 19.5 or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 36 | | | | | | | | 36 |
| | 9 | | | | | | | 18 |
| | | 5 | | | | | | 15 |
| | | | 7 | | | | | 28 |
| | | | | 3 | | | | 15 |
| | | | | | 2 | | | 12 |
| | | | | | | 1 | | 7 |
| | | | | | | | 1 | 8 |
| | | | | | | | | **139** |

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Proposed Site Access - Left Out (Massey St)

Proposed Maguire Break in Access, Town of Ithaca, NY

AM Peak Hour # of *two-way* gaps (in seconds) between:

| 7.5 | 11 | 14.5 | 18 | 21.5 | 25 | 29 | or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 31 | | | | | | | | 31 |
| | 19 | | | | | | | 38 |
| | | 9 | | | | | | 27 |
| | | | 9 | | | | | 36 |
| | | | | 2 | | | | 10 |
| | | | | | 2 | | | 12 |
| | | | | | | 8 | | 56 |
| | | | | | | | | **210** |

PM Peak Hour # of *two-way* gaps (in seconds) between:

| 7.5 | 11 | 14.5 | 18 | 21.5 | 25 | 29 | or greater | Left Turn Capacity |
|---|---|---|---|---|---|---|---|---|
| 16 | | | | | | | | 16 |
| | 9 | | | | | | | 18 |
| | | 2 | | | | | | 6 |
| | | | 3 | | | | | 12 |
| | | | | 2 | | | | 10 |
| | | | | | 2 | | | 12 |
| | | | | | | 2 | | 14 |
| | | | | | | | | **88** |

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Proposed Site Access - Right Out (Massey St)

Proposed Mercy Heights Re-development, City of Watertown, NY

AM Peak Hour # of *one-way* gaps (in seconds) between:

| **6.9** | **10.2** | **13.5** | **16.8** | **20.1** | **23.4** | **26.7** | **or greater** | **Right Turn Capacity** |
|---|---|---|---|---|---|---|---|---|
| 27 | | | | | | | | 27 |
| | 13 | | | | | | | 26 |
| | | 14 | | | | | | 42 |
| | | | 11 | | | | | 44 |
| | | | | 6 | | | | 30 |
| | | | | | 6 | | | 36 |
| | | | | | | 22 | | 154 |
| | | | | | | | | **359** |

PM Peak Hour # of *one-way* gaps (in seconds) between:

| **6.9** | **10.2** | **13.5** | **16.8** | **20.1** | **23.4** | **26.7** | **or greater** | **Right Turn Capacity** |
|---|---|---|---|---|---|---|---|---|
| 2 | | | | | | | | 2 |
| | 6 | | | | | | | 12 |
| | | 5 | | | | | | 15 |
| | | | 4 | | | | | 16 |
| | | | | 3 | | | | 15 |
| | | | | | 3 | | | 18 |
| | | | | | | 2 | | 14 |
| | | | | | | | | **92** |

| Project Information | |
|---|---|
| **Project Name:** | Mercy Re-Development |
| **No:** | 36031 |
| **Date:** | 5/16/2016 |
| **City:** | |
| **State/Province:** | NY |
| **Zip/Postal Code:** | |
| **Country:** | |
| **Client Name:** | |
| **Analyst's Name:** | ACD |
| **Edition:** | ITE-TGM 9th Edition |

| Land Use | Size | Weekday | | Weekday, A.M. Peak Hour | | Weekday, P.M. Peak Hour | |
|---|---|---|---|---|---|---|---|
| | | Entry | Exit | Entry | Exit | Entry | Exit |
| **220 - Apartment** | 108 Dwelling Units | 389 | 389 | 11 | 46 | 50 | 27 |
| **710 - General Office Building** | 36 1000 Sq. Feet Gross Floor Area | 302 | 302 | 75 | 10 | 20 | 99 |
| Total | | 691 | 691 | 86 | 56 | 70 | 126 |
| **610 - Hospital** | 117.09 1000 Sq. Feet Gross Floor Area | 774 | 774 | 70 | 41 | 41 | 68 |
| **Difference in Trips Former Hospital vs proposed Site** | | -83 | -83 | 16 | 15 | 29 | 58 |

**PROPOSED MERCY HEIGHTS DEVELOPMENT of FORMER MERCY HOSPITAL**
**CITY OF WATERTOWN, NEW YORK**
**AM PEAK**

| LOCATION NUMBER | INTERSECTION DESCRIPTION | 2016 Existing Volume | Convergys New Traffic | 2021 Bkgd Vol (Num of yrs: 5) 0.25% | Adj Vol for Parking Redistr | Office Enter Dist. % | Office Exit Dist. % | Office Trips IN 75 | Office Trips OUT 10 | Residential Enter Dist. % | Residential Exit Dist. % | Residential Trips IN 11 | Residential Trips OUT 46 | Total Site Trips | Full Build Volumes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Arsenal Street/Massey Street** | | | | | | | | | | | | | | |
| | SR | 64 | | 65 | | | | 0 | 0 | | | 0 | 0 | 0 | 65 |
| | ST | 500 | | 506 | | 18% | | 14 | 0 | 18% | | 2 | 0 | 15 | 521 |
| | SL | 409 | 11 | 425 | | 19% | | 14 | 0 | 5% | | 1 | 0 | 15 | 440 |
| | WR | 28 | | 28 | | | 4% | 0 | 0 | | 4% | 0 | 2 | 2 | 30 |
| | WT | 239 | 2 | 244 | | | 10% | 0 | 1 | | 5% | 0 | 2 | 3 | 247 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 15 | 1 | 16 | | | | 0 | 0 | | | 0 | 0 | 0 | 16 |
| | NT | 237 | | 240 | | | 20% | 0 | 2 | | 9% | 0 | 4 | 6 | 246 |
| | NL | 118 | | 119 | | | 11% | 0 | 1 | | 11% | 0 | 5 | 6 | 125 |
| | ER | 105 | | 106 | | 2% | | 2 | 0 | 16% | | 2 | 0 | 3 | 109 |
| | ET | 297 | 8 | 309 | | 15% | | 11 | 0 | 5% | | 1 | 0 | 12 | 321 |
| | EL | 59 | | 60 | | | | 0 | 0 | | | 0 | 0 | 0 | 60 |
| 2/3 | **Arsenal Street/ Parking Lot & Gas station (Proposed Entrance)** | | | | | | | | | | | | | | |
| | SR | 3 | | 3 | | | | 0 | 0 | | | 0 | 0 | 0 | 3 |
| | ST | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | SL | 11 | | 11 | | | | 0 | 0 | | | 0 | 0 | 0 | 11 |
| | WR | 13 | | 13 | | | | 0 | 0 | | | 0 | 0 | 0 | 13 |
| | WT | 271 | 2 | 276 | | | | 0 | 0 | | 9% | 0 | 4 | 4 | 280 |
| | WL | 1 | | 1 | -1 | 10% | | 8 | 0 | 4% | | 0 | 0 | 8 | 8 |
| | NR | 2 | | 2 | -2 | | 18% | 0 | 2 | | | 0 | 0 | 2 | 2 |
| | NT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NL | 0 | | 0 | | | 14% | 0 | 1 | | | 0 | 0 | 1 | 1 |
| | ER | 10 | | 10 | -10 | 34% | | 26 | 0 | 10% | | 1 | 0 | 27 | 27 |
| | ET | 684 | 20 | 713 | | | | 0 | 0 | | | 0 | 0 | 0 | 713 |
| | EL | 1 | | 1 | | | | 0 | 0 | | | 0 | 0 | 0 | 1 |
| 4 | **Sherman Street/ Commercial Lots Driveway/ Arsenal Street** | | | | | | | | | | | | | | |
| | SR | 4 | 2 | 6 | | | | 0 | 0 | | | 0 | 0 | 0 | 6 |
| | ST | 2 | | 2 | | | | 0 | 0 | | | 0 | 0 | 0 | 2 |
| | SL | 6 | 3 | 9 | | | | 0 | 0 | | | 0 | 0 | 0 | 9 |
| | WR | 36 | 8 | 44 | | | | 0 | 0 | | | 0 | 0 | 0 | 44 |
| | WT | 238 | | 241 | | 10% | | 8 | 0 | 4% | | 0 | 0 | 8 | 249 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 23 | | 23 | | | | 0 | 0 | | 20% | 0 | 9 | 9 | 32 |
| | NT | 66 | 13 | 80 | | | | 0 | 0 | | 6% | 0 | 3 | 3 | 83 |
| | NL | 33 | | 33 | | | | 0 | 0 | | 9% | 0 | 4 | 4 | 37 |
| | ER | 136 | | 138 | | | | 0 | 0 | | | 0 | 0 | 0 | 138 |
| | ET | 471 | | 477 | | | 18% | 0 | 2 | | | 0 | 0 | 2 | 479 |
| | EL | 100 | 20 | 121 | | | | 0 | 0 | | | 0 | 0 | 0 | 121 |
| 5 | **Sherman Street/ Proposed Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ST | 108 | | 109 | | | | 0 | 0 | | | 0 | 0 | 0 | 109 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 149 | 13 | 164 | | | | 0 | 0 | | | 0 | 0 | 0 | 164 |
| | NL | 0 | | 0 | | 9% | | 7 | 0 | 11% | | 1 | 0 | 8 | 8 |
| | ER | 0 | | 0 | | | 6% | 0 | 1 | | 5% | 0 | 2 | 3 | 3 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | 35% | 0 | 16 | 16 | 16 |

**PROPOSED MERCY HEIGHTS DEVELOPMENT of FORMER MERCY HOSPITAL**
**CITY OF WATERTOWN, NEW YORK**
**AM PEAK**

| LOCATION NUMBER | INTERSECTION DESCRIPTION | 2016 Existing Volume | Convergys New Traffic | 2021 Bkgd Vol (Num of yrs: 5) 0.25% | Adj Vol for Parking Redistr | Office Enter Dist. % | Office Exit Dist. % | Office Trips IN 75 | Office Trips OUT 10 | Residential Enter Dist. % | Residential Exit Dist. % | Residential Trips IN 11 | Residential Trips OUT 46 | Total Site Trips | Full Build Volumes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | **Sherman Street/ Stone Street** | | | | | | | | | | | | | | |
| | SR | 3 | | 3 | | | | 0 | 0 | | | 0 | 0 | 0 | 3 |
| | ST | 105 | | 106 | | | 6% | 0 | 1 | | 5% | 0 | 2 | 3 | 109 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 19 | 2 | 21 | | 3% | | 2 | 0 | 7% | | 1 | 0 | 3 | 24 |
| | WT | 32 | | 32 | | | | 0 | 0 | 7% | | 1 | 0 | 1 | 33 |
| | WL | 9 | | 9 | | | | 0 | 0 | | | 0 | 0 | 0 | 9 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 130 | 11 | 143 | | 6% | | 5 | 0 | 4% | | 0 | 0 | 5 | 148 |
| | NL | 34 | | 34 | | | | 0 | 0 | 4% | | 0 | 0 | 0 | 34 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| 7 | **Stone Street Proposed Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | 54% | 0 | 25 | 25 | 25 |
| | ST | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 0 | | 0 | | | | 0 | 0 | 11% | | 1 | 0 | 1 | 1 |
| | WT | 69 | | 70 | | | | 0 | 0 | | | 0 | 0 | 0 | 70 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| 8 | **South Massey Street/ Stone Street** | | | | | | | | | | | | | | |
| | SR | 6 | | 6 | | | 10% | 0 | 1 | | | 0 | 0 | 1 | 7 |
| | ST | 605 | | 613 | | | 21% | 0 | 2 | | | 0 | 0 | 2 | 615 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 30 | | 30 | | | | 0 | 0 | | 14% | 0 | 6 | 6 | 36 |
| | WT | 38 | | 38 | | | | 0 | 0 | | 9% | 0 | 4 | 4 | 42 |
| | WL | 4 | | 4 | | | | 0 | 0 | | 31% | 0 | 14 | 14 | 18 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 341 | | 345 | | 20% | | 15 | 0 | 24% | | 3 | 0 | 18 | 363 |
| | NL | 183 | | 185 | | | | 0 | 0 | | | 0 | 0 | 0 | 185 |
| | ER | 186 | | 188 | | | | 0 | 0 | | | 0 | 0 | 0 | 188 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 5 | | 5 | | 7% | | 5 | 0 | 6% | | 1 | 0 | 6 | 11 |
| 9 | **South Massey Street/ Proposed South Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ST | 611 | | 619 | | | 9% | 0 | 1 | | | 0 | 0 | 1 | 620 |
| | SL | 0 | | 0 | | | | 0 | 0 | 29% | | 3 | 0 | 3 | 3 |
| | WR | 0 | | 0 | | | | 0 | 0 | | 6% | 0 | 3 | 3 | 3 |
| | WT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WL | 0 | | 0 | | | 22% | 0 | 2 | | | 0 | 0 | 2 | 2 |
| | NR | 0 | | 0 | | 5% | | 4 | 0 | 30% | | 3 | 0 | 7 | 7 |
| | NT | 376 | | 381 | | 22% | | 17 | 0 | | 14% | 0 | 6 | 23 | 404 |
| | NL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| 10 | **South Massey Street/ Proposed North Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ST | 611 | | 619 | | | | 0 | 0 | 29% | | 3 | 0 | 3 | 622 |
| | SL | 0 | | 0 | | 20% | | 15 | 0 | 5% | | 1 | 0 | 16 | 16 |
| | WR | 0 | | 0 | | | 31% | 0 | 3 | | | 0 | 0 | 3 | 3 |
| | WT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WL | 0 | | 0 | | | 9% | 0 | 1 | | | 0 | 0 | 1 | 1 |
| | NR | 0 | | 0 | | 22% | | 17 | 0 | | | 0 | 0 | 17 | 17 |
| | NT | 376 | | 381 | | | | 0 | 0 | | 20% | 0 | 9 | 9 | 390 |
| | NL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |

## PROPOSED MERCY HEIGHTS DEVELOPMENT of FORMER MERCY HOSPITAL
## CITY OF WATERTOWN, NEW YORK
## PM PEAK

Num of yrs: 5

| LOCATION NUMBER | INTERSECTION DESCRIPTION | 2016 Existing Volume | Convergys New Traffic | 2021 Bkgd Vol 0.25% | Adj Vol for Parking Redistr | Office Enter Dist. % | Office Exit Dist. % | Office Trips IN 20 | Office Trips OUT 99 | Residential Enter Dist. % | Residential Exit Dist. % | Residential Trips IN 50 | Residential Trips OUT 27 | Total Site Trips | Full Build Volumes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Arsenal Street/Massey Street** | | | | | | | | | | | | | | |
| | SR | 135 | | 137 | | | | 0 | 0 | | | 0 | 0 | 0 | 137 |
| | ST | 369 | | 374 | | 18% | | 4 | 0 | 18% | | 9 | 0 | 13 | 387 |
| | SL | 266 | 2 | 271 | | 19% | | 4 | 0 | 5% | | 3 | 0 | 6 | 277 |
| | WR | 64 | 3 | 68 | | | 4% | 0 | 4 | | 4% | 0 | 1 | 5 | 73 |
| | WT | 348 | 17 | 369 | | | 10% | 0 | 10 | | 5% | 0 | 1 | 11 | 380 |
| | WL | 3 | | 3 | | | | 0 | 0 | | | 0 | 0 | 0 | 3 |
| | NR | 16 | | 16 | | | | 0 | 0 | | | 0 | 0 | 0 | 16 |
| | NT | 434 | | 439 | | | 20% | 0 | 20 | | 9% | 0 | 2 | 22 | 461 |
| | NL | 215 | | 218 | | | 11% | 0 | 11 | | 11% | 0 | 3 | 14 | 232 |
| | ER | 176 | | 178 | | 2% | | 0 | 0 | 16% | | 8 | 0 | 8 | 186 |
| | ET | 372 | 6 | 383 | | 15% | | 3 | 0 | 5% | | 3 | 0 | 6 | 389 |
| | EL | 148 | | 150 | | | | 0 | 0 | | | 0 | 0 | 0 | 150 |
| 2/3 | **Arsenal Street/ Parking Lot & Gas station (Proposed Entrance)** | | | | | | | | | | | | | | |
| | SR | 1 | | 1 | | | | 0 | 0 | | | 0 | 0 | 0 | 1 |
| | ST | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | SL | 8 | | 8 | | | | 0 | 0 | | | 0 | 0 | 0 | 8 |
| | WR | 28 | | 28 | | | | 0 | 0 | | | 0 | 0 | 0 | 28 |
| | WT | 402 | 20 | 427 | | | | 0 | 0 | | 9% | 0 | 2 | 2 | 429 |
| | WL | 1 | | 1 | -1 | 10% | | 2 | 0 | 4% | | 2 | 0 | 4 | 4 |
| | NR | 13 | | 13 | -13 | | 18% | 0 | 18 | | | 0 | 0 | 18 | 18 |
| | NT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NL | 1 | | 1 | -1 | | 14% | 0 | 14 | | | 0 | 0 | 14 | 14 |
| | ER | 2 | | 2 | -2 | 34% | | 7 | 0 | 10% | | 5 | 0 | 12 | 12 |
| | ET | 622 | 8 | 638 | | | | 0 | 0 | | | 0 | 0 | 0 | 638 |
| | EL | 4 | | 4 | | | | 0 | 0 | | | 0 | 0 | 0 | 4 |
| 4 | **Sherman Street/ Commercial Lots Driveway/ Arsenal Street** | | | | | | | | | | | | | | |
| | SR | 50 | 20 | 71 | | | | 0 | 0 | | | 0 | 0 | 0 | 71 |
| | ST | 37 | 15 | 52 | | | | 0 | 0 | | | 0 | 0 | 0 | 52 |
| | SL | 25 | 10 | 35 | | | | 0 | 0 | | | 0 | 0 | 0 | 35 |
| | WR | 7 | 2 | 9 | | | | 0 | 0 | | | 0 | 0 | 0 | 9 |
| | WT | 304 | | 308 | | 10% | | 2 | 0 | 4% | | 2 | 0 | 4 | 312 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 34 | | 34 | | | | 0 | 0 | | 20% | 0 | 5 | 5 | 39 |
| | NT | 137 | 38 | 177 | | | | 0 | 0 | | 6% | 0 | 2 | 2 | 179 |
| | NL | 68 | | 69 | | | | 0 | 0 | | 9% | 0 | 2 | 2 | 71 |
| | ER | 107 | | 108 | | | | 0 | 0 | | | 0 | 0 | 0 | 108 |
| | ET | 559 | | 566 | | | 18% | 0 | 18 | | | 0 | 0 | 18 | 584 |
| | EL | 29 | 8 | 37 | | | | 0 | 0 | | | 0 | 0 | 0 | 37 |
| 5 | **Sherman Street/ Proposed Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ST | 159 | 15 | 176 | | | | 0 | 0 | | | 0 | 0 | 0 | 176 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 221 | 38 | 262 | | | | 0 | 0 | | | 0 | 0 | 0 | 262 |
| | NL | 0 | | 0 | | 9% | | 2 | 0 | 11% | | 6 | 0 | 7 | 7 |
| | ER | 0 | | 0 | | | 6% | 0 | 6 | | 5% | 0 | 1 | 7 | 7 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | 35% | 0 | 9 | 9 | 9 |

## PROPOSED MERCY HEIGHTS DEVELOPMENT of FORMER MERCY HOSPITAL
## CITY OF WATERTOWN, NEW YORK
## PM PEAK

Num of yrs: 5

| LOCATION NUMBER | INTERSECTION DESCRIPTION | 2016 Existing Volume | Convergys New Traffic | 2021 Bkgd Vol 0.25% | Adj Vol for Parking Redistr | Office Enter Dist. % | Office Exit Dist. % | Office Trips IN 20 | Office Trips OUT 99 | Residential Enter Dist. % | Residential Exit Dist. % | Residential Trips IN 50 | Residential Trips OUT 27 | Total Site Trips | Full Build Volumes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | **Sherman Street/ Stone Street** | | | | | | | | | | | | | | |
| | SR | 18 | 2 | 20 | | | | 0 | 0 | | | 0 | 0 | 0 | 20 |
| | ST | 141 | 13 | 156 | | | 6% | 0 | 6 | | 5% | 0 | 1 | 7 | 163 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 65 | 11 | 77 | | 3% | | 1 | 0 | 7% | | 4 | 0 | 4 | 81 |
| | WT | 128 | | 130 | | | | 0 | 0 | 7% | | 4 | 0 | 4 | 134 |
| | WL | 60 | | 61 | | | | 0 | 0 | | | 0 | 0 | 0 | 61 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 156 | 27 | 185 | | 6% | | 1 | 0 | 4% | | 2 | 0 | 3 | 188 |
| | NL | 94 | | 95 | | | | 0 | 0 | 4% | | 2 | 0 | 2 | 97 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| 7 | **Stone Street Proposed Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | 54% | 0 | 15 | 15 | 15 |
| | ST | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | SL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WR | 0 | | 0 | | | | 0 | 0 | 11% | | 6 | 0 | 6 | 6 |
| | WT | 240 | 2 | 245 | | | | 0 | 0 | | | 0 | 0 | 0 | 245 |
| | WL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | NL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| 8 | **South Massey Street/ Stone Street** | | | | | | | | | | | | | | |
| | SR | 21 | | 21 | | | 10% | 0 | 10 | | | 0 | 0 | 10 | 31 |
| | ST | 517 | | 523 | | | 21% | 0 | 21 | | | 0 | 0 | 21 | 544 |
| | SL | | | #VALUE! | | | | 0 | 0 | | | 0 | 0 | 0 | #VALUE! |
| | WR | 116 | | 117 | | | | 0 | 0 | | 14% | 0 | 4 | 4 | 121 |
| | WT | 99 | 2 | 102 | | | | 0 | 0 | | 9% | 0 | 2 | 2 | 104 |
| | WL | 26 | | 26 | | | | 0 | 0 | | 31% | 0 | 8 | 8 | 34 |
| | NR | | | #VALUE! | | | | 0 | 0 | | | 0 | 0 | 0 | #VALUE! |
| | NT | 532 | | 539 | | 20% | | 4 | 0 | 24% | | 12 | 0 | 16 | 555 |
| | NL | 223 | | 226 | | | | 0 | 0 | | | 0 | 0 | 0 | 226 |
| | ER | 176 | | 178 | | | | 0 | 0 | | | 0 | 0 | 0 | 178 |
| | ET | | | #VALUE! | | | | 0 | 0 | | | 0 | 0 | 0 | #VALUE! |
| | EL | 5 | | 5 | | 7% | | 1 | 0 | 6% | | 3 | 0 | 4 | 9 |
| 9 | **South Massey Street/ Proposed South Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ST | 538 | | 545 | | | 9% | 0 | 9 | | | 0 | 0 | 9 | 554 |
| | SL | 0 | | 0 | | | | 0 | 0 | 29% | | 15 | 0 | 15 | 15 |
| | WR | 0 | | 0 | | | | 0 | 0 | | 6% | 0 | 2 | 2 | 2 |
| | WT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WL | 0 | | 0 | | | 22% | 0 | 22 | | | 0 | 0 | 22 | 22 |
| | NR | 0 | | 0 | | 5% | | 1 | 0 | 30% | | 15 | 0 | 16 | 16 |
| | NT | 653 | | 661 | | 22% | | 4 | 0 | | 14% | 0 | 4 | 8 | 669 |
| | NL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| 10 | **South Massey Street/ Proposed North Entrance** | | | | | | | | | | | | | | |
| | SR | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ST | 538 | | 545 | | | | 0 | 0 | 29% | | 15 | 0 | 15 | 560 |
| | SL | 0 | | 0 | | 20% | | 4 | 0 | 5% | | 3 | 0 | 7 | 7 |
| | WR | 0 | | 0 | | | 31% | 0 | 31 | | | 0 | 0 | 31 | 31 |
| | WT | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | WL | 0 | | 0 | | | 9% | 0 | 9 | | | 0 | 0 | 9 | 9 |
| | NR | 0 | | 0 | | 22% | | 4 | 0 | | | 0 | 0 | 4 | 4 |
| | NT | 653 | | 661 | | | | 0 | 0 | | 20% | 0 | 5 | 5 | 666 |
| | NL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ER | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | ET | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |
| | EL | 0 | | 0 | | | | 0 | 0 | | | 0 | 0 | 0 | 0 |

# A3

## Level of Service: Criteria and Definitions

# Level of Service Criteria

## Highway Capacity Manual 2010

### SIGNALIZED INTERSECTIONS

Level of Service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Level of Service for signalized intersections is defined in terms of delay specifically, average total delay per vehicle for a 15 minute analysis period. The ranges are as follows:

| Level of Service | Control Delay per vehicle (seconds) |
|---|---|
| A | < 10 |
| B | 10 – 20 |
| C | 20 – 35 |
| D | 35 – 55 |
| E | 55 – 80 |
| F | >80 |

### UNSIGNALIZED INTERSECTIONS

Level of Service for unsignalized intersections is also defined in terms of delay. However, the delay criteria are different from a signalized intersection. The primary reason for this is driver expectation that a signalized intersection is designed to carry higher volumes than an unsignalized intersection. The total delay threshold for any given Level of Service is less for an unsignalized intersection than for a signalized intersection. The ranges are as follows:

| Level of Service | Control Delay per vehicle (seconds) |
|---|---|
| A | < 10 |
| B | 10 – 15 |
| C | 15 – 25 |
| D | 25 – 35 |
| E | 35 - 50 |
| F | >50 |

# A4

# Level of Service Calculations: Existing Conditions

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 59 | 297 | 105 | 0 | 239 | 28 | 118 | 237 | 15 | 409 | 500 | 64 |
| Future Volume (vph) | 59 | 297 | 105 | 0 | 239 | 28 | 118 | 237 | 15 | 409 | 500 | 64 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 170 | | 0 | 0 | | 0 | 250 | | 0 | 515 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 25 | | | 100 | | | 130 | | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Frt | | | 0.850 | | 0.986 | | | 0.991 | | | 0.983 | |
| Flt Protected | | 0.992 | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 3511 | 1583 | 0 | 1837 | 0 | 1770 | 3507 | 0 | 1770 | 3479 | 0 |
| Flt Permitted | | 0.710 | | | | | 0.400 | | | 0.415 | | |
| Satd. Flow (perm) | 0 | 2513 | 1583 | 0 | 1837 | 0 | 745 | 3507 | 0 | 773 | 3479 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 403 | | | 250 | | | 720 | | | 474 | |
| Travel Time (s) | | 9.2 | | | 5.7 | | | 16.4 | | | 10.8 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.87 | 0.87 | 0.87 | 0.85 | 0.85 | 0.85 |
| Adj. Flow (vph) | 64 | 323 | 114 | 0 | 266 | 31 | 136 | 272 | 17 | 481 | 588 | 75 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 387 | 114 | 0 | 297 | 0 | 136 | 289 | 0 | 481 | 663 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | Right | | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | | 100 | | 20 | 100 | | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | custom | | NA | | Perm | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | 8! | | 6 | | | 8 | | 7 | 4! | |
| Permitted Phases | 2 | | 2 | | | | 8 | | | 4 | | |



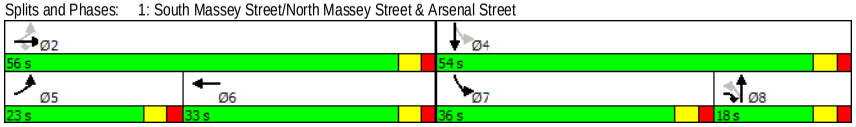


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 5 | 2 | 8 | | 6 | | 8 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 10.0 | 21.0 | 21.0 | | 21.0 | | 21.0 | 21.0 | | 21.0 | 21.0 | |
| Total Split (s) | 23.0 | 56.0 | 18.0 | | 33.0 | | 18.0 | 18.0 | | 36.0 | 54.0 | |
| Total Split (%) | 20.9% | 50.9% | 16.4% | | 30.0% | | 16.4% | 16.4% | | 32.7% | 49.1% | |
| Maximum Green (s) | 18.0 | 51.0 | 13.0 | | 28.0 | | 13.0 | 13.0 | | 31.0 | 49.0 | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | 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 | 5.0 | |
| Lead/Lag | Lead | | Lag | | Lag | | Lag | Lag | | Lead | | |
| Lead-Lag Optimize? | Yes | | Yes | | Yes | | Yes | Yes | | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | None | | None | | None | None | | None | None | |
| Walk Time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 15.5 | 33.9 | | 15.5 | | 13.3 | 13.3 | | 43.3 | 43.3 | |
| Actuated g/C Ratio | | 0.22 | 0.49 | | 0.22 | | 0.19 | 0.19 | | 0.63 | 0.63 | |
| v/c Ratio | | 0.69 | 0.15 | | 0.72 | | 0.95 | 0.43 | | 0.57 | 0.30 | |
| Control Delay | | 32.0 | 11.4 | | 36.3 | | 100.5 | 29.3 | | 10.3 | 6.8 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay | | 32.0 | 11.4 | | 36.3 | | 100.5 | 29.3 | | 10.3 | 6.8 | |
| LOS | | C | B | | D | | F | C | | B | A | |
| Approach Delay | | 27.3 | | | 36.3 | | | 52.1 | | | 8.3 | |
| Approach LOS | | C | | | D | | | D | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 110 | |
| Actuated Cycle Length: 69 | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.95 | |
| Intersection Signal Delay: 23.7 | Intersection LOS: C |
| Intersection Capacity Utilization 70.6% | ICU Level of Service C |
| Analysis Period (min) 15 | |

! Phase conflict between lane groups.

Splits and Phases: 1: South Massey Street/North Massey Street & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 684 | 10 | 1 | 271 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Future Volume (vph) | 1 | 684 | 10 | 1 | 271 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.998 | | | 0.994 | | | 0.865 | | | 0.973 | |
| Flt Protected | | | | | | | | | | | 0.962 | |
| Satd. Flow (prot) | 0 | 3532 | 0 | 0 | 1852 | 0 | 0 | 1611 | 0 | 0 | 1744 | 0 |
| Flt Permitted | | | | | | | | | | | 0.962 | |
| Satd. Flow (perm) | 0 | 3532 | 0 | 0 | 1852 | 0 | 0 | 1611 | 0 | 0 | 1744 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 10 | | | 10 | |
| Link Distance (ft) | | 250 | | | 378 | | | 125 | | | 123 | |
| Travel Time (s) | | 5.7 | | | 8.6 | | | 8.5 | | | 8.4 | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.89 | 0.89 | 0.89 | 0.25 | 0.25 | 0.25 | 0.70 | 0.70 | 0.70 |
| Adj. Flow (vph) | 1 | 795 | 12 | 1 | 304 | 15 | 0 | 0 | 8 | 16 | 0 | 4 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 808 | 0 | 0 | 320 | 0 | 0 | 8 | 0 | 0 | 20 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 34.0% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Vol, veh/h | 1 | 684 | 10 | 1 | 271 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Future Vol, veh/h | 1 | 684 | 10 | 1 | 271 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 89 | 89 | 89 | 25 | 25 | 25 | 70 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 795 | 12 | 1 | 304 | 15 | 0 | 0 | 8 | 16 | 0 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 319 | 0 | 0 | 807 | 0 | 0 | 1119 | 1124 | 403 | 714 | 1123 | 312 |
| Stage 1 | - | - | - | - | - | - | 803 | 803 | - | 314 | 314 | - |
| Stage 2 | - | - | - | - | - | - | 316 | 321 | - | 400 | 809 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1239 | - | - | 816 | - | - | 172 | 205 | 598 | 332 | 205 | 727 |
| Stage 1 | - | - | - | - | - | - | 344 | 395 | - | 696 | 656 | - |
| Stage 2 | - | - | - | - | - | - | 694 | 651 | - | 598 | 393 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1239 | - | - | 816 | - | - | 171 | 205 | 598 | 327 | 205 | 727 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 171 | 205 | - | 327 | 205 | - |
| Stage 1 | - | - | - | - | - | - | 344 | 395 | - | 695 | 655 | - |
| Stage 2 | - | - | - | - | - | - | 689 | 650 | - | 589 | 393 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 11.1 | 15.3 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 598 | 1239 | - | - | 816 | - | - | 371 |
| HCM Lane V/C Ratio | 0.013 | 0.001 | - | - | 0.001 | - | - | 0.054 |
| HCM Control Delay (s) | 11.1 | 7.9 | 0 | - | 9.4 | 0 | - | 15.3 |
| HCM Lane LOS | B | A | A | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 471 | 136 | 0 | 238 | 36 | 33 | 66 | 23 | 6 | 2 | 4 |
| Future Volume (vph) | 100 | 471 | 136 | 0 | 238 | 36 | 33 | 66 | 23 | 6 | 2 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 100 | 0 | | 120 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.971 | | | | 0.850 | | | 0.850 | | 0.953 | |
| Flt Protected | | 0.993 | | | | | | 0.983 | | | 0.976 | |
| Satd. Flow (prot) | 0 | 3413 | 0 | 0 | 1863 | 1583 | 0 | 1831 | 1583 | 0 | 1733 | 0 |
| Flt Permitted | | 0.852 | | | | | | 0.909 | | | 0.883 | |
| Satd. Flow (perm) | 0 | 2928 | 0 | 0 | 1863 | 1583 | 0 | 1693 | 1583 | 0 | 1567 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 80 | | | | 43 | | | 31 | | 7 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 10 | |
| Link Distance (ft) | | 378 | | | 397 | | | 580 | | | 249 | |
| Travel Time (s) | | 8.6 | | | 9.0 | | | 13.2 | | | 17.0 | |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.83 | 0.83 | 0.83 | 0.74 | 0.74 | 0.74 | 0.60 | 0.60 | 0.60 |
| Adj. Flow (vph) | 118 | 554 | 160 | 0 | 287 | 43 | 45 | 89 | 31 | 10 | 3 | 7 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 832 | 0 | 0 | 287 | 43 | 0 | 134 | 31 | 0 | 20 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | | | 8 | 2 | | 2 | 6 | | |

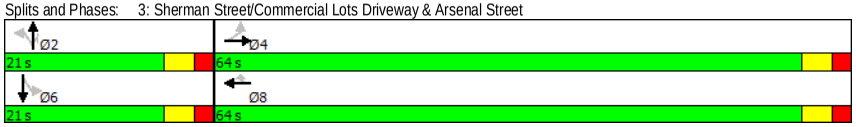




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 64.0 | 64.0 | | | 64.0 | 64.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (%) | 75.3% | 75.3% | | | 75.3% | 75.3% | 24.7% | 24.7% | 24.7% | 24.7% | 24.7% | |
| Maximum Green (s) | 59.0 | 59.0 | | | 59.0 | 59.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| 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) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | | | None | None | Max | Max | Max | Max | Max | |
| Walk Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | | 18.7 | | | 18.7 | 18.7 | | 16.2 | 16.2 | | 16.2 | |
| Actuated g/C Ratio | | 0.42 | | | 0.42 | 0.42 | | 0.36 | 0.36 | | 0.36 | |
| v/c Ratio | | 0.66 | | | 0.37 | 0.06 | | 0.22 | 0.05 | | 0.04 | |
| Control Delay | | 12.0 | | | 10.2 | 3.1 | | 13.0 | 5.9 | | 10.0 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | | 12.0 | | | 10.2 | 3.1 | | 13.0 | 5.9 | | 10.0 | |
| LOS | | B | | | B | A | | B | A | | A | |
| Approach Delay | | 12.0 | | | 9.3 | | | 11.7 | | | 10.0 | |
| Approach LOS | | B | | | A | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 85 | | | |
| Actuated Cycle Length: 45 | | | |
| Natural Cycle: 45 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.66 | | | |
| Intersection Signal Delay: 11.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 51.3% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 3: Sherman Street/Commercial Lots Driveway & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 9 | 32 | 19 | 34 | 130 | 0 | 0 | 105 | 3 |
| Future Volume (vph) | 0 | 0 | 0 | 9 | 32 | 19 | 34 | 130 | 0 | 0 | 105 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 25 | 200 | | 0 | 0 | | 150 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 1 | | 0 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| 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 | | | | | | 0.850 | | | | | | 0.850 |
| Flt Protected | | | | | 0.989 | | 0.950 | | | | | |
| Satd. Flow (prot) | 0 | 0 | 0 | 0 | 1842 | 1583 | 1770 | 1863 | 0 | 0 | 1863 | 1583 |
| Flt Permitted | | | | | 0.989 | | 0.800 | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 0 | 1842 | 1583 | 1490 | 1863 | 0 | 0 | 1863 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 36 | | | | | | 36 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 740 | | | 406 | | | 301 | | | 580 | |
| Travel Time (s) | | 16.8 | | | 9.2 | | | 6.8 | | | 13.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.87 | 0.87 | 0.87 | 0.77 | 0.77 | 0.77 |
| Adj. Flow (vph) | 0 | 0 | 0 | 10 | 36 | 22 | 39 | 149 | 0 | 0 | 136 | 4 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 46 | 22 | 39 | 149 | 0 | 0 | 136 | 4 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | | | 1 | 2 | 1 | 1 | 2 | | | 2 | 1 |
| Detector Template | | | | Left | Thru | Right | Left | Thru | | | Thru | Right |
| Leading Detector (ft) | | | | 20 | 100 | 20 | 20 | 100 | | | 100 | 20 |
| Trailing Detector (ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Position(ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Size(ft) | | | | 20 | 6 | 20 | 20 | 6 | | | 6 | 20 |
| Detector 1 Type | | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 2 Position(ft) | | | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | | | Perm | NA | Perm | Perm | NA | | | NA | Perm |
| Protected Phases | | | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | 2 | | | | | 6 |

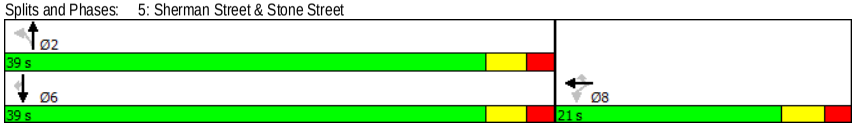




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | | | | 8 | 8 | 8 | 2 | 2 | | | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | | | 21.0 | 21.0 |
| Total Split (s) | | | | 21.0 | 21.0 | 21.0 | 39.0 | 39.0 | | | 39.0 | 39.0 |
| Total Split (%) | | | | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | | | 65.0% | 65.0% |
| Maximum Green (s) | | | | 16.0 | 16.0 | 16.0 | 34.0 | 34.0 | | | 34.0 | 34.0 |
| Yellow Time (s) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| All-Red Time (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| 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) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | | | | None | None | None | None | None | | | None | None |
| Walk Time (s) | | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | | 5.0 | 5.0 |
| Flash Dont Walk (s) | | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Act Effct Green (s) | | | | | 6.6 | 6.6 | 8.9 | 8.9 | | | 8.9 | 8.9 |
| Actuated g/C Ratio | | | | | 0.41 | 0.41 | 0.55 | 0.55 | | | 0.55 | 0.55 |
| v/c Ratio | | | | | 0.06 | 0.03 | 0.05 | 0.15 | | | 0.13 | 0.00 |
| Control Delay | | | | | 4.6 | 2.3 | 3.3 | 3.3 | | | 3.3 | 0.0 |
| Queue Delay | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | | | | 4.6 | 2.3 | 3.3 | 3.3 | | | 3.3 | 0.0 |
| LOS | | | | | A | A | A | A | | | A | A |
| Approach Delay | | | | | 3.9 | | | 3.3 | | | 3.2 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 60 | |
| Actuated Cycle Length: 16.2 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.15 | |
| Intersection Signal Delay: 3.4 | Intersection LOS: A |
| Intersection Capacity Utilization 22.5% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sherman Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 186 | 4 | 38 | 30 | 183 | 341 | 0 | 0 | 605 | 6 |
| Future Volume (vph) | 5 | 0 | 186 | 4 | 38 | 30 | 183 | 341 | 0 | 0 | 605 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 300 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 |
| Frt | | 0.869 | | | 0.934 | | | | | | 0.999 | |
| Flt Protected | | 0.999 | | 0.950 | | | | 0.983 | | | | |
| Satd. Flow (prot) | 0 | 1617 | 0 | 1770 | 1740 | 0 | 0 | 3479 | 0 | 0 | 3536 | 0 |
| Flt Permitted | | 0.987 | | 0.755 | | | | 0.628 | | | | |
| Satd. Flow (perm) | 0 | 1598 | 0 | 1406 | 1740 | 0 | 0 | 2223 | 0 | 0 | 3536 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 248 | | | 33 | | | | | | 2 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 316 | | | 740 | | | 422 | | | 720 | |
| Travel Time (s) | | 7.2 | | | 16.8 | | | 9.6 | | | 16.4 | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 7 | 0 | 248 | 4 | 42 | 33 | 203 | 379 | 0 | 0 | 729 | 7 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 255 | 0 | 4 | 75 | 0 | 0 | 582 | 0 | 0 | 736 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | -10 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | | | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | | | |

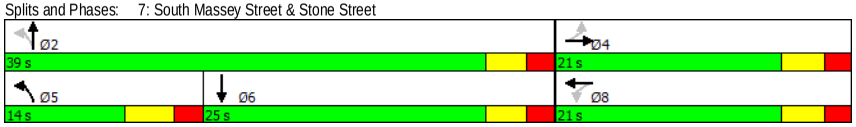




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | 21.0 | 21.0 | | 9.5 | 21.0 | | | 21.0 | |
| Total Split (s) | 21.0 | 21.0 | | 21.0 | 21.0 | | 14.0 | 39.0 | | | 25.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | | 23.3% | 65.0% | | | 41.7% | |
| Maximum Green (s) | 16.0 | 16.0 | | 16.0 | 16.0 | | 8.5 | 34.0 | | | 20.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.5 | 3.0 | | | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | |
| Recall Mode | None | None | | None | None | | None | None | | | None | |
| Walk Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | 11.0 | 11.0 | | | 11.0 | | | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Act Effct Green (s) | | 7.7 | | 7.7 | 7.7 | | | 18.8 | | | 18.8 | |
| Actuated g/C Ratio | | 0.25 | | 0.25 | 0.25 | | | 0.60 | | | 0.60 | |
| v/c Ratio | | 0.44 | | 0.01 | 0.17 | | | 0.44 | | | 0.35 | |
| Control Delay | | 5.7 | | 13.0 | 9.7 | | | 6.8 | | | 5.6 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 5.7 | | 13.0 | 9.7 | | | 6.8 | | | 5.6 | |
| LOS | | A | | B | A | | | A | | | A | |
| Approach Delay | | 5.7 | | | 9.9 | | | 6.8 | | | 5.6 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 60 | | | |
| Actuated Cycle Length: 31.4 | | | |
| Natural Cycle: 55 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.44 | | | |
| Intersection Signal Delay: 6.3 | | Intersection LOS: A | |
| Intersection Capacity Utilization 60.3% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 7: South Massey Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 148 | 372 | 176 | 0 | 348 | 64 | 215 | 434 | 16 | 266 | 369 | 135 |
| Future Volume (vph) | 148 | 372 | 176 | 0 | 348 | 64 | 215 | 434 | 16 | 266 | 369 | 135 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 170 | | 0 | 0 | | 0 | 250 | | 0 | 515 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 25 | | | 100 | | | 130 | | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Frt | | | 0.850 | | 0.979 | | | 0.995 | | | 0.960 | |
| Flt Protected | | 0.986 | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 3490 | 1583 | 0 | 1824 | 0 | 1770 | 3522 | 0 | 1770 | 3398 | 0 |
| Flt Permitted | | 0.609 | | | | | 0.363 | | | 0.371 | | |
| Satd. Flow (perm) | 0 | 2155 | 1583 | 0 | 1824 | 0 | 676 | 3522 | 0 | 691 | 3398 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 403 | | | 250 | | | 720 | | | 474 | |
| Travel Time (s) | | 9.2 | | | 5.7 | | | 16.4 | | | 10.8 | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.94 | 0.94 | 0.94 | 0.95 | 0.95 | 0.95 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 163 | 409 | 193 | 0 | 370 | 68 | 226 | 457 | 17 | 296 | 410 | 150 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 572 | 193 | 0 | 438 | 0 | 226 | 474 | 0 | 296 | 560 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | Right | | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | | 100 | | 20 | 100 | | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | | NA | | Perm | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | | 8 | | | 4 | | |

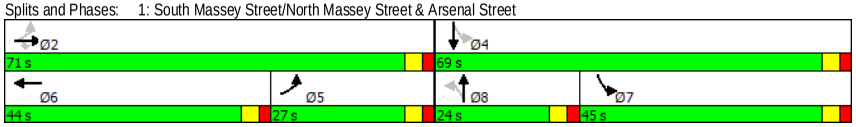




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 5 | 2 | 2 | | 6 | | 8 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 10.0 | 21.0 | 21.0 | | 21.0 | | 21.0 | 21.0 | | 21.0 | 21.0 | |
| Total Split (s) | 27.0 | 71.0 | 71.0 | | 44.0 | | 24.0 | 24.0 | | 45.0 | 69.0 | |
| Total Split (%) | 19.3% | 50.7% | 50.7% | | 31.4% | | 17.1% | 17.1% | | 32.1% | 49.3% | |
| Maximum Green (s) | 22.0 | 66.0 | 66.0 | | 39.0 | | 19.0 | 19.0 | | 40.0 | 64.0 | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | 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 | 5.0 | |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | | Lag | | |
| Lead-Lag Optimize? | Yes | | | | Yes | | Yes | Yes | | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | None | | None | | None | None | | None | None | |
| Walk Time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 33.6 | 33.6 | | 33.6 | | 19.7 | 19.7 | | 42.2 | 42.2 | |
| Actuated g/C Ratio | | 0.39 | 0.39 | | 0.39 | | 0.23 | 0.23 | | 0.49 | 0.49 | |
| v/c Ratio | | 0.68 | 0.31 | | 0.62 | | 1.47 | 0.59 | | 0.53 | 0.34 | |
| Control Delay | | 26.4 | 19.8 | | 25.2 | | 272.1 | 36.6 | | 25.6 | 15.6 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay | | 26.4 | 19.8 | | 25.2 | | 272.1 | 36.6 | | 25.6 | 15.6 | |
| LOS | | C | B | | C | | F | D | | C | B | |
| Approach Delay | | 24.7 | | | 25.2 | | | 112.6 | | | 19.1 | |
| Approach LOS | | C | | | C | | | F | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 140 | | | |
| Actuated Cycle Length: 86.2 | | | |
| Natural Cycle: 90 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 1.47 | | | |
| Intersection Signal Delay: 45.3 | | Intersection LOS: D | |
| Intersection Capacity Utilization 80.7% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: South Massey Street/North Massey Street & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 622 | 2 | 1 | 402 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Future Volume (vph) | 4 | 622 | 2 | 1 | 402 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.991 | | | 0.875 | | | 0.989 | |
| Flt Protected | | | | | | | | 0.996 | | | 0.956 | |
| Satd. Flow (prot) | 0 | 3539 | 0 | 0 | 1846 | 0 | 0 | 1623 | 0 | 0 | 1761 | 0 |
| Flt Permitted | | | | | | | | 0.996 | | | 0.956 | |
| Satd. Flow (perm) | 0 | 3539 | 0 | 0 | 1846 | 0 | 0 | 1623 | 0 | 0 | 1761 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 10 | | | 10 | |
| Link Distance (ft) | | 250 | | | 378 | | | 125 | | | 123 | |
| Travel Time (s) | | 5.7 | | | 8.6 | | | 8.5 | | | 8.4 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.93 | 0.93 | 0.93 | 0.27 | 0.27 | 0.27 | 0.75 | 0.75 | 0.75 |
| Adj. Flow (vph) | 4 | 662 | 2 | 1 | 432 | 30 | 4 | 0 | 48 | 11 | 0 | 1 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 668 | 0 | 0 | 463 | 0 | 0 | 52 | 0 | 0 | 12 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |
| Intersection Capacity Utilization 33.7% | ICU Level of Service A |
| Analysis Period (min) 15 | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Vol, veh/h | 4 | 622 | 2 | 1 | 402 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Future Vol, veh/h | 4 | 622 | 2 | 1 | 402 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 93 | 93 | 93 | 27 | 27 | 27 | 75 | 75 | 75 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 662 | 2 | 1 | 432 | 30 | 4 | 0 | 48 | 11 | 0 | 1 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 462 | 0 | 0 | 664 | 0 | 0 | 1121 | 1136 | 332 | 788 | 1121 | 447 |
| Stage 1 | - | - | - | - | - | - | 671 | 671 | - | 449 | 449 | - |
| Stage 2 | - | - | - | - | - | - | 450 | 465 | - | 339 | 672 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1097 | - | - | 923 | - | - | 172 | 201 | 665 | 295 | 206 | 611 |
| Stage 1 | - | - | - | - | - | - | 413 | 454 | - | 588 | 571 | - |
| Stage 2 | - | - | - | - | - | - | 588 | 562 | - | 650 | 454 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1097 | - | - | 923 | - | - | 171 | 200 | 665 | 272 | 205 | 611 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 171 | 200 | - | 272 | 205 | - |
| Stage 1 | - | - | - | - | - | - | 411 | 451 | - | 584 | 570 | - |
| Stage 2 | - | - | - | - | - | - | 586 | 561 | - | 599 | 451 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | 12.2 | 17.9 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 551 | 1097 | - | - | 923 | - | - | 290 |
| HCM Lane V/C Ratio | 0.094 | 0.004 | - | - | 0.001 | - | - | 0.041 |
| HCM Control Delay (s) | 12.2 | 8.3 | 0 | - | 8.9 | 0 | - | 17.9 |
| HCM Lane LOS | B | A | A | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 559 | 107 | 0 | 304 | 7 | 68 | 137 | 34 | 25 | 37 | 50 |
| Future Volume (vph) | 29 | 559 | 107 | 0 | 304 | 7 | 68 | 137 | 34 | 25 | 37 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 100 | 0 | | 120 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.977 | | | | 0.850 | | | 0.850 | | 0.940 | |
| Flt Protected | | 0.998 | | | | | | 0.984 | | | 0.989 | |
| Satd. Flow (prot) | 0 | 3451 | 0 | 0 | 1863 | 1583 | 0 | 1833 | 1583 | 0 | 1732 | 0 |
| Flt Permitted | | 0.930 | | | | | | 0.839 | | | 0.891 | |
| Satd. Flow (perm) | 0 | 3216 | 0 | 0 | 1863 | 1583 | 0 | 1563 | 1583 | 0 | 1560 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 51 | | | | 36 | | | 44 | | 71 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 10 | |
| Link Distance (ft) | | 378 | | | 397 | | | 580 | | | 249 | |
| Travel Time (s) | | 8.6 | | | 9.0 | | | 13.2 | | | 17.0 | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.78 | 0.78 | 0.78 | 0.58 | 0.58 | 0.58 |
| Adj. Flow (vph) | 34 | 650 | 124 | 0 | 330 | 8 | 87 | 176 | 44 | 43 | 64 | 86 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 808 | 0 | 0 | 330 | 8 | 0 | 263 | 44 | 0 | 193 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | | | 8 | 2 | | 2 | 6 | | |

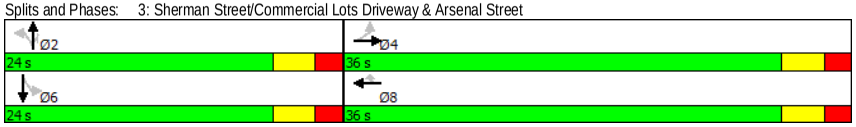




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 36.0 | 36.0 | | | 36.0 | 36.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | |
| Total Split (%) | 60.0% | 60.0% | | | 60.0% | 60.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | |
| Maximum Green (s) | 31.0 | 31.0 | | | 31.0 | 31.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| 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) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | | | None | None | Max | Max | Max | Max | Max | |
| Walk Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | | 18.5 | | | 18.5 | 18.5 | | 19.2 | 19.2 | | 19.2 | |
| Actuated g/C Ratio | | 0.39 | | | 0.39 | 0.39 | | 0.40 | 0.40 | | 0.40 | |
| v/c Ratio | | 0.63 | | | 0.46 | 0.01 | | 0.42 | 0.07 | | 0.29 | |
| Control Delay | | 13.2 | | | 12.8 | 0.1 | | 14.5 | 4.9 | | 9.1 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | | 13.2 | | | 12.8 | 0.1 | | 14.5 | 4.9 | | 9.1 | |
| LOS | | B | | | B | A | | B | A | | A | |
| Approach Delay | | 13.2 | | | 12.5 | | | 13.1 | | | 9.1 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 60 | |
| Actuated Cycle Length: 47.8 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.63 | |
| Intersection Signal Delay: 12.6 | Intersection LOS: B |
| Intersection Capacity Utilization 69.7% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Sherman Street/Commercial Lots Driveway & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 60 | 128 | 65 | 94 | 156 | 0 | 0 | 141 | 18 |
| Future Volume (vph) | 0 | 0 | 0 | 60 | 128 | 65 | 94 | 156 | 0 | 0 | 141 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 25 | 200 | | 0 | 0 | | 150 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 1 | | 0 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| 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 | | | | | | 0.850 | | | | | | 0.850 |
| Flt Protected | | | | | 0.984 | | 0.950 | | | | | |
| Satd. Flow (prot) | 0 | 0 | 0 | 0 | 1833 | 1583 | 1770 | 1863 | 0 | 0 | 1863 | 1583 |
| Flt Permitted | | | | | 0.984 | | 0.640 | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 0 | 1833 | 1583 | 1192 | 1863 | 0 | 0 | 1863 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 83 | | | | | | 55 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 740 | | | 406 | | | 301 | | | 580 | |
| Travel Time (s) | | 16.8 | | | 9.2 | | | 6.8 | | | 13.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.66 | 0.66 | 0.66 | 0.88 | 0.88 | 0.88 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 0 | 0 | 0 | 91 | 194 | 98 | 107 | 177 | 0 | 0 | 186 | 24 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 285 | 98 | 107 | 177 | 0 | 0 | 186 | 24 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | | | 1 | 2 | 1 | 1 | 2 | | | 2 | 1 |
| Detector Template | | | | Left | Thru | Right | Left | Thru | | | Thru | Right |
| Leading Detector (ft) | | | | 20 | 100 | 20 | 20 | 100 | | | 100 | 20 |
| Trailing Detector (ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Position(ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Size(ft) | | | | 20 | 6 | 20 | 20 | 6 | | | 6 | 20 |
| Detector 1 Type | | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 2 Position(ft) | | | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | | | Perm | NA | Perm | Perm | NA | | | NA | Perm |
| Protected Phases | | | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | 2 | | | | | 6 |

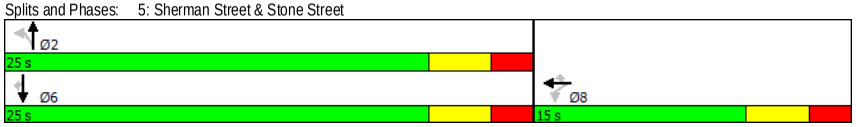




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | | | | 8 | 8 | 8 | 2 | 2 | | | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | | | 21.0 | 21.0 |
| Total Split (s) | | | | 15.0 | 15.0 | 15.0 | 25.0 | 25.0 | | | 25.0 | 25.0 |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 62.5% | 62.5% | | | 62.5% | 62.5% |
| Maximum Green (s) | | | | 10.0 | 10.0 | 10.0 | 20.0 | 20.0 | | | 20.0 | 20.0 |
| Yellow Time (s) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| All-Red Time (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| 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) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | | | | None | None | None | None | None | | | None | None |
| Walk Time (s) | | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | | 5.0 | 5.0 |
| Flash Dont Walk (s) | | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Act Effct Green (s) | | | | | 8.9 | 8.9 | 8.2 | 8.2 | | | 8.2 | 8.2 |
| Actuated g/C Ratio | | | | | 0.34 | 0.34 | 0.31 | 0.31 | | | 0.31 | 0.31 |
| v/c Ratio | | | | | 0.46 | 0.17 | 0.29 | 0.30 | | | 0.32 | 0.05 |
| Control Delay | | | | | 10.5 | 3.8 | 9.6 | 8.9 | | | 9.0 | 1.3 |
| Queue Delay | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | | | | 10.5 | 3.8 | 9.6 | 8.9 | | | 9.0 | 1.3 |
| LOS | | | | | B | A | A | A | | | A | A |
| Approach Delay | | | | | 8.7 | | | 9.2 | | | 8.2 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Cycle Length: 40 | | |
| Actuated Cycle Length: 26.2 | | |
| Natural Cycle: 45 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 0.46 | | |
| Intersection Signal Delay: 8.7 | | Intersection LOS: A |
| Intersection Capacity Utilization 35.2% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |

Splits and Phases: 5: Sherman Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 176 | 26 | 99 | 116 | 223 | 532 | 0 | 0 | 517 | 21 |
| Future Volume (vph) | 5 | 0 | 176 | 26 | 99 | 116 | 223 | 532 | 0 | 0 | 517 | 21 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 300 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 |
| Frt | | 0.868 | | | 0.919 | | | | | | 0.994 | |
| Flt Protected | | 0.999 | | 0.950 | | | | 0.985 | | | | |
| Satd. Flow (prot) | 0 | 1615 | 0 | 1770 | 1712 | 0 | 0 | 3486 | 0 | 0 | 3518 | 0 |
| Flt Permitted | | 0.989 | | 0.575 | | | | 0.660 | | | | |
| Satd. Flow (perm) | 0 | 1599 | 0 | 1071 | 1712 | 0 | 0 | 2336 | 0 | 0 | 3518 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 229 | | | 56 | | | | | | 3 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 316 | | | 740 | | | 422 | | | 720 | |
| Travel Time (s) | | 7.2 | | | 16.8 | | | 9.6 | | | 16.4 | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 |
| Adj. Flow (vph) | 6 | 0 | 229 | 34 | 129 | 151 | 242 | 578 | 0 | 0 | 588 | 24 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 235 | 0 | 34 | 280 | 0 | 0 | 820 | 0 | 0 | 612 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | -10 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | | Perm | NA | | pm+pt | NA | | | NA | |
| Protected Phases | 7 | 4 | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | | | |

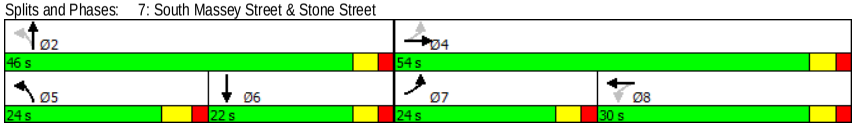




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 9.0 | 21.0 | | 21.0 | 21.0 | | 9.5 | 21.0 | | | 21.0 | |
| Total Split (s) | 24.0 | 54.0 | | 30.0 | 30.0 | | 24.0 | 46.0 | | | 22.0 | |
| Total Split (%) | 24.0% | 54.0% | | 30.0% | 30.0% | | 24.0% | 46.0% | | | 22.0% | |
| Maximum Green (s) | 19.0 | 49.0 | | 25.0 | 25.0 | | 18.5 | 41.0 | | | 17.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.5 | 3.0 | | | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Lead/Lag | Lead | | | Lag | Lag | | Lead | | | | Lag | |
| Lead-Lag Optimize? | Yes | | | Yes | Yes | | Yes | | | | Yes | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | |
| Recall Mode | None | None | | None | None | | None | None | | | None | |
| Walk Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | | 11.0 | 11.0 | | | 11.0 | | | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Act Effct Green (s) | | 14.0 | | 14.0 | 14.0 | | | 28.9 | | | 28.9 | |
| Actuated g/C Ratio | | 0.26 | | 0.26 | 0.26 | | | 0.54 | | | 0.54 | |
| v/c Ratio | | 0.40 | | 0.12 | 0.57 | | | 0.65 | | | 0.32 | |
| Control Delay | | 5.9 | | 19.2 | 20.5 | | | 11.7 | | | 7.4 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 5.9 | | 19.2 | 20.5 | | | 11.7 | | | 7.4 | |
| LOS | | A | | B | C | | | B | | | A | |
| Approach Delay | | 5.9 | | | 20.4 | | | 11.7 | | | 7.4 | |
| Approach LOS | | A | | | C | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: Other | |
| Cycle Length: 100 | |
| Actuated Cycle Length: 53.6 | |
| Natural Cycle: 65 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 11.1 | Intersection LOS: B |
| Intersection Capacity Utilization 64.2% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 7: South Massey Street & Stone Street



# A5

# Level of Service Calculations: Background Conditions

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 60 | 309 | 106 | 0 | 244 | 28 | 119 | 240 | 16 | 425 | 506 | 65 |
| Future Volume (vph) | 60 | 309 | 106 | 0 | 244 | 28 | 119 | 240 | 16 | 425 | 506 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 170 | | 0 | 0 | | 0 | 250 | | 0 | 515 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 25 | | | 100 | | | 130 | | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Frt | | | 0.850 | | 0.986 | | | 0.991 | | | 0.983 | |
| Flt Protected | | 0.992 | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 3511 | 1583 | 0 | 1837 | 0 | 1770 | 3507 | 0 | 1770 | 3479 | 0 |
| Flt Permitted | | 0.695 | | | | | 0.397 | | | 0.351 | | |
| Satd. Flow (perm) | 0 | 2460 | 1583 | 0 | 1837 | 0 | 740 | 3507 | 0 | 654 | 3479 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 403 | | | 250 | | | 720 | | | 474 | |
| Travel Time (s) | | 9.2 | | | 5.7 | | | 16.4 | | | 10.8 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.87 | 0.87 | 0.87 | 0.85 | 0.85 | 0.85 |
| Adj. Flow (vph) | 65 | 336 | 115 | 0 | 271 | 31 | 137 | 276 | 18 | 500 | 595 | 76 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 401 | 115 | 0 | 302 | 0 | 137 | 294 | 0 | 500 | 671 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | Right | | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | | 100 | | 20 | 100 | | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | custom | | NA | | Perm | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | 5 | | 6 | | | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | | 8 | | | 4 | | |

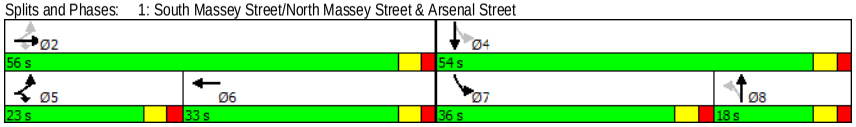




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 5 | 2 | 5 | | 6 | | 8 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 10.0 | 21.0 | 10.0 | | 21.0 | | 21.0 | 21.0 | | 21.0 | 21.0 | |
| Total Split (s) | 23.0 | 56.0 | 23.0 | | 33.0 | | 18.0 | 18.0 | | 36.0 | 54.0 | |
| Total Split (%) | 20.9% | 50.9% | 20.9% | | 30.0% | | 16.4% | 16.4% | | 32.7% | 49.1% | |
| Maximum Green (s) | 18.0 | 51.0 | 18.0 | | 28.0 | | 13.0 | 13.0 | | 31.0 | 49.0 | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | 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 | 5.0 | |
| Lead/Lag | Lead | | Lead | | Lag | | Lag | Lag | | Lead | | |
| Lead-Lag Optimize? | Yes | | Yes | | Yes | | Yes | Yes | | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | None | | None | | None | None | | None | None | |
| Walk Time (s) | | 5.0 | | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | | | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 32.5 | 32.5 | | 19.4 | | 13.6 | 13.6 | | 47.3 | 47.3 | |
| Actuated g/C Ratio | | 0.36 | 0.36 | | 0.21 | | 0.15 | 0.15 | | 0.52 | 0.52 | |
| v/c Ratio | | 0.40 | 0.20 | | 0.77 | | 1.23 | 0.56 | | 0.72 | 0.37 | |
| Control Delay | | 21.1 | 19.6 | | 48.6 | | 200.3 | 44.0 | | 24.6 | 15.7 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay | | 21.1 | 19.6 | | 48.6 | | 200.3 | 44.0 | | 24.6 | 15.7 | |
| LOS | | C | B | | D | | F | D | | C | B | |
| Approach Delay | | 20.8 | | | 48.6 | | | 93.7 | | | 19.5 | |
| Approach LOS | | C | | | D | | | F | | | B | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 110 | |
| Actuated Cycle Length: 90.3 | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.23 | |
| Intersection Signal Delay: 36.6 | Intersection LOS: D |
| Intersection Capacity Utilization 72.2% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 1: South Massey Street/North Massey Street & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 713 | 10 | 1 | 276 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Future Volume (vph) | 1 | 713 | 10 | 1 | 276 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.998 | | | 0.994 | | | 0.865 | | | 0.973 | |
| Flt Protected | | | | | | | | | | | 0.962 | |
| Satd. Flow (prot) | 0 | 3532 | 0 | 0 | 1852 | 0 | 0 | 1611 | 0 | 0 | 1744 | 0 |
| Flt Permitted | | | | | | | | | | | 0.962 | |
| Satd. Flow (perm) | 0 | 3532 | 0 | 0 | 1852 | 0 | 0 | 1611 | 0 | 0 | 1744 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 10 | | | 10 | |
| Link Distance (ft) | | 250 | | | 378 | | | 125 | | | 123 | |
| Travel Time (s) | | 5.7 | | | 8.6 | | | 8.5 | | | 8.4 | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.89 | 0.89 | 0.89 | 0.25 | 0.25 | 0.25 | 0.70 | 0.70 | 0.70 |
| Adj. Flow (vph) | 1 | 829 | 12 | 1 | 310 | 15 | 0 | 0 | 8 | 16 | 0 | 4 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 842 | 0 | 0 | 326 | 0 | 0 | 8 | 0 | 0 | 20 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |
| Intersection Capacity Utilization 34.8% | ICU Level of Service A |
| Analysis Period (min) 15 | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 713 | 10 | 1 | 276 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Future Vol, veh/h | 1 | 713 | 10 | 1 | 276 | 13 | 0 | 0 | 2 | 11 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 89 | 89 | 89 | 25 | 25 | 25 | 70 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 829 | 12 | 1 | 310 | 15 | 0 | 0 | 8 | 16 | 0 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 325 | 0 | 0 | 841 | 0 | 0 | 1159 | 1164 | 420 | 737 | 1163 | 317 |
| Stage 1 | - | - | - | - | - | - | 837 | 837 | - | 320 | 320 | - |
| Stage 2 | - | - | - | - | - | - | 322 | 327 | - | 417 | 843 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1233 | - | - | 792 | - | - | 161 | 194 | 583 | 320 | 194 | 723 |
| Stage 1 | - | - | - | - | - | - | 328 | 381 | - | 691 | 652 | - |
| Stage 2 | - | - | - | - | - | - | 689 | 647 | - | 585 | 379 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1233 | - | - | 792 | - | - | 160 | 193 | 583 | 315 | 193 | 723 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 160 | 193 | - | 315 | 193 | - |
| Stage 1 | - | - | - | - | - | - | 327 | 380 | - | 690 | 651 | - |
| Stage 2 | - | - | - | - | - | - | 684 | 646 | - | 576 | 378 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 11.3 | 15.7 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 583 | 1233 | - | - | 792 | - | - | 358 |
| HCM Lane V/C Ratio | 0.014 | 0.001 | - | - | 0.001 | - | - | 0.056 |
| HCM Control Delay (s) | 11.3 | 7.9 | 0 | - | 9.6 | 0 | - | 15.7 |
| HCM Lane LOS | B | A | A | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 121 | 477 | 138 | 0 | 241 | 44 | 33 | 80 | 23 | 6 | 2 | 9 |
| Future Volume (vph) | 121 | 477 | 138 | 0 | 241 | 44 | 33 | 80 | 23 | 6 | 2 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 100 | 0 | | 120 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.972 | | | | 0.850 | | | 0.850 | | 0.928 | |
| Flt Protected | | 0.992 | | | | | | 0.986 | | | 0.982 | |
| Satd. Flow (prot) | 0 | 3413 | 0 | 0 | 1863 | 1583 | 0 | 1837 | 1583 | 0 | 1698 | 0 |
| Flt Permitted | | 0.832 | | | | | | 0.916 | | | 0.906 | |
| Satd. Flow (perm) | 0 | 2862 | 0 | 0 | 1863 | 1583 | 0 | 1706 | 1583 | 0 | 1566 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 77 | | | | 53 | | | 31 | | 15 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 10 | |
| Link Distance (ft) | | 378 | | | 397 | | | 580 | | | 249 | |
| Travel Time (s) | | 8.6 | | | 9.0 | | | 13.2 | | | 17.0 | |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.83 | 0.83 | 0.83 | 0.74 | 0.74 | 0.74 | 0.60 | 0.60 | 0.60 |
| Adj. Flow (vph) | 142 | 561 | 162 | 0 | 290 | 53 | 45 | 108 | 31 | 10 | 3 | 15 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 865 | 0 | 0 | 290 | 53 | 0 | 153 | 31 | 0 | 28 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | | | 8 | 2 | | 2 | 6 | | |

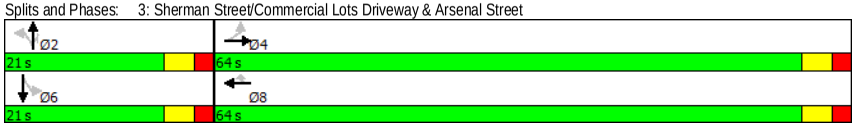




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 64.0 | 64.0 | | | 64.0 | 64.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (%) | 75.3% | 75.3% | | | 75.3% | 75.3% | 24.7% | 24.7% | 24.7% | 24.7% | 24.7% | |
| Maximum Green (s) | 59.0 | 59.0 | | | 59.0 | 59.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| 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) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | | | None | None | Max | Max | Max | Max | Max | |
| Walk Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | | 20.0 | | | 20.0 | 20.0 | | 16.2 | 16.2 | | 16.2 | |
| Actuated g/C Ratio | | 0.43 | | | 0.43 | 0.43 | | 0.35 | 0.35 | | 0.35 | |
| v/c Ratio | | 0.68 | | | 0.36 | 0.07 | | 0.26 | 0.05 | | 0.05 | |
| Control Delay | | 12.2 | | | 9.8 | 2.8 | | 14.1 | 6.3 | | 9.2 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | | 12.2 | | | 9.8 | 2.8 | | 14.1 | 6.3 | | 9.2 | |
| LOS | | B | | | A | A | | B | A | | A | |
| Approach Delay | | 12.2 | | | 8.7 | | | 12.8 | | | 9.2 | |
| Approach LOS | | B | | | A | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 85 | |
| Actuated Cycle Length: 46.3 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 11.4 | Intersection LOS: B |
| Intersection Capacity Utilization 53.7% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Sherman Street/Commercial Lots Driveway & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 9 | 32 | 21 | 34 | 143 | 0 | 0 | 106 | 3 |
| Future Volume (vph) | 0 | 0 | 0 | 9 | 32 | 21 | 34 | 143 | 0 | 0 | 106 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 25 | 200 | | 0 | 0 | | 150 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 1 | | 0 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| 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 | | | | | | 0.850 | | | | | | 0.850 |
| Flt Protected | | | | | 0.989 | | 0.950 | | | | | |
| Satd. Flow (prot) | 0 | 0 | 0 | 0 | 1842 | 1583 | 1770 | 1863 | 0 | 0 | 1863 | 1583 |
| Flt Permitted | | | | | 0.989 | | 0.851 | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 0 | 1842 | 1583 | 1585 | 1863 | 0 | 0 | 1863 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 36 | | | | | | 36 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 740 | | | 406 | | | 301 | | | 580 | |
| Travel Time (s) | | 16.8 | | | 9.2 | | | 6.8 | | | 13.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.87 | 0.87 | 0.87 | 0.77 | 0.77 | 0.77 |
| Adj. Flow (vph) | 0 | 0 | 0 | 10 | 36 | 24 | 39 | 164 | 0 | 0 | 138 | 4 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 46 | 24 | 39 | 164 | 0 | 0 | 138 | 4 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | | | 1 | 2 | 1 | 1 | 2 | | | 2 | 1 |
| Detector Template | | | | Left | Thru | Right | Left | Thru | | | Thru | Right |
| Leading Detector (ft) | | | | 20 | 100 | 20 | 20 | 100 | | | 100 | 20 |
| Trailing Detector (ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Position(ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Size(ft) | | | | 20 | 6 | 20 | 20 | 6 | | | 6 | 20 |
| Detector 1 Type | | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 2 Position(ft) | | | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | | | Perm | NA | Perm | Perm | NA | | | NA | Perm |
| Protected Phases | | | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | 2 | | | | | 6 |

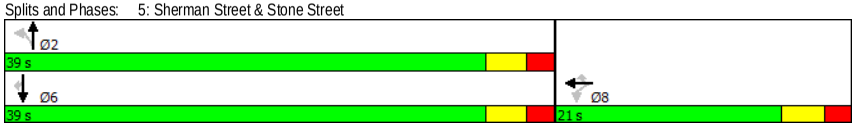




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | | | | 8 | 8 | 8 | 2 | 2 | | | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | | | 21.0 | 21.0 |
| Total Split (s) | | | | 21.0 | 21.0 | 21.0 | 39.0 | 39.0 | | | 39.0 | 39.0 |
| Total Split (%) | | | | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | | | 65.0% | 65.0% |
| Maximum Green (s) | | | | 16.0 | 16.0 | 16.0 | 34.0 | 34.0 | | | 34.0 | 34.0 |
| Yellow Time (s) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| All-Red Time (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| 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) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | | | | None | None | None | None | None | | | None | None |
| Walk Time (s) | | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | | 5.0 | 5.0 |
| Flash Dont Walk (s) | | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Act Effct Green (s) | | | | | 6.7 | 6.7 | 11.1 | 11.1 | | | 9.4 | 9.4 |
| Actuated g/C Ratio | | | | | 0.36 | 0.36 | 0.60 | 0.60 | | | 0.51 | 0.51 |
| v/c Ratio | | | | | 0.07 | 0.04 | 0.04 | 0.15 | | | 0.15 | 0.00 |
| Control Delay | | | | | 6.3 | 2.9 | 4.7 | 4.6 | | | 4.8 | 0.0 |
| Queue Delay | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | | | | 6.3 | 2.9 | 4.7 | 4.6 | | | 4.8 | 0.0 |
| LOS | | | | | A | A | A | A | | | A | A |
| Approach Delay | | | | | 5.1 | | | 4.7 | | | 4.7 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 60 | |
| Actuated Cycle Length: 18.5 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.15 | |
| Intersection Signal Delay: 4.7 | Intersection LOS: A |
| Intersection Capacity Utilization 22.5% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sherman Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 188 | 4 | 38 | 30 | 185 | 345 | 0 | 0 | 613 | 6 |
| Future Volume (vph) | 5 | 0 | 188 | 4 | 38 | 30 | 185 | 345 | 0 | 0 | 613 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 300 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 |
| Frt | | 0.869 | | | 0.934 | | | | | | 0.999 | |
| Flt Protected | | 0.999 | | 0.950 | | | | 0.983 | | | | |
| Satd. Flow (prot) | 0 | 1617 | 0 | 1770 | 1740 | 0 | 0 | 3479 | 0 | 0 | 3536 | 0 |
| Flt Permitted | | 0.987 | | 0.755 | | | | 0.625 | | | | |
| Satd. Flow (perm) | 0 | 1598 | 0 | 1406 | 1740 | 0 | 0 | 2212 | 0 | 0 | 3536 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 251 | | | 33 | | | | | | 2 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 316 | | | 740 | | | 422 | | | 720 | |
| Travel Time (s) | | 7.2 | | | 16.8 | | | 9.6 | | | 16.4 | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 7 | 0 | 251 | 4 | 42 | 33 | 206 | 383 | 0 | 0 | 739 | 7 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 258 | 0 | 4 | 75 | 0 | 0 | 589 | 0 | 0 | 746 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | -10 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | | | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | | | |

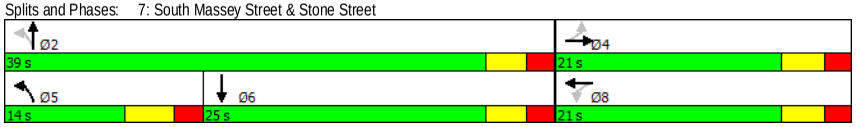




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | 21.0 | 21.0 | | 9.5 | 21.0 | | | 21.0 | |
| Total Split (s) | 21.0 | 21.0 | | 21.0 | 21.0 | | 14.0 | 39.0 | | | 25.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | | 23.3% | 65.0% | | | 41.7% | |
| Maximum Green (s) | 16.0 | 16.0 | | 16.0 | 16.0 | | 8.5 | 34.0 | | | 20.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.5 | 3.0 | | | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | |
| Recall Mode | None | None | | None | None | | None | None | | | None | |
| Walk Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | 11.0 | 11.0 | | | 11.0 | | | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Act Effct Green (s) | | 7.7 | | 7.7 | 7.7 | | | 19.0 | | | 19.0 | |
| Actuated g/C Ratio | | 0.24 | | 0.24 | 0.24 | | | 0.60 | | | 0.60 | |
| v/c Ratio | | 0.44 | | 0.01 | 0.17 | | | 0.44 | | | 0.35 | |
| Control Delay | | 5.7 | | 13.0 | 9.8 | | | 6.9 | | | 5.6 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 5.7 | | 13.0 | 9.8 | | | 6.9 | | | 5.6 | |
| LOS | | A | | B | A | | | A | | | A | |
| Approach Delay | | 5.7 | | | 10.0 | | | 6.9 | | | 5.6 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: Other | |
| Cycle Length: 60 | |
| Actuated Cycle Length: 31.6 | |
| Natural Cycle: 55 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.44 | |
| Intersection Signal Delay: 6.3 | Intersection LOS: A |
| Intersection Capacity Utilization 60.8% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 7: South Massey Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 383 | 178 | 0 | 369 | 68 | 218 | 439 | 16 | 271 | 374 | 137 |
| Future Volume (vph) | 150 | 383 | 178 | 0 | 369 | 68 | 218 | 439 | 16 | 271 | 374 | 137 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 170 | | 0 | 0 | | 0 | 250 | | 0 | 515 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 25 | | | 100 | | | 130 | | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Frt | | | 0.850 | | 0.979 | | | 0.995 | | | 0.960 | |
| Flt Protected | | 0.986 | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 3490 | 1583 | 0 | 1824 | 0 | 1770 | 3522 | 0 | 1770 | 3398 | 0 |
| Flt Permitted | | 0.597 | | | | | 0.345 | | | 0.355 | | |
| Satd. Flow (perm) | 0 | 2113 | 1583 | 0 | 1824 | 0 | 643 | 3522 | 0 | 661 | 3398 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 403 | | | 250 | | | 720 | | | 474 | |
| Travel Time (s) | | 9.2 | | | 5.7 | | | 16.4 | | | 10.8 | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.94 | 0.94 | 0.94 | 0.95 | 0.95 | 0.95 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 165 | 421 | 196 | 0 | 393 | 72 | 229 | 462 | 17 | 301 | 416 | 152 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 586 | 196 | 0 | 465 | 0 | 229 | 479 | 0 | 301 | 568 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | Right | | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | | 100 | | 20 | 100 | | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | | NA | | Perm | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | | 8 | | | 4 | | |

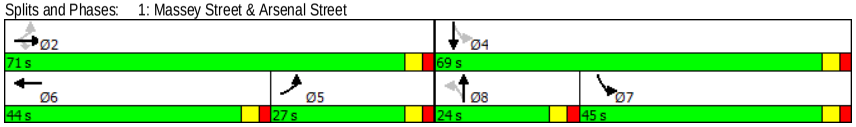




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 5 | 2 | 2 | | 6 | | 8 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 10.0 | 21.0 | 21.0 | | 21.0 | | 21.0 | 21.0 | | 21.0 | 21.0 | |
| Total Split (s) | 27.0 | 71.0 | 71.0 | | 44.0 | | 24.0 | 24.0 | | 45.0 | 69.0 | |
| Total Split (%) | 19.3% | 50.7% | 50.7% | | 31.4% | | 17.1% | 17.1% | | 32.1% | 49.3% | |
| Maximum Green (s) | 22.0 | 66.0 | 66.0 | | 39.0 | | 19.0 | 19.0 | | 40.0 | 64.0 | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | 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 | 5.0 | |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | | Lag | | |
| Lead-Lag Optimize? | Yes | | | | Yes | | Yes | Yes | | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | None | | None | | None | None | | None | None | |
| Walk Time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 36.4 | 36.4 | | 36.4 | | 19.8 | 19.8 | | 43.3 | 43.3 | |
| Actuated g/C Ratio | | 0.40 | 0.40 | | 0.40 | | 0.22 | 0.22 | | 0.48 | 0.48 | |
| v/c Ratio | | 0.69 | 0.31 | | 0.63 | | 1.64 | 0.62 | | 0.55 | 0.35 | |
| Control Delay | | 26.7 | 19.7 | | 25.7 | | 342.2 | 39.5 | | 28.1 | 16.9 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay | | 26.7 | 19.7 | | 25.7 | | 342.2 | 39.5 | | 28.1 | 16.9 | |
| LOS | | C | B | | C | | F | D | | C | B | |
| Approach Delay | | 24.9 | | | 25.7 | | | 137.4 | | | 20.8 | |
| Approach LOS | | C | | | C | | | F | | | C | |

| Intersection Summary | |
|---|---|
| Area Type: Other | |
| Cycle Length: 140 | |
| Actuated Cycle Length: 90.1 | |
| Natural Cycle: 90 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.64 | |
| Intersection Signal Delay: 52.0 | Intersection LOS: D |
| Intersection Capacity Utilization 82.8% | ICU Level of Service E |
| Analysis Period (min) 15 | |

Splits and Phases: 1: Massey Street & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 638 | 2 | 1 | 427 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Future Volume (vph) | 4 | 638 | 2 | 1 | 427 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.992 | | | 0.875 | | | 0.989 | |
| Flt Protected | | | | | | | | 0.996 | | | 0.956 | |
| Satd. Flow (prot) | 0 | 3539 | 0 | 0 | 1848 | 0 | 0 | 1623 | 0 | 0 | 1761 | 0 |
| Flt Permitted | | | | | | | | 0.996 | | | 0.956 | |
| Satd. Flow (perm) | 0 | 3539 | 0 | 0 | 1848 | 0 | 0 | 1623 | 0 | 0 | 1761 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 10 | | | 10 | |
| Link Distance (ft) | | 250 | | | 378 | | | 125 | | | 123 | |
| Travel Time (s) | | 5.7 | | | 8.6 | | | 8.5 | | | 8.4 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.93 | 0.93 | 0.93 | 0.27 | 0.27 | 0.27 | 0.75 | 0.75 | 0.75 |
| Adj. Flow (vph) | 4 | 679 | 2 | 1 | 459 | 30 | 4 | 0 | 48 | 11 | 0 | 1 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 685 | 0 | 0 | 490 | 0 | 0 | 52 | 0 | 0 | 12 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 35.0% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 638 | 2 | 1 | 427 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Future Vol, veh/h | 4 | 638 | 2 | 1 | 427 | 28 | 1 | 0 | 13 | 8 | 0 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 93 | 93 | 93 | 27 | 27 | 27 | 75 | 75 | 75 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 679 | 2 | 1 | 459 | 30 | 4 | 0 | 48 | 11 | 0 | 1 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 489 | 0 | 0 | 681 | 0 | 0 | 1165 | 1179 | 340 | 824 | 1165 | 474 |
| Stage 1 | - | - | - | - | - | - | 688 | 688 | - | 476 | 476 | - |
| Stage 2 | - | - | - | - | - | - | 477 | 491 | - | 348 | 689 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1072 | - | - | 910 | - | - | 160 | 190 | 657 | 278 | 193 | 590 |
| Stage 1 | - | - | - | - | - | - | 403 | 446 | - | 569 | 556 | - |
| Stage 2 | - | - | - | - | - | - | 568 | 547 | - | 642 | 446 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1072 | - | - | 910 | - | - | 159 | 188 | 657 | 256 | 191 | 590 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 159 | 188 | - | 256 | 191 | - |
| Stage 1 | - | - | - | - | - | - | 401 | 443 | - | 566 | 555 | - |
| Stage 2 | - | - | - | - | - | - | 566 | 546 | - | 591 | 443 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | 12.4 | 18.8 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 537 | 1072 | - | - | 910 | - | - | 273 |
| HCM Lane V/C Ratio | 0.097 | 0.004 | - | - | 0.001 | - | - | 0.044 |
| HCM Control Delay (s) | 12.4 | 8.4 | 0 | - | 9 | 0 | - | 18.8 |
| HCM Lane LOS | B | A | A | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 37 | 566 | 108 | 0 | 308 | 9 | 69 | 177 | 34 | 35 | 52 | 71 |
| Future Volume (vph) | 37 | 566 | 108 | 0 | 308 | 9 | 69 | 177 | 34 | 35 | 52 | 71 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 100 | 0 | | 120 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.977 | | | | 0.850 | | | 0.850 | | 0.939 | |
| Flt Protected | | 0.997 | | | | | | 0.986 | | | 0.989 | |
| Satd. Flow (prot) | 0 | 3447 | 0 | 0 | 1863 | 1583 | 0 | 1837 | 1583 | 0 | 1730 | 0 |
| Flt Permitted | | 0.921 | | | | | | 0.844 | | | 0.868 | |
| Satd. Flow (perm) | 0 | 3185 | 0 | 0 | 1863 | 1583 | 0 | 1572 | 1583 | 0 | 1518 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 51 | | | | 36 | | | 44 | | 71 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 10 | |
| Link Distance (ft) | | 378 | | | 397 | | | 580 | | | 249 | |
| Travel Time (s) | | 8.6 | | | 9.0 | | | 13.2 | | | 17.0 | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.78 | 0.78 | 0.78 | 0.58 | 0.58 | 0.58 |
| Adj. Flow (vph) | 43 | 658 | 126 | 0 | 335 | 10 | 88 | 227 | 44 | 60 | 90 | 122 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 827 | 0 | 0 | 335 | 10 | 0 | 315 | 44 | 0 | 272 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | | | 8 | 2 | | 2 | 6 | | |

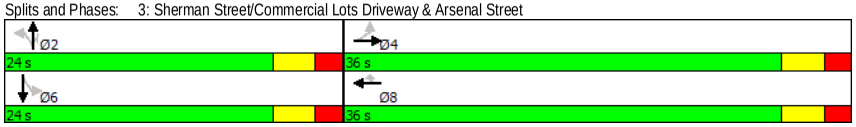




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 36.0 | 36.0 | | | 36.0 | 36.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | |
| Total Split (%) | 60.0% | 60.0% | | | 60.0% | 60.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | |
| Maximum Green (s) | 31.0 | 31.0 | | | 31.0 | 31.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| 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) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | | | None | None | Max | Max | Max | Max | Max | |
| Walk Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | | 19.0 | | | 19.0 | 19.0 | | 19.2 | 19.2 | | 19.2 | |
| Actuated g/C Ratio | | 0.39 | | | 0.39 | 0.39 | | 0.40 | 0.40 | | 0.40 | |
| v/c Ratio | | 0.65 | | | 0.46 | 0.02 | | 0.50 | 0.07 | | 0.42 | |
| Control Delay | | 13.4 | | | 12.6 | 0.7 | | 16.1 | 5.1 | | 11.5 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | | 13.4 | | | 12.6 | 0.7 | | 16.1 | 5.1 | | 11.5 | |
| LOS | | B | | | B | A | | B | A | | B | |
| Approach Delay | | 13.4 | | | 12.3 | | | 14.8 | | | 11.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 60 | |
| Actuated Cycle Length: 48.3 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 13.2 | Intersection LOS: B |
| Intersection Capacity Utilization 75.2% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Sherman Street/Commercial Lots Driveway & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 61 | 130 | 77 | 95 | 185 | 0 | 0 | 156 | 20 |
| Future Volume (vph) | 0 | 0 | 0 | 61 | 130 | 77 | 95 | 185 | 0 | 0 | 156 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 25 | 200 | | 0 | 0 | | 150 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 1 | | 0 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| 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 | | | | | | 0.850 | | | | | | 0.850 |
| Flt Protected | | | | | 0.984 | | 0.950 | | | | | |
| Satd. Flow (prot) | 0 | 0 | 0 | 0 | 1833 | 1583 | 1770 | 1863 | 0 | 0 | 1863 | 1583 |
| Flt Permitted | | | | | 0.984 | | 0.629 | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 0 | 1833 | 1583 | 1172 | 1863 | 0 | 0 | 1863 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 97 | | | | | | 55 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 740 | | | 406 | | | 301 | | | 580 | |
| Travel Time (s) | | 16.8 | | | 9.2 | | | 6.8 | | | 13.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.66 | 0.66 | 0.66 | 0.88 | 0.88 | 0.88 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 0 | 0 | 0 | 92 | 197 | 117 | 108 | 210 | 0 | 0 | 205 | 26 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 289 | 117 | 108 | 210 | 0 | 0 | 205 | 26 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | | | 1 | 2 | 1 | 1 | 2 | | | 2 | 1 |
| Detector Template | | | | Left | Thru | Right | Left | Thru | | | Thru | Right |
| Leading Detector (ft) | | | | 20 | 100 | 20 | 20 | 100 | | | 100 | 20 |
| Trailing Detector (ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Position(ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Size(ft) | | | | 20 | 6 | 20 | 20 | 6 | | | 6 | 20 |
| Detector 1 Type | | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 2 Position(ft) | | | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | | | Perm | NA | Perm | Perm | NA | | | NA | Perm |
| Protected Phases | | | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | 2 | | | | | 6 |

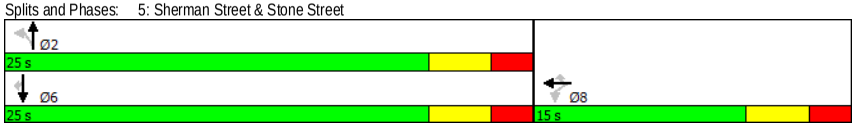




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | | | | 8 | 8 | 8 | 2 | 2 | | | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | | | 21.0 | 21.0 |
| Total Split (s) | | | | 15.0 | 15.0 | 15.0 | 25.0 | 25.0 | | | 25.0 | 25.0 |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 62.5% | 62.5% | | | 62.5% | 62.5% |
| Maximum Green (s) | | | | 10.0 | 10.0 | 10.0 | 20.0 | 20.0 | | | 20.0 | 20.0 |
| Yellow Time (s) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| All-Red Time (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| 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) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | | | | None | None | None | None | None | | | None | None |
| Walk Time (s) | | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | | 5.0 | 5.0 |
| Flash Dont Walk (s) | | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Act Effct Green (s) | | | | | 9.0 | 9.0 | 8.6 | 8.6 | | | 8.6 | 8.6 |
| Actuated g/C Ratio | | | | | 0.34 | 0.34 | 0.32 | 0.32 | | | 0.32 | 0.32 |
| v/c Ratio | | | | | 0.47 | 0.20 | 0.29 | 0.35 | | | 0.34 | 0.05 |
| Control Delay | | | | | 10.8 | 3.9 | 9.5 | 9.2 | | | 9.1 | 1.4 |
| Queue Delay | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | | | | 10.8 | 3.9 | 9.5 | 9.2 | | | 9.1 | 1.4 |
| LOS | | | | | B | A | A | A | | | A | A |
| Approach Delay | | | | | 8.8 | | | 9.3 | | | 8.3 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Cycle Length: 40 | | |
| Actuated Cycle Length: 26.5 | | |
| Natural Cycle: 45 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 0.47 | | |
| Intersection Signal Delay: 8.8 | | Intersection LOS: A |
| Intersection Capacity Utilization 36.2% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |

Splits and Phases: 5: Sherman Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 178 | 26 | 102 | 117 | 226 | 539 | 0 | 0 | 523 | 21 |
| Future Volume (vph) | 5 | 0 | 178 | 26 | 102 | 117 | 226 | 539 | 0 | 0 | 523 | 21 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 300 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 |
| Frt | | 0.868 | | | 0.920 | | | | | | 0.994 | |
| Flt Protected | | 0.999 | | 0.950 | | | | 0.985 | | | | |
| Satd. Flow (prot) | 0 | 1615 | 0 | 1770 | 1714 | 0 | 0 | 3486 | 0 | 0 | 3518 | 0 |
| Flt Permitted | | 0.989 | | 0.567 | | | | 0.657 | | | | |
| Satd. Flow (perm) | 0 | 1599 | 0 | 1056 | 1714 | 0 | 0 | 2325 | 0 | 0 | 3518 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 231 | | | 55 | | | | | | 3 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 316 | | | 740 | | | 422 | | | 720 | |
| Travel Time (s) | | 7.2 | | | 16.8 | | | 9.6 | | | 16.4 | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 |
| Adj. Flow (vph) | 6 | 0 | 231 | 34 | 132 | 152 | 246 | 586 | 0 | 0 | 594 | 24 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 237 | 0 | 34 | 284 | 0 | 0 | 832 | 0 | 0 | 618 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | -10 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | | Perm | NA | | pm+pt | NA | | | NA | |
| Protected Phases | 7 | 4 | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | | | |

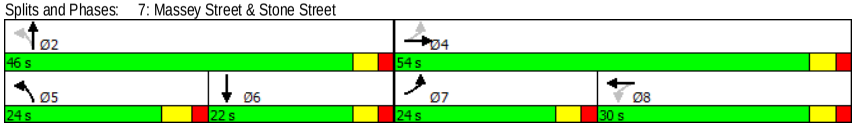




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 9.0 | 21.0 | | 21.0 | 21.0 | | 9.5 | 21.0 | | | 21.0 | |
| Total Split (s) | 24.0 | 54.0 | | 30.0 | 30.0 | | 24.0 | 46.0 | | | 22.0 | |
| Total Split (%) | 24.0% | 54.0% | | 30.0% | 30.0% | | 24.0% | 46.0% | | | 22.0% | |
| Maximum Green (s) | 19.0 | 49.0 | | 25.0 | 25.0 | | 18.5 | 41.0 | | | 17.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.5 | 3.0 | | | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Lead/Lag | Lead | | | Lag | Lag | | Lead | | | | Lag | |
| Lead-Lag Optimize? | Yes | | | Yes | Yes | | Yes | | | | Yes | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | |
| Recall Mode | None | None | | None | None | | None | None | | | None | |
| Walk Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | | 11.0 | 11.0 | | | 11.0 | | | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Act Effct Green (s) | | 14.2 | | 14.2 | 14.2 | | | 29.5 | | | 29.5 | |
| Actuated g/C Ratio | | 0.26 | | 0.26 | 0.26 | | | 0.54 | | | 0.54 | |
| v/c Ratio | | 0.40 | | 0.12 | 0.58 | | | 0.66 | | | 0.32 | |
| Control Delay | | 5.8 | | 19.3 | 21.0 | | | 12.0 | | | 7.4 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 5.8 | | 19.3 | 21.0 | | | 12.0 | | | 7.4 | |
| LOS | | A | | B | C | | | B | | | A | |
| Approach Delay | | 5.8 | | | 20.8 | | | 12.0 | | | 7.4 | |
| Approach LOS | | A | | | C | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: Other | |
| Cycle Length: 100 | |
| Actuated Cycle Length: 54.3 | |
| Natural Cycle: 65 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 11.2 | Intersection LOS: B |
| Intersection Capacity Utilization 64.8% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 7: Massey Street & Stone Street



# A6

## Level of Service Calculations: Full Development Conditions

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 60 | 321 | 109 | 0 | 247 | 30 | 125 | 246 | 16 | 440 | 521 | 65 |
| Future Volume (vph) | 60 | 321 | 109 | 0 | 247 | 30 | 125 | 246 | 16 | 440 | 521 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 170 | | 0 | 0 | | 0 | 250 | | 0 | 515 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 25 | | | 100 | | | 130 | | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Frt | | | 0.850 | | 0.985 | | | 0.991 | | | 0.983 | |
| Flt Protected | | 0.992 | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 3511 | 1583 | 0 | 1835 | 0 | 1770 | 3507 | 0 | 1770 | 3479 | 0 |
| Flt Permitted | | 0.692 | | | | | 0.390 | | | 0.337 | | |
| Satd. Flow (perm) | 0 | 2449 | 1583 | 0 | 1835 | 0 | 726 | 3507 | 0 | 628 | 3479 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 403 | | | 250 | | | 152 | | | 474 | |
| Travel Time (s) | | 9.2 | | | 5.7 | | | 3.5 | | | 10.8 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.87 | 0.87 | 0.87 | 0.85 | 0.85 | 0.85 |
| Adj. Flow (vph) | 65 | 349 | 118 | 0 | 274 | 33 | 144 | 283 | 18 | 518 | 613 | 76 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 414 | 118 | 0 | 307 | 0 | 144 | 301 | 0 | 518 | 689 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | Right | | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | | 100 | | 20 | 100 | | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | custom | | NA | | Perm | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | 5 | | 6 | | | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | | 8 | | | 4 | | |

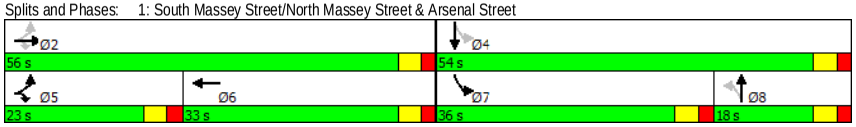




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 5 | 2 | 5 | | 6 | | 8 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 10.0 | 21.0 | 10.0 | | 21.0 | | 21.0 | 21.0 | | 21.0 | 21.0 | |
| Total Split (s) | 23.0 | 56.0 | 23.0 | | 33.0 | | 18.0 | 18.0 | | 36.0 | 54.0 | |
| Total Split (%) | 20.9% | 50.9% | 20.9% | | 30.0% | | 16.4% | 16.4% | | 32.7% | 49.1% | |
| Maximum Green (s) | 18.0 | 51.0 | 18.0 | | 28.0 | | 13.0 | 13.0 | | 31.0 | 49.0 | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | 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 | 5.0 | |
| Lead/Lag | Lead | | Lead | | Lag | | Lag | Lag | | Lead | | |
| Lead-Lag Optimize? | Yes | | Yes | | Yes | | Yes | Yes | | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | None | | None | | None | None | | None | None | |
| Walk Time (s) | | 5.0 | | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | | | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | | | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 33.2 | 33.2 | | 19.9 | | 13.5 | 13.5 | | 48.2 | 48.2 | |
| Actuated g/C Ratio | | 0.36 | 0.36 | | 0.22 | | 0.15 | 0.15 | | 0.53 | 0.53 | |
| v/c Ratio | | 0.42 | 0.21 | | 0.77 | | 1.36 | 0.58 | | 0.74 | 0.38 | |
| Control Delay | | 21.4 | 19.8 | | 49.3 | | 244.6 | 45.3 | | 26.0 | 16.0 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay | | 21.4 | 19.8 | | 49.3 | | 244.6 | 45.3 | | 26.0 | 16.0 | |
| LOS | | C | B | | D | | F | D | | C | B | |
| Approach Delay | | 21.0 | | | 49.3 | | | 109.8 | | | 20.3 | |
| Approach LOS | | C | | | D | | | F | | | C | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 110 | |
| Actuated Cycle Length: 91.8 | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.36 | |
| Intersection Signal Delay: 40.0 | Intersection LOS: D |
| Intersection Capacity Utilization 73.8% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 1: South Massey Street/North Massey Street & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 713 | 27 | 8 | 280 | 13 | 1 | 0 | 2 | 11 | 0 | 3 |
| Future Volume (vph) | 1 | 713 | 27 | 8 | 280 | 13 | 1 | 0 | 2 | 11 | 0 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.995 | | | 0.994 | | | 0.910 | | | 0.973 | |
| Flt Protected | | | | | 0.999 | | | 0.984 | | | 0.962 | |
| Satd. Flow (prot) | 0 | 3522 | 0 | 0 | 1850 | 0 | 0 | 1668 | 0 | 0 | 1744 | 0 |
| Flt Permitted | | | | | 0.999 | | | 0.984 | | | 0.962 | |
| Satd. Flow (perm) | 0 | 3522 | 0 | 0 | 1850 | 0 | 0 | 1668 | 0 | 0 | 1744 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 10 | | | 10 | |
| Link Distance (ft) | | 250 | | | 378 | | | 125 | | | 123 | |
| Travel Time (s) | | 5.7 | | | 8.6 | | | 8.5 | | | 8.4 | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.89 | 0.89 | 0.89 | 0.25 | 0.25 | 0.25 | 0.70 | 0.70 | 0.70 |
| Adj. Flow (vph) | 1 | 829 | 31 | 9 | 315 | 15 | 4 | 0 | 8 | 16 | 0 | 4 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 861 | 0 | 0 | 339 | 0 | 0 | 12 | 0 | 0 | 20 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 32.0% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 713 | 27 | 8 | 280 | 13 | 1 | 0 | 2 | 11 | 0 | 3 |
| Future Vol, veh/h | 1 | 713 | 27 | 8 | 280 | 13 | 1 | 0 | 2 | 11 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 89 | 89 | 89 | 25 | 25 | 25 | 70 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 829 | 31 | 9 | 315 | 15 | 4 | 0 | 8 | 16 | 0 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 329 | 0 | 0 | 860 | 0 | 0 | 1189 | 1194 | 430 | 757 | 1203 | 322 |
| Stage 1 | - | - | - | - | - | - | 847 | 847 | - | 340 | 340 | - |
| Stage 2 | - | - | - | - | - | - | 342 | 347 | - | 417 | 863 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1229 | - | - | 779 | - | - | 154 | 186 | 574 | 310 | 184 | 718 |
| Stage 1 | - | - | - | - | - | - | 324 | 377 | - | 674 | 639 | - |
| Stage 2 | - | - | - | - | - | - | 672 | 634 | - | 585 | 371 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1229 | - | - | 779 | - | - | 151 | 183 | 574 | 302 | 181 | 718 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 151 | 183 | - | 302 | 181 | - |
| Stage 1 | - | - | - | - | - | - | 323 | 376 | - | 673 | 630 | - |
| Stage 2 | - | - | - | - | - | - | 659 | 625 | - | 576 | 370 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 17.6 | 16.1 |
| HCM LOS | | | C | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 297 | 1229 | - | - | 779 | - | - | 345 |
| HCM Lane V/C Ratio | 0.04 | 0.001 | - | - | 0.012 | - | - | 0.058 |
| HCM Control Delay (s) | 17.6 | 7.9 | 0 | - | 9.7 | 0 | - | 16.1 |
| HCM Lane LOS | C | A | A | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0.2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 121 | 479 | 138 | 0 | 249 | 44 | 37 | 83 | 32 | 6 | 2 | 9 |
| Future Volume (vph) | 121 | 479 | 138 | 0 | 249 | 44 | 37 | 83 | 32 | 6 | 2 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 100 | 0 | | 120 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.972 | | | | 0.850 | | | 0.850 | | 0.928 | |
| Flt Protected | | 0.992 | | | | | | 0.985 | | | 0.982 | |
| Satd. Flow (prot) | 0 | 3413 | 0 | 0 | 1863 | 1583 | 0 | 1835 | 1583 | 0 | 1698 | 0 |
| Flt Permitted | | 0.828 | | | | | | 0.910 | | | 0.904 | |
| Satd. Flow (perm) | 0 | 2848 | 0 | 0 | 1863 | 1583 | 0 | 1695 | 1583 | 0 | 1563 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 76 | | | | 53 | | | 43 | | 15 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 10 | |
| Link Distance (ft) | | 378 | | | 397 | | | 368 | | | 249 | |
| Travel Time (s) | | 8.6 | | | 9.0 | | | 8.4 | | | 17.0 | |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.83 | 0.83 | 0.83 | 0.74 | 0.74 | 0.74 | 0.60 | 0.60 | 0.60 |
| Adj. Flow (vph) | 142 | 564 | 162 | 0 | 300 | 53 | 50 | 112 | 43 | 10 | 3 | 15 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 868 | 0 | 0 | 300 | 53 | 0 | 162 | 43 | 0 | 28 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | | | 8 | 2 | | 2 | 6 | | |

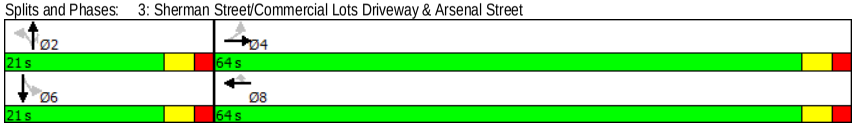




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 64.0 | 64.0 | | | 64.0 | 64.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (%) | 75.3% | 75.3% | | | 75.3% | 75.3% | 24.7% | 24.7% | 24.7% | 24.7% | 24.7% | |
| Maximum Green (s) | 59.0 | 59.0 | | | 59.0 | 59.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| 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) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | | | None | None | Max | Max | Max | Max | Max | |
| Walk Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | | 20.1 | | | 20.1 | 20.1 | | 16.2 | 16.2 | | 16.2 | |
| Actuated g/C Ratio | | 0.43 | | | 0.43 | 0.43 | | 0.35 | 0.35 | | 0.35 | |
| v/c Ratio | | 0.68 | | | 0.37 | 0.07 | | 0.27 | 0.07 | | 0.05 | |
| Control Delay | | 12.3 | | | 9.9 | 2.7 | | 14.4 | 5.7 | | 9.4 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | | 12.3 | | | 9.9 | 2.7 | | 14.4 | 5.7 | | 9.4 | |
| LOS | | B | | | A | A | | B | A | | A | |
| Approach Delay | | 12.3 | | | 8.8 | | | 12.6 | | | 9.4 | |
| Approach LOS | | B | | | A | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 85 | |
| Actuated Cycle Length: 46.4 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 11.4 | Intersection LOS: B |
| Intersection Capacity Utilization 54.8% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Sherman Street/Commercial Lots Driveway & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 9 | 33 | 24 | 34 | 148 | 0 | 0 | 109 | 3 |
| Future Volume (vph) | 0 | 0 | 0 | 9 | 33 | 24 | 34 | 148 | 0 | 0 | 109 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 25 | 200 | | 0 | 0 | | 150 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 1 | | 0 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| 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 | | | | | | 0.850 | | | | | | 0.850 |
| Flt Protected | | | | | 0.990 | | 0.950 | | | | | |
| Satd. Flow (prot) | 0 | 0 | 0 | 0 | 1844 | 1583 | 1770 | 1863 | 0 | 0 | 1863 | 1583 |
| Flt Permitted | | | | | 0.990 | | 0.833 | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 0 | 1844 | 1583 | 1552 | 1863 | 0 | 0 | 1863 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 36 | | | | | | 36 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 305 | | | 406 | | | 301 | | | 212 | |
| Travel Time (s) | | 6.9 | | | 9.2 | | | 6.8 | | | 4.8 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.87 | 0.87 | 0.87 | 0.77 | 0.77 | 0.77 |
| Adj. Flow (vph) | 0 | 0 | 0 | 10 | 38 | 27 | 39 | 170 | 0 | 0 | 142 | 4 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 27 | 39 | 170 | 0 | 0 | 142 | 4 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | | | 1 | 2 | 1 | 1 | 2 | | | 2 | 1 |
| Detector Template | | | | Left | Thru | Right | Left | Thru | | | Thru | Right |
| Leading Detector (ft) | | | | 20 | 100 | 20 | 20 | 100 | | | 100 | 20 |
| Trailing Detector (ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Position(ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Size(ft) | | | | 20 | 6 | 20 | 20 | 6 | | | 6 | 20 |
| Detector 1 Type | | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 2 Position(ft) | | | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | | | Perm | NA | Perm | Perm | NA | | | NA | Perm |
| Protected Phases | | | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | 2 | | | | | 6 |

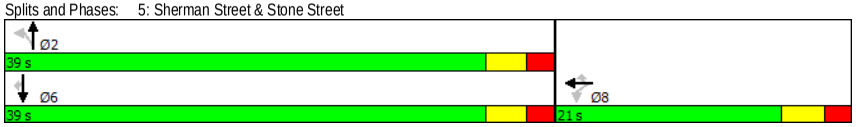




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | | | | 8 | 8 | 8 | 2 | 2 | | | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | | | 21.0 | 21.0 |
| Total Split (s) | | | | 21.0 | 21.0 | 21.0 | 39.0 | 39.0 | | | 39.0 | 39.0 |
| Total Split (%) | | | | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | | | 65.0% | 65.0% |
| Maximum Green (s) | | | | 16.0 | 16.0 | 16.0 | 34.0 | 34.0 | | | 34.0 | 34.0 |
| Yellow Time (s) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| All-Red Time (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| 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) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | | | | None | None | None | None | None | | | None | None |
| Walk Time (s) | | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | | 5.0 | 5.0 |
| Flash Dont Walk (s) | | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Act Effct Green (s) | | | | | 6.8 | 6.8 | 9.5 | 9.5 | | | 9.4 | 9.4 |
| Actuated g/C Ratio | | | | | 0.37 | 0.37 | 0.52 | 0.52 | | | 0.51 | 0.51 |
| v/c Ratio | | | | | 0.07 | 0.04 | 0.05 | 0.18 | | | 0.15 | 0.00 |
| Control Delay | | | | | 6.4 | 3.2 | 4.8 | 4.9 | | | 4.8 | 0.0 |
| Queue Delay | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | | | | 6.4 | 3.2 | 4.8 | 4.9 | | | 4.8 | 0.0 |
| LOS | | | | | A | A | A | A | | | A | A |
| Approach Delay | | | | | 5.2 | | | 4.8 | | | 4.6 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Cycle Length: 60 | | |
| Actuated Cycle Length: 18.4 | | |
| Natural Cycle: 45 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 0.18 | | |
| Intersection Signal Delay: 4.8 | | Intersection LOS: A |
| Intersection Capacity Utilization 22.5% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |

Splits and Phases: 5: Sherman Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 11 | 0 | 188 | 18 | 42 | 36 | 185 | 363 | 0 | 0 | 615 | 7 |
| Future Volume (vph) | 11 | 0 | 188 | 18 | 42 | 36 | 185 | 363 | 0 | 0 | 615 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 300 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 |
| Frt | | 0.873 | | | 0.931 | | | | | | 0.998 | |
| Flt Protected | | 0.997 | | 0.950 | | | | 0.983 | | | | |
| Satd. Flow (prot) | 0 | 1621 | 0 | 1770 | 1734 | 0 | 0 | 3479 | 0 | 0 | 3532 | 0 |
| Flt Permitted | | 0.975 | | 0.650 | | | | 0.629 | | | | |
| Satd. Flow (perm) | 0 | 1586 | 0 | 1211 | 1734 | 0 | 0 | 2226 | 0 | 0 | 3532 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 251 | | | 40 | | | | | | 2 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 316 | | | 435 | | | 422 | | | 304 | |
| Travel Time (s) | | 7.2 | | | 9.9 | | | 9.6 | | | 6.9 | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 15 | 0 | 251 | 20 | 47 | 40 | 206 | 403 | 0 | 0 | 741 | 8 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 266 | 0 | 20 | 87 | 0 | 0 | 609 | 0 | 0 | 749 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 12 | | | 0 | | | 0 | |
| Link Offset(ft) | | -10 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | | | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | | | |

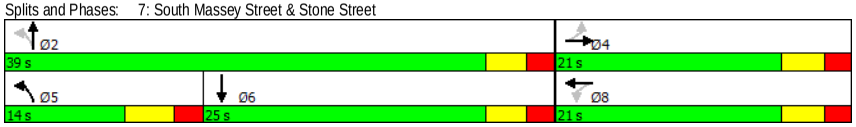




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | 21.0 | 21.0 | | 9.5 | 21.0 | | | 21.0 | |
| Total Split (s) | 21.0 | 21.0 | | 21.0 | 21.0 | | 14.0 | 39.0 | | | 25.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | | 23.3% | 65.0% | | | 41.7% | |
| Maximum Green (s) | 16.0 | 16.0 | | 16.0 | 16.0 | | 8.5 | 34.0 | | | 20.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.5 | 3.0 | | | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | |
| Recall Mode | None | None | | None | None | | None | None | | | None | |
| Walk Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | 11.0 | 11.0 | | | 11.0 | | | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Act Effct Green (s) | | 7.4 | | 7.4 | 7.4 | | | 16.7 | | | 16.7 | |
| Actuated g/C Ratio | | 0.21 | | 0.21 | 0.21 | | | 0.48 | | | 0.48 | |
| v/c Ratio | | 0.50 | | 0.08 | 0.22 | | | 0.57 | | | 0.44 | |
| Control Delay | | 6.8 | | 14.2 | 10.2 | | | 8.7 | | | 6.6 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 6.8 | | 14.2 | 10.2 | | | 8.7 | | | 6.6 | |
| LOS | | A | | B | B | | | A | | | A | |
| Approach Delay | | 6.8 | | | 10.9 | | | 8.7 | | | 6.6 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 60 | |
| Actuated Cycle Length: 34.6 | |
| Natural Cycle: 55 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.57 | |
| Intersection Signal Delay: 7.6 | Intersection LOS: A |
| Intersection Capacity Utilization 64.0% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 7: South Massey Street & Stone Street



| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2 | 3 | 404 | 7 | 3 | 620 |
| Future Volume (vph) | 2 | 3 | 404 | 7 | 3 | 620 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 0.95 |
| Frt | 0.923 | | 0.997 | | | |
| Flt Protected | 0.979 | | | | | |
| Satd. Flow (prot) | 1683 | 0 | 3529 | 0 | 0 | 3539 |
| Flt Permitted | 0.979 | | | | | |
| Satd. Flow (perm) | 1683 | 0 | 3529 | 0 | 0 | 3539 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 187 | | 304 | | | 264 |
| Travel Time (s) | 4.3 | | 6.9 | | | 6.0 |
| Peak Hour Factor | 0.75 | 0.75 | 0.90 | 0.90 | 0.83 | 0.83 |
| Adj. Flow (vph) | 3 | 4 | 449 | 8 | 4 | 747 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 7 | 0 | 457 | 0 | 0 | 751 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 12 | | 0 | | | 0 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 29.2% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 3 | 404 | 7 | 3 | 620 |
| Future Vol, veh/h | 2 | 3 | 404 | 7 | 3 | 620 |
| 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 | 75 | 75 | 90 | 90 | 83 | 83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 4 | 449 | 8 | 4 | 747 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 834 | 228 | 0 | 0 | 457 | 0 |
| Stage 1 | 453 | - | - | - | - | - |
| Stage 2 | 381 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 307 | 775 | - | - | 1100 | - |
| Stage 1 | 607 | - | - | - | - | - |
| Stage 2 | 660 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 305 | 775 | - | - | 1100 | - |
| Mov Cap-2 Maneuver | 305 | - | - | - | - | - |
| Stage 1 | 607 | - | - | - | - | - |
| Stage 2 | 656 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12.6 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 479 | 1100 | - |
| HCM Lane V/C Ratio | - | - | 0.014 | 0.003 | - |
| HCM Control Delay (s) | - | - | 12.6 | 8.3 | 0 |
| HCM Lane LOS | - | - | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0 | 0 | - |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1 | 3 | 390 | 17 | 16 | 622 |
| Future Volume (vph) | 1 | 3 | 390 | 17 | 16 | 622 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | 0.91 | 0.95 | 0.95 |
| Frt | 0.892 | | 0.994 | | | |
| Flt Protected | 0.990 | | | | | 0.999 |
| Satd. Flow (prot) | 1645 | 0 | 5055 | 0 | 0 | 3536 |
| Flt Permitted | 0.990 | | | | | 0.999 |
| Satd. Flow (perm) | 1645 | 0 | 5055 | 0 | 0 | 3536 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 182 | | 264 | | | 152 |
| Travel Time (s) | 4.1 | | 6.0 | | | 3.5 |
| Peak Hour Factor | 0.75 | 0.75 | 0.90 | 0.90 | 0.83 | 0.83 |
| Adj. Flow (vph) | 1 | 4 | 433 | 19 | 19 | 749 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 5 | 0 | 452 | 0 | 0 | 768 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 12 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 38.7% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 390 | 17 | 16 | 622 |
| Future Vol, veh/h | 1 | 3 | 390 | 17 | 16 | 622 |
| 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 | 75 | 75 | 90 | 90 | 83 | 83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 4 | 433 | 19 | 19 | 749 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 856 | 226 | 0 | 0 | 452 | 0 |
| Stage 1 | 443 | - | - | - | - | - |
| Stage 2 | 413 | - | - | - | - | - |
| Critical Hdwy | 6.29 | 7.14 | - | - | 5.34 | - |
| Critical Hdwy Stg 1 | 6.64 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.67 | 3.92 | - | - | 3.12 | - |
| Pot Cap-1 Maneuver | 330 | 662 | - | - | 713 | - |
| Stage 1 | 538 | - | - | - | - | - |
| Stage 2 | 615 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 315 | 662 | - | - | 713 | - |
| Mov Cap-2 Maneuver | 315 | - | - | - | - | - |
| Stage 1 | 538 | - | - | - | - | - |
| Stage 2 | 587 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 12 | 0 | 0.5 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 519 | 713 | - |
| HCM Lane V/C Ratio | - | - | 0.01 | 0.027 | - |
| HCM Control Delay (s) | - | - | 12 | 10.2 | 0.2 |
| HCM Lane LOS | - | - | B | B | A |
| HCM 95th %tile Q(veh) | - | - | 0 | 0.1 | - |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 3 | 8 | 164 | 109 | 0 |
| Future Volume (vph) | 16 | 3 | 8 | 164 | 109 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.980 | | | | | |
| Flt Protected | 0.959 | | | 0.998 | | |
| Satd. Flow (prot) | 1751 | 0 | 0 | 1859 | 1863 | 0 |
| Flt Permitted | 0.959 | | | 0.998 | | |
| Satd. Flow (perm) | 1751 | 0 | 0 | 1859 | 1863 | 0 |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 158 | | | 212 | 368 | |
| Travel Time (s) | 3.6 | | | 4.8 | 8.4 | |
| Peak Hour Factor | 0.70 | 0.70 | 0.87 | 0.87 | 0.77 | 0.77 |
| Adj. Flow (vph) | 23 | 4 | 9 | 189 | 142 | 0 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 27 | 0 | 0 | 198 | 142 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(ft) | 12 | | | 0 | 0 | |
| Link Offset(ft) | 0 | | | 0 | 0 | |
| Crosswalk Width(ft) | 16 | | | 16 | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 9 | 15 | | | 9 |
| Sign Control | Stop | | | Free | Free | |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 25.1% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 16 | 3 | 8 | 164 | 109 | 0 |
| Future Vol, veh/h | 16 | 3 | 8 | 164 | 109 | 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 | 70 | 70 | 87 | 87 | 77 | 77 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 23 | 4 | 9 | 189 | 142 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 349 | 142 | 142 | 0 | - | 0 |
| Stage 1 | 142 | - | - | - | - | - |
| Stage 2 | 207 | - | - | - | - | - |
| 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 | 648 | 906 | 1441 | - | - | - |
| Stage 1 | 885 | - | - | - | - | - |
| Stage 2 | 828 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 643 | 906 | 1441 | - | - | - |
| Mov Cap-2 Maneuver | 643 | - | - | - | - | - |
| Stage 1 | 885 | - | - | - | - | - |
| Stage 2 | 822 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.6 | 0.3 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1441 | - | 674 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | 0.04 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | 10.6 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 70 | 1 | 0 | 25 |
| Future Volume (vph) | 0 | 0 | 70 | 1 | 0 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 |
| Frt | | | 0.998 | | | 0.865 |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 0 | 0 | 3532 | 0 | 0 | 1611 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 0 | 0 | 3532 | 0 | 0 | 1611 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 435 | 305 | | 141 | |
| Travel Time (s) | | 9.9 | 6.9 | | 3.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.88 | 0.88 | 0.70 | 0.70 |
| Adj. Flow (vph) | 0 | 0 | 80 | 1 | 0 | 36 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 81 | 0 | 0 | 36 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 0 | 0 | | 0 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |
| Intersection Capacity Utilization 13.3% | ICU Level of Service A |
| Analysis Period (min) 15 | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 2.7 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 70 | 1 | 0 | 25 |
| Future Vol, veh/h | 0 | 0 | 70 | 1 | 0 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 88 | 88 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 80 | 1 | 0 | 36 |

| Major/Minor | Major2 | | Minor2 | |
|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 40 |
| Stage 1 | - | - | - | - |
| Stage 2 | - | - | - | - |
| Critical Hdwy | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - |
| Follow-up Hdwy | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | - | - | 0 | 1022 |
| Stage 1 | - | - | 0 | - |
| Stage 2 | - | - | 0 | - |
| Platoon blocked, % | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | 1022 |
| Mov Cap-2 Maneuver | - | - | - | - |
| Stage 1 | - | - | - | - |
| Stage 2 | - | - | - | - |

| Approach | WB | SB |
|---|---|---|
| HCM Control Delay, s | 0 | 8.7 |
| HCM LOS | | A |

| Minor Lane/Major Mvmt | WBT | WBR | SBLn1 |
|---|---|---|---|
| Capacity (veh/h) | - | - | 1022 |
| HCM Lane V/C Ratio | - | - | 0.035 |
| HCM Control Delay (s) | - | - | 8.7 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 389 | 186 | 0 | 380 | 73 | 232 | 461 | 16 | 277 | 387 | 137 |
| Future Volume (vph) | 150 | 389 | 186 | 0 | 380 | 73 | 232 | 461 | 16 | 277 | 387 | 137 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 170 | | 0 | 0 | | 0 | 250 | | 0 | 515 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 25 | | | 100 | | | 130 | | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Frt | | | 0.850 | | 0.978 | | | 0.995 | | | 0.961 | |
| Flt Protected | | 0.986 | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 3490 | 1583 | 0 | 1822 | 0 | 1770 | 3522 | 0 | 1770 | 3401 | 0 |
| Flt Permitted | | 0.588 | | | | | 0.329 | | | 0.328 | | |
| Satd. Flow (perm) | 0 | 2081 | 1583 | 0 | 1822 | 0 | 613 | 3522 | 0 | 611 | 3401 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 403 | | | 250 | | | 166 | | | 474 | |
| Travel Time (s) | | 9.2 | | | 5.7 | | | 3.8 | | | 10.8 | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.94 | 0.94 | 0.94 | 0.95 | 0.95 | 0.95 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 165 | 427 | 204 | 0 | 404 | 78 | 244 | 485 | 17 | 308 | 430 | 152 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 592 | 204 | 0 | 482 | 0 | 244 | 502 | 0 | 308 | 582 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | Right | | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | | 100 | | 20 | 100 | | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | | NA | | Perm | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | | | | 8 | | | 4 | | |

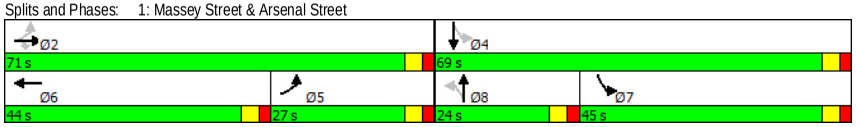




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 5 | 2 | 2 | | 6 | | 8 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 10.0 | 21.0 | 21.0 | | 21.0 | | 21.0 | 21.0 | | 21.0 | 21.0 | |
| Total Split (s) | 27.0 | 71.0 | 71.0 | | 44.0 | | 24.0 | 24.0 | | 45.0 | 69.0 | |
| Total Split (%) | 19.3% | 50.7% | 50.7% | | 31.4% | | 17.1% | 17.1% | | 32.1% | 49.3% | |
| Maximum Green (s) | 22.0 | 66.0 | 66.0 | | 39.0 | | 19.0 | 19.0 | | 40.0 | 64.0 | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | 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 | 5.0 | |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | | Lag | | |
| Lead-Lag Optimize? | Yes | | | | Yes | | Yes | Yes | | Yes | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | None | | None | | None | None | | None | None | |
| Walk Time (s) | | 5.0 | 5.0 | | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 37.5 | 37.5 | | 37.5 | | 19.8 | 19.8 | | 44.3 | 44.3 | |
| Actuated g/C Ratio | | 0.41 | 0.41 | | 0.41 | | 0.21 | 0.21 | | 0.48 | 0.48 | |
| v/c Ratio | | 0.70 | 0.32 | | 0.65 | | 1.86 | 0.67 | | 0.57 | 0.36 | |
| Control Delay | | 27.6 | 20.1 | | 26.7 | | 441.5 | 41.7 | | 29.7 | 17.3 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay | | 27.6 | 20.1 | | 26.7 | | 441.5 | 41.7 | | 29.7 | 17.3 | |
| LOS | | C | C | | C | | F | D | | C | B | |
| Approach Delay | | 25.7 | | | 26.7 | | | 172.4 | | | 21.6 | |
| Approach LOS | | C | | | C | | | F | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 140 | | | |
| Actuated Cycle Length: 92.2 | | | |
| Natural Cycle: 100 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 1.86 | | | |
| Intersection Signal Delay: 62.2 | | Intersection LOS: E | |
| Intersection Capacity Utilization 84.8% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Massey Street & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 638 | 12 | 4 | 429 | 28 | 14 | 0 | 18 | 8 | 0 | 1 |
| Future Volume (vph) | 4 | 638 | 12 | 4 | 429 | 28 | 14 | 0 | 18 | 8 | 0 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.997 | | | 0.992 | | | 0.924 | | | 0.989 | |
| Flt Protected | | | | | | | | 0.979 | | | 0.956 | |
| Satd. Flow (prot) | 0 | 3529 | 0 | 0 | 1848 | 0 | 0 | 1685 | 0 | 0 | 1761 | 0 |
| Flt Permitted | | | | | | | | 0.979 | | | 0.956 | |
| Satd. Flow (perm) | 0 | 3529 | 0 | 0 | 1848 | 0 | 0 | 1685 | 0 | 0 | 1761 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 10 | | | 10 | |
| Link Distance (ft) | | 250 | | | 378 | | | 125 | | | 123 | |
| Travel Time (s) | | 5.7 | | | 8.6 | | | 8.5 | | | 8.4 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.93 | 0.93 | 0.93 | 0.27 | 0.27 | 0.27 | 0.75 | 0.75 | 0.75 |
| Adj. Flow (vph) | 4 | 679 | 13 | 4 | 461 | 30 | 52 | 0 | 67 | 11 | 0 | 1 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 696 | 0 | 0 | 495 | 0 | 0 | 119 | 0 | 0 | 12 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 37.5% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 2.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 638 | 12 | 4 | 429 | 28 | 14 | 0 | 18 | 8 | 0 | 1 |
| Future Vol, veh/h | 4 | 638 | 12 | 4 | 429 | 28 | 14 | 0 | 18 | 8 | 0 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 93 | 93 | 93 | 27 | 27 | 27 | 75 | 75 | 75 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 679 | 13 | 4 | 461 | 30 | 52 | 0 | 67 | 11 | 0 | 1 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 491 | 0 | 0 | 691 | 0 | 0 | 1180 | 1194 | 346 | 833 | 1185 | 476 |
| Stage 1 | - | - | - | - | - | - | 694 | 694 | - | 485 | 485 | - |
| Stage 2 | - | - | - | - | - | - | 486 | 500 | - | 348 | 700 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1070 | - | - | 902 | - | - | 156 | 186 | 651 | 274 | 188 | 588 |
| Stage 1 | - | - | - | - | - | - | 400 | 443 | - | 562 | 551 | - |
| Stage 2 | - | - | - | - | - | - | 562 | 542 | - | 642 | 440 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1070 | - | - | 902 | - | - | 154 | 184 | 651 | 244 | 186 | 588 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 154 | 184 | - | 244 | 186 | - |
| Stage 1 | - | - | - | - | - | - | 398 | 440 | - | 559 | 548 | - |
| Stage 2 | - | - | - | - | - | - | 557 | 539 | - | 573 | 437 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0.1 | 28.4 | 19.5 |
| HCM LOS | | | D | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 270 | 1070 | - | - | 902 | - | - | 261 |
| HCM Lane V/C Ratio | 0.439 | 0.004 | - | - | 0.005 | - | - | 0.046 |
| HCM Control Delay (s) | 28.4 | 8.4 | 0 | - | 9 | 0 | - | 19.5 |
| HCM Lane LOS | D | A | A | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 2.1 | 0 | - | - | 0 | - | - | 0.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 37 | 584 | 108 | 0 | 312 | 9 | 71 | 179 | 34 | 35 | 52 | 71 |
| Future Volume (vph) | 37 | 584 | 108 | 0 | 312 | 9 | 71 | 179 | 34 | 35 | 52 | 71 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 100 | 0 | | 120 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.978 | | | | 0.850 | | | 0.850 | | 0.939 | |
| Flt Protected | | 0.997 | | | | | | 0.986 | | | 0.989 | |
| Satd. Flow (prot) | 0 | 3451 | 0 | 0 | 1863 | 1583 | 0 | 1837 | 1583 | 0 | 1730 | 0 |
| Flt Permitted | | 0.922 | | | | | | 0.844 | | | 0.867 | |
| Satd. Flow (perm) | 0 | 3191 | 0 | 0 | 1863 | 1583 | 0 | 1572 | 1583 | 0 | 1516 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 49 | | | | 36 | | | 44 | | 71 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 10 | |
| Link Distance (ft) | | 378 | | | 397 | | | 380 | | | 249 | |
| Travel Time (s) | | 8.6 | | | 9.0 | | | 8.6 | | | 17.0 | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.78 | 0.78 | 0.78 | 0.58 | 0.58 | 0.58 |
| Adj. Flow (vph) | 43 | 679 | 126 | 0 | 339 | 10 | 91 | 229 | 44 | 60 | 90 | 122 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 848 | 0 | 0 | 339 | 10 | 0 | 320 | 44 | 0 | 272 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | | | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | | | 8 | 2 | | 2 | 6 | | |

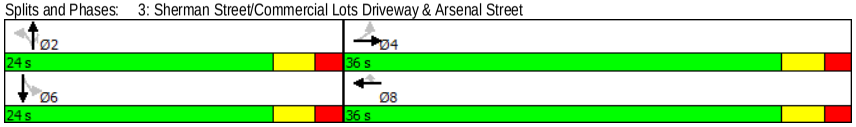




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | | | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | |
| Total Split (s) | 36.0 | 36.0 | | | 36.0 | 36.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | |
| Total Split (%) | 60.0% | 60.0% | | | 60.0% | 60.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | |
| Maximum Green (s) | 31.0 | 31.0 | | | 31.0 | 31.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| 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) | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | | | None | None | Max | Max | Max | Max | Max | |
| Walk Time (s) | 5.0 | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | | 19.3 | | | 19.3 | 19.3 | | 19.2 | 19.2 | | 19.2 | |
| Actuated g/C Ratio | | 0.40 | | | 0.40 | 0.40 | | 0.39 | 0.39 | | 0.39 | |
| v/c Ratio | | 0.65 | | | 0.46 | 0.02 | | 0.52 | 0.07 | | 0.42 | |
| Control Delay | | 13.5 | | | 12.6 | 0.7 | | 16.6 | 5.2 | | 11.7 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | | 13.5 | | | 12.6 | 0.7 | | 16.6 | 5.2 | | 11.7 | |
| LOS | | B | | | B | A | | B | A | | B | |
| Approach Delay | | 13.5 | | | 12.2 | | | 15.2 | | | 11.7 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 60 | |
| Actuated Cycle Length: 48.7 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 13.3 | Intersection LOS: B |
| Intersection Capacity Utilization 76.1% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Sherman Street/Commercial Lots Driveway & Arsenal Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 61 | 134 | 81 | 97 | 188 | 0 | 0 | 163 | 20 |
| Future Volume (vph) | 0 | 0 | 0 | 61 | 134 | 81 | 97 | 188 | 0 | 0 | 163 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 25 | 200 | | 0 | 0 | | 150 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 1 | | 0 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| 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 | | | | | | 0.850 | | | | | | 0.850 |
| Flt Protected | | | | | 0.985 | | 0.950 | | | | | |
| Satd. Flow (prot) | 0 | 0 | 0 | 0 | 1835 | 1583 | 1770 | 1863 | 0 | 0 | 1863 | 1583 |
| Flt Permitted | | | | | 0.985 | | 0.624 | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 0 | 1835 | 1583 | 1162 | 1863 | 0 | 0 | 1863 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | | | | 100 | | | | | | 55 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 305 | | | 406 | | | 301 | | | 200 | |
| Travel Time (s) | | 6.9 | | | 9.2 | | | 6.8 | | | 4.5 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.66 | 0.66 | 0.66 | 0.88 | 0.88 | 0.88 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 0 | 0 | 0 | 92 | 203 | 123 | 110 | 214 | 0 | 0 | 214 | 26 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 295 | 123 | 110 | 214 | 0 | 0 | 214 | 26 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | | | 1 | 2 | 1 | 1 | 2 | | | 2 | 1 |
| Detector Template | | | | Left | Thru | Right | Left | Thru | | | Thru | Right |
| Leading Detector (ft) | | | | 20 | 100 | 20 | 20 | 100 | | | 100 | 20 |
| Trailing Detector (ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Position(ft) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Detector 1 Size(ft) | | | | 20 | 6 | 20 | 20 | 6 | | | 6 | 20 |
| Detector 1 Type | | | | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | | | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Queue (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 1 Delay (s) | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Detector 2 Position(ft) | | | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | | | Perm | NA | Perm | Perm | NA | | | NA | Perm |
| Protected Phases | | | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | 2 | | | | | 6 |

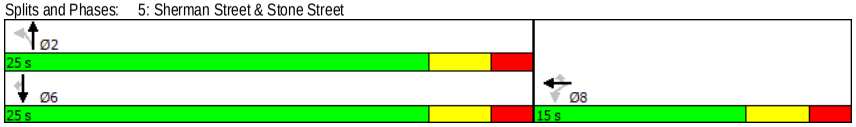




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | | | | 8 | 8 | 8 | 2 | 2 | | | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | | | | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | | | 21.0 | 21.0 |
| Total Split (s) | | | | 15.0 | 15.0 | 15.0 | 25.0 | 25.0 | | | 25.0 | 25.0 |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 62.5% | 62.5% | | | 62.5% | 62.5% |
| Maximum Green (s) | | | | 10.0 | 10.0 | 10.0 | 20.0 | 20.0 | | | 20.0 | 20.0 |
| Yellow Time (s) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| All-Red Time (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| 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) | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | | | | None | None | None | None | None | | | None | None |
| Walk Time (s) | | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | | 5.0 | 5.0 |
| Flash Dont Walk (s) | | | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Act Effct Green (s) | | | | | 9.1 | 9.1 | 8.7 | 8.7 | | | 8.7 | 8.7 |
| Actuated g/C Ratio | | | | | 0.34 | 0.34 | 0.33 | 0.33 | | | 0.33 | 0.33 |
| v/c Ratio | | | | | 0.47 | 0.20 | 0.29 | 0.35 | | | 0.35 | 0.05 |
| Control Delay | | | | | 10.8 | 4.0 | 9.6 | 9.2 | | | 9.2 | 1.4 |
| Queue Delay | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | | | | 10.8 | 4.0 | 9.6 | 9.2 | | | 9.2 | 1.4 |
| LOS | | | | | B | A | A | A | | | A | A |
| Approach Delay | | | | | 8.8 | | | 9.3 | | | 8.4 | |
| Approach LOS | | | | | A | | | A | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Cycle Length: 40 | |
| Actuated Cycle Length: 26.4 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.47 | |
| Intersection Signal Delay: 8.8 | Intersection LOS: A |
| Intersection Capacity Utilization 36.9% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 5: Sherman Street & Stone Street



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 9 | 0 | 178 | 34 | 104 | 121 | 226 | 555 | 0 | 0 | 544 | 31 |
| Future Volume (vph) | 9 | 0 | 178 | 34 | 104 | 121 | 226 | 555 | 0 | 0 | 544 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 300 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 |
| Frt | | 0.872 | | | 0.919 | | | | | | 0.992 | |
| Flt Protected | | 0.998 | | 0.950 | | | | 0.986 | | | | |
| Satd. Flow (prot) | 0 | 1621 | 0 | 1770 | 1712 | 0 | 0 | 3490 | 0 | 0 | 3511 | 0 |
| Flt Permitted | | 0.975 | | 0.557 | | | | 0.646 | | | | |
| Satd. Flow (perm) | 0 | 1584 | 0 | 1038 | 1712 | 0 | 0 | 2286 | 0 | 0 | 3511 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 231 | | | 56 | | | | | | 5 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 316 | | | 435 | | | 422 | | | 304 | |
| Travel Time (s) | | 7.2 | | | 9.9 | | | 9.6 | | | 6.9 | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 |
| Adj. Flow (vph) | 12 | 0 | 231 | 44 | 135 | 157 | 246 | 603 | 0 | 0 | 618 | 35 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 243 | 0 | 44 | 292 | 0 | 0 | 849 | 0 | 0 | 653 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 12 | | | 0 | | | 0 | |
| Link Offset(ft) | | -10 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | Cl+Ex | Cl+Ex | | | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | | Perm | NA | | pm+pt | NA | | | NA | |
| Protected Phases | 7 | 4 | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | | | |

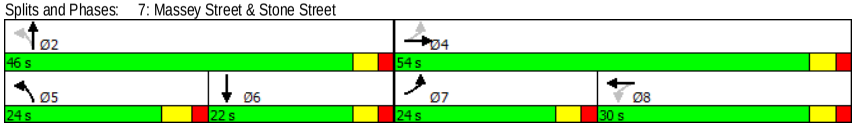




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 9.0 | 21.0 | | 21.0 | 21.0 | | 9.5 | 21.0 | | | 21.0 | |
| Total Split (s) | 24.0 | 54.0 | | 30.0 | 30.0 | | 24.0 | 46.0 | | | 22.0 | |
| Total Split (%) | 24.0% | 54.0% | | 30.0% | 30.0% | | 24.0% | 46.0% | | | 22.0% | |
| Maximum Green (s) | 19.0 | 49.0 | | 25.0 | 25.0 | | 18.5 | 41.0 | | | 17.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.5 | 3.0 | | | 3.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Lead/Lag | Lead | | | Lag | Lag | | Lead | | | | Lag | |
| Lead-Lag Optimize? | Yes | | | Yes | Yes | | Yes | | | | Yes | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | |
| Recall Mode | None | None | | None | None | | None | None | | | None | |
| Walk Time (s) | | 5.0 | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Flash Dont Walk (s) | | 11.0 | | 11.0 | 11.0 | | | 11.0 | | | 11.0 | |
| Pedestrian Calls (#/hr) | | 0 | | 0 | 0 | | | 0 | | | 0 | |
| Act Effct Green (s) | | 14.5 | | 14.5 | 14.5 | | | 30.0 | | | 30.0 | |
| Actuated g/C Ratio | | 0.26 | | 0.26 | 0.26 | | | 0.54 | | | 0.54 | |
| v/c Ratio | | 0.41 | | 0.16 | 0.59 | | | 0.68 | | | 0.34 | |
| Control Delay | | 6.2 | | 19.9 | 21.4 | | | 12.7 | | | 7.6 | |
| Queue Delay | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 6.2 | | 19.9 | 21.4 | | | 12.7 | | | 7.6 | |
| LOS | | A | | B | C | | | B | | | A | |
| Approach Delay | | 6.2 | | | 21.2 | | | 12.7 | | | 7.6 | |
| Approach LOS | | A | | | C | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Area Type: Other | |
| Cycle Length: 100 | |
| Actuated Cycle Length: 55.2 | |
| Natural Cycle: 65 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 11.7 | Intersection LOS: B |
| Intersection Capacity Utilization 69.9% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 7: Massey Street & Stone Street



| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 9 | 7 | 7 | 262 | 176 | 0 |
| Future Volume (vph) | 9 | 7 | 7 | 262 | 176 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.941 | | | | | |
| Flt Protected | 0.973 | | | 0.999 | | |
| Satd. Flow (prot) | 1706 | 0 | 0 | 1861 | 1863 | 0 |
| Flt Permitted | 0.973 | | | 0.999 | | |
| Satd. Flow (perm) | 1706 | 0 | 0 | 1861 | 1863 | 0 |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 154 | | | 200 | 380 | |
| Travel Time (s) | 3.5 | | | 4.5 | 8.6 | |
| Peak Hour Factor | 0.70 | 0.70 | 0.88 | 0.88 | 0.76 | 0.76 |
| Adj. Flow (vph) | 13 | 10 | 8 | 298 | 232 | 0 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 23 | 0 | 0 | 306 | 232 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(ft) | 12 | | | 0 | 0 | |
| Link Offset(ft) | 0 | | | 0 | 0 | |
| Crosswalk Width(ft) | 16 | | | 16 | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 9 | 15 | | | 9 |
| Sign Control | Stop | | | Free | Free | |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 29.4% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 7 | 7 | 262 | 176 | 0 |
| Future Vol, veh/h | 9 | 7 | 7 | 262 | 176 | 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 | 70 | 70 | 88 | 88 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 10 | 8 | 298 | 232 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 546 | 232 | 232 | 0 | - | 0 |
| Stage 1 | 232 | - | - | - | - | - |
| Stage 2 | 314 | - | - | - | - | - |
| 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 | 499 | 807 | 1336 | - | - | - |
| Stage 1 | 807 | - | - | - | - | - |
| Stage 2 | 741 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 496 | 807 | 1336 | - | - | - |
| Mov Cap-2 Maneuver | 496 | - | - | - | - | - |
| Stage 1 | 807 | - | - | - | - | - |
| Stage 2 | 736 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.3 | 0.2 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1336 | - | 597 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | 0.038 | - | - |
| HCM Control Delay (s) | 7.7 | 0 | 11.3 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 245 | 6 | 0 | 15 |
| Future Volume (vph) | 0 | 0 | 245 | 6 | 0 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 |
| Frt | | | 0.996 | | | 0.865 |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 0 | 0 | 3525 | 0 | 0 | 1611 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 0 | 0 | 3525 | 0 | 0 | 1611 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 435 | 305 | | 178 | |
| Travel Time (s) | | 9.9 | 6.9 | | 4.0 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.66 | 0.66 | 0.70 | 0.70 |
| Adj. Flow (vph) | 0 | 0 | 371 | 9 | 0 | 21 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 380 | 0 | 0 | 21 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 0 | 0 | | 0 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Area Type: | Other | |
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 17.0% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 245 | 6 | 0 | 15 |
| Future Vol, veh/h | 0 | 0 | 245 | 6 | 0 | 15 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 66 | 66 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 371 | 9 | 0 | 21 |

| Major/Minor | Major2 | | Minor2 | |
|---|---|---|---|---|
| Conflicting Flow All | - | 0 | - | 190 |
| Stage 1 | - | - | - | - |
| Stage 2 | - | - | - | - |
| Critical Hdwy | - | - | - | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - |
| Follow-up Hdwy | - | - | - | 3.32 |
| Pot Cap-1 Maneuver | - | - | 0 | 820 |
| Stage 1 | - | - | 0 | - |
| Stage 2 | - | - | 0 | - |
| Platoon blocked, % | - | - | | |
| Mov Cap-1 Maneuver | - | - | - | 820 |
| Mov Cap-2 Maneuver | - | - | - | - |
| Stage 1 | - | - | - | - |
| Stage 2 | - | - | - | - |

| Approach | WB | SB |
|---|---|---|
| HCM Control Delay, s | 0 | 9.5 |
| HCM LOS | | A |

| Minor Lane/Major Mvmt | WBT | WBR | SBLn1 |
|---|---|---|---|
| Capacity (veh/h) | - | - | 820 |
| HCM Lane V/C Ratio | - | - | 0.026 |
| HCM Control Delay (s) | - | - | 9.5 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 22 | 2 | 669 | 16 | 15 | 554 |
| Future Volume (vph) | 22 | 2 | 669 | 16 | 15 | 554 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 0.95 |
| Frt | 0.988 | | 0.997 | | | |
| Flt Protected | 0.956 | | | | | 0.999 |
| Satd. Flow (prot) | 1759 | 0 | 3529 | 0 | 0 | 3536 |
| Flt Permitted | 0.956 | | | | | 0.999 |
| Satd. Flow (perm) | 1759 | 0 | 3529 | 0 | 0 | 3536 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 195 | | 304 | | | 250 |
| Travel Time (s) | 4.4 | | 6.9 | | | 5.7 |
| Peak Hour Factor | 0.70 | 0.70 | 0.92 | 0.92 | 0.88 | 0.88 |
| Adj. Flow (vph) | 31 | 3 | 727 | 17 | 17 | 630 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 34 | 0 | 744 | 0 | 0 | 647 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 12 | | 0 | | | 0 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 36.1% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 22 | 2 | 669 | 16 | 15 | 554 |
| Future Vol, veh/h | 22 | 2 | 669 | 16 | 15 | 554 |
| 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 | 70 | 70 | 92 | 92 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 31 | 3 | 727 | 17 | 17 | 630 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1085 | 372 | 0 | 0 | 745 | 0 |
| Stage 1 | 736 | - | - | - | - | - |
| Stage 2 | 349 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | 4.14 | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Cap-1 Maneuver | 211 | 625 | - | - | 859 | - |
| Stage 1 | 435 | - | - | - | - | - |
| Stage 2 | 685 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 205 | 625 | - | - | 859 | - |
| Mov Cap-2 Maneuver | 205 | - | - | - | - | - |
| Stage 1 | 435 | - | - | - | - | - |
| Stage 2 | 664 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 24.7 | 0 | 0.3 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 217 | 859 | - |
| HCM Lane V/C Ratio | - | - | 0.158 | 0.02 | - |
| HCM Control Delay (s) | - | - | 24.7 | 9.3 | 0.1 |
| HCM Lane LOS | - | - | C | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.6 | 0.1 | - |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 9 | 31 | 666 | 4 | 7 | 560 |
| Future Volume (vph) | 9 | 31 | 666 | 4 | 7 | 560 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | 0.91 | 0.95 | 0.95 |
| Frt | 0.896 | | 0.999 | | | |
| Flt Protected | 0.989 | | | | | 0.999 |
| Satd. Flow (prot) | 1651 | 0 | 5080 | 0 | 0 | 3536 |
| Flt Permitted | 0.989 | | | | | 0.999 |
| Satd. Flow (perm) | 1651 | 0 | 5080 | 0 | 0 | 3536 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 129 | | 250 | | | 166 |
| Travel Time (s) | 2.9 | | 5.7 | | | 3.8 |
| Peak Hour Factor | 0.70 | 0.70 | 0.92 | 0.92 | 0.88 | 0.88 |
| Adj. Flow (vph) | 13 | 44 | 724 | 4 | 8 | 636 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 57 | 0 | 728 | 0 | 0 | 644 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 12 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 30.4% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 31 | 666 | 4 | 7 | 560 |
| Future Vol, veh/h | 9 | 31 | 666 | 4 | 7 | 560 |
| 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 | 70 | 70 | 92 | 92 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 44 | 724 | 4 | 8 | 636 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1060 | 364 | 0 | 0 | 728 | 0 |
| Stage 1 | 726 | - | - | - | - | - |
| Stage 2 | 334 | - | - | - | - | - |
| Critical Hdwy | 6.29 | 7.14 | - | - | 5.34 | - |
| Critical Hdwy Stg 1 | 6.64 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.67 | 3.92 | - | - | 3.12 | - |
| Pot Cap-1 Maneuver | 252 | 540 | - | - | 528 | - |
| Stage 1 | 364 | - | - | - | - | - |
| Stage 2 | 673 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 246 | 540 | - | - | 528 | - |
| Mov Cap-2 Maneuver | 246 | - | - | - | - | - |
| Stage 1 | 364 | - | - | - | - | - |
| Stage 2 | 658 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.8 | 0 | 0.2 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 426 | 528 | - |
| HCM Lane V/C Ratio | - | - | 0.134 | 0.015 | - |
| HCM Control Delay (s) | - | - | 14.8 | 11.9 | 0.1 |
| HCM Lane LOS | - | - | B | B | A |
| HCM 95th %tile Q(veh) | - | - | 0.5 | 0 | - |