May 2022

INTERSECTION SAFETY STUDY
E CONNELLY BLVD (SR 0062) & SPENCER AVE
E CONNELLY BLVD (SR 0062) & SERVICE AVE
City of Sharon, Mercer County, PA

Prepared for:

City of Sharon
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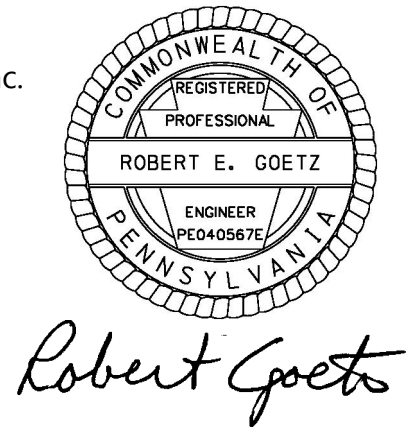

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City of Sharon, Mercer County, Pennsylvania

EXECUTIVE SUMMARY

Purpose of Study

To evaluate the traffic volumes and patterns, capacity, queuing, sight distance, signal operation and crash history of the intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue, and develop recommendations to improve their traffic flow and safety.

Data Collected

Included automatic traffic recorder counts, turning movement counts, vehicle speed data, geometric data, sight distances from the minor streets and SR 0062 left turn lanes, traffic signal phasing and timing, photographs and reportable/non-reportable crash data.

Evaluation

Based on the data collected, the following operational aspects of the intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue were determined.

- Intersection volumes are well below the thresholds to satisfy any of the applicable signal warrants.
- Traffic counts at the intersections conclude the volume on East Connelly Boulevard (SR 0062) exceeds 11,000 vehicles per day (vpd) with less than 1,000 vpd on any of the minor street approaches.
- Pedestrian volumes are minimal.
- Both the average and 85th percentile speed exceeds the posted speed limit of 40 miles per hour.
- There have been 10 reportable and 15 non-reportable crashes at both intersections since 2016. Six of the reportable crashes were attributable to running red lights.
- A capacity analysis of the intersections determined that both operate at satisfactory levels of service.
- Vehicle queuing does not exceed available capacity with the exception of westbound left turns from East Connelly Boulevard (SR 0062) at Spencer Avenue which is slightly over capacity during the PM peak hour.
- Corner sight distance is deficient looking left and right from southbound Spencer Avenue, and looking left from southbound Service Avenue.

Analysis of Alternatives

Three alternatives were developed as follows.

<u>Alternative 1</u>

- Removes the traffic signal at the East Connelly Boulevard (SR 0062) and Service Avenue intersection.
- Eliminates Service Avenue between Memorial Boulevard and SR 0062 including a weight restricted bridge.
- Service Avenue is converted to one-way northbound north of East Connelly Boulevard (SR 0062).

- Spencer Avenue is converted to two-way traffic north and south of East Connelly Boulevard (SR 0062). The left turn prohibition from eastbound East Connelly Boulevard at Spencer Avenue is maintained.
- Traffic signal at Spencer Avenue would need modified to provide signal indications for the northbound Spencer Avenue approach.

A conceptual plan of this alternative is presented in **Figure 4**.

Alternative 2

- Assumes the elimination of both signals at East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue.
- Only right turns from the minor streets would be permitted.
- Due to limited sight distance at SR 0062, Spencer Avenue would be converted to one-way northbound from East Connelly Boulevard (SR 0062) to Griswold Street. The left turn prohibition from eastbound East Connelly Boulevard at Spencer Avenue is maintained.
- South of East Connelly Boulevard (SR 0062), two-way traffic flow is recommended on Spencer Avenue.
- Two-way traffic flow is recommended on Service Avenue south of East Connelly Boulevard (SR 0062).
- Movements would be restricted to right turn only at the northbound Spencer Avenue approach and the northbound/southbound Service Avenue approaches to East Connelly Boulevard (SR 0062).
- A modification or extension of the median in SR 0062 is recommended to reinforce these turn restrictions.
- Vegetation along the north side of East Connelly Boulevard (SR 0062) is needed to provide the requisite stopping sight distance looking left from Service Avenue.

A conceptual plan of this alternative is presented in **Figure 7**.

Alternative 3

- Assumes the elimination of both signals at East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue.
- Permanent closure of the north legs of Spencer Avenue and Service Avenue at East Connelly Boulevard (SR 0062) through curbing/landscaping. Construct turnarounds at closed ends of both streets.
- Permanent closure of Spencer Avenue and Service Avenue south of East Connelly Boulevard (SR 0062) to Memorial Boulevard through removal of pavement and bridges.
- Modify/construct medians in SR 0062 through both intersections.

A conceptual plan of this alternative is presented in **Figure 10**.

Conclusions/Recommendations

Although acceptable capacity can be provided at the study intersections and adjacent intersections where traffic volumes are being diverted, Alternative 2 and Alternative 3 are far more restrictive in that some traffic patterns would be diverted up to 0.3 mile to access SR 0062. In addition, all alternatives will affect the Shenango Valley Shuttle Service bus route, school buses, delivery vehicles and emergency vehicles, with Alternatives 2 and 3 having more of an effect than Alternative 1.

Alternative 1 eliminates future maintenance and replacement of the Service Avenue bridge over Pine Run and a traffic signal. Costs for this alternative include bridge and pavement removal, additional curb, guiderail, overhead signals for the northbound Spencer Avenue approach, signs and pavement markings. Alternative 2 would eliminate future maintenance of both signals at Spencer Avenue and Service Avenue. Costs for this alternative include additional median in SR 0062 at both intersections, signs and pavement markings. Alternative 3 would also eliminate future maintenance of both signals at Spencer Avenue and Service Avenue plus future maintenance and replacement of the Service Avenue and Spencer Avenue bridges over Pine Run. Costs for this alternative include additional median in SR 0062 at both intersections, bridge and pavement removal, additional curb, turnarounds and guiderail.

INTERSECTION SAFETY STUDY
EAST CONNELLY BOULEVARD (SR 0062) & SPENCER AVENUE
EAST CONNELLY BOULEVARD (SR 0062) & SERVICE AVENUE
City of Sharon, Mercer County, PA

PURPOSE OF STUDY

The City of Sharon requested Trans Associates (TA) to perform a safety study of the intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue, herein referred to as study intersections. The closely spaced signalized intersections are located in the eastern part of the City near the Hermitage City boundary. A location map of the intersections is included in **Figure 1**. The purpose of the study is to evaluate the traffic volumes and patterns, capacity, queuing, sight distance, signal operation and crash history of the intersections, and develop recommendations to improve their traffic flow and safety.

In the conduct of this study, TA has relied upon the criteria, guidelines, policies, methodologies and regulations found in the following publications: PennDOT Publication 46, *Traffic Engineering Manual*; PennDOT Publication 149 *Traffic Signal Design Manual*; PennDOT Publication 212, *Official Traffic Control Devices*; the Transportation Research Board (TRB) *Highway Capacity Manual*; the Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD); the FHWA *User Guide for Removal of Not Needed Traffic Signals;* and the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on the Geometric Design of Highways and Streets*.

The following sections of this report contain a description of the data collection, existing conditions, evaluation, analysis of alternatives, and conclusions and recommendations.

DATA COLLECTION

A comprehensive data collection effort was performed gathering information on the intersections that included traffic counts, vehicle speed, geometric data, sight distances, traffic signal operation, photographs and crash data. The following details this information.

Traffic Counts

Turning movement counts including heavy vehicles and pedestrians were performed at the study intersections from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM on Wednesday, March 23, 2022. There was occasional rain and the temperature was in the 50s. Both the Sharon City Schools and the Hermitage School District were in session. The count data was summarized in 15-minute periods and the peak AM hour of volume was from 7:30 to 8:30 AM while the peak PM hour of volume was from 4:30 to 5:30 PM. Minimal pedestrian activity was observed at either intersection with a maximum of 2 or less pedestrians per hour. The lack of pedestrian traffic at the study intersections is due in part to the location of Sharon City schools with a greater number of pedestrians crossing East Connelly Boulevard (SR 0062) further west at Stambaugh Avenue.

Additional turning movement counts were subsequently performed at the following intersections to evaluate volumes diverted from the Spencer Avenue and Service Avenue intersections assuming a complete closure of those intersections at SR 0062:

- East Connelly Boulevard (SR 0062) and Smith Avenue/Pine Hollow Boulevard;
- East Connelly Boulevard (SR 0062) and Griswold Street/Prindle Street; and
- East Connelly Boulevard (SR 0062) and Stambaugh Avenue (SR 0518).

These counts were performed on Wednesday April 27, 2022 during the aforementioned weekday AM and PM peak hours. These intersections are discussed later in this report. The existing AM and PM peak hour volumes are presented on **Figure 2**.

The Shenango Valley Shuttle Service (SVSS) operates a fixed bus route that utilizes Spencer Avenue south of SR 0062 and SR 0062 west of Spencer Avenue. At the time of TA's counts, two buses were observed turning from Spencer Avenue northbound to westbound SR 0062.

TA collected automatic traffic recorder (ATR) data on the East Connelly Boulevard (SR 0062) eastbound and westbound approaches, and on the Spencer Avenue and Service Avenue approaches to the intersections on Wednesday and Thursday March 23-24, 2022. The two-way average daily traffic volume (ADT) for East Connelly Boulevard as determined from the ATR data was 11,741 vehicles per day. The ADT volumes for Service Avenue are 826 and 327 vehicles per day for the northbound and southbound approaches, respectively and the ADT volume for the southbound approach of Spencer Avenue is 504 vehicles per day. The average daily volumes for each approach are presented on **Figure 3**.

Summaries of the ATR data collected and the manual turning movement counts are included in Appendix A.

Speed Data

Vehicle speeds in each direction of East Connelly Boulevard (SR 0062) near the study intersections were collected through use of a radar gun. Free flow speed data, i.e., not decelerating for signals or queues, was observed for 100 vehicles in each direction approaching the intersections. The data was summarized and is provided in the following table:

Location	SR 0062 Eastbound	SR 0062 Westbound	SR 0062 Both Directions
Average Speed	40.19 mph	40.44 mph	40.32 mph
85th Percentile Speed	45 mph	46 mph	46 mph

Both the average speed and 85th percentile speed exceeds the posted speed limit of 40 miles per hour. Speed data is included in Appendix B.

Geometric Data

TA performed measurements of lane widths, cartway widths and approach grades, as well as identifying lane designations and distance to adjacent intersections. This information is presented in the Existing Conditions section of this report.

Sight Distance

Corner sight distance was measured from the Spencer Avenue and Service Avenue approaches along East Connelly Boulevard (SR 0062). The sight distance from the stop bar of the SR 0062 left turn lanes to oncoming vehicles was also measured. The measurements were performed in accordance with PennDOT Publication 212, *Official Traffic Control Devices*, that is, from a driver's eye height of 3.5 feet above pavement to an approaching vehicle also 3.5 feet above the pavement. These measurements along with the calculated safe stopping distances are discussed in the Evaluation section of this report.

Traffic Signal Operation

Both the intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue are controlled with fully actuated traffic signals. According to the traffic signal permit drawings, the signals are coordinated via hardwire interconnect with a master controller located at the SR 0062 and Stambaugh Avenue (SR 0518) intersection. Two coordinated timing plans of 90 seconds and 100 seconds cycle length operate throughout the week, with the signals operating non-coordinated from 10:00 PM to 6:00 AM, seven days a week.

Both signals provide three phase operation with a westbound protected/prohibited left turn phase from SR 0062 provided at Spencer Avenue and an eastbound protected/prohibited left turn phase from SR 0062 provided at Service Avenue. All crosswalks at the intersections are controlled with walk-don't walk signals that are actuated with push buttons. The southbound approaches of Spencer Avenue and Service Avenue were recently posted No Turn On Red.

TA collected signal timings to verify that the operation shown on the traffic signal permit drawings is current. Copies of the traffic signal permit drawings for both intersections are included in Appendix C.

Crash Data

TA obtained reportable crash data from PennDOT's Crash Information Tool (PCIT) for the study intersections for the most recent five year period of available data (2016-2020). In addition, crash reports including non-reportable crashes, were obtained from the Sharon Police Department for the period 2016 to the present. The reportable crash data is summarized in **Table 1**, by intersection. As shown in the table, there have been 10 reportable crashes at both intersections from 2016 to 2020. The reportable crashes include 5 angle type crashes, 3 head-on crashes, one rear-end type crash and one hit fixed object crash.

The crash data is included in Appendix D.

EXISTING CONDITIONS

A description of the roadways and intersections in the study area is provided below.

East Connelly Boulevard (SR 0062) – also known as the Shenango Valley Freeway, is classified a PennDOT other freeway and expressway. The signalized intersections of Spencer Avenue and Service Avenue are situated 390 feet apart along SR 0062. In addition, there is a signal at the intersection of Pine Hollow Boulevard/Smith Avenue located 670 feet east of the Service Avenue intersection and a signal controlling a pedestrian crosswalk at the intersection of South Myers Avenue located 995 feet west of the Spencer Avenue intersection. East Connelly Boulevard is a divided highway providing two 11 foot wide lanes in either direction with back-to-back left turn lanes providing 100 feet of storage in the eastbound direction for Service Avenue and 75 feet of storage in the westbound direction for Spencer Avenue. There is concrete curb-gutter along both sides of the roadway and a mountable curb median through the study intersections. West of the Spencer Avenue intersection, the mountable median transitions to a concrete median barrier. A horizontal curve right in the westbound direction and vegetation along the inside of the curve somewhat restricts sight distance for westbound motorists approaching the Service Avenue intersection. There are no sidewalks along either side of East Connelly Boulevard near the study intersections, however there are curb ramps on all four corners of the Spencer Avenue intersection and on the northwest, northeast and southwest corners of the Service Avenue intersection. The posted speed limit is 40 miles per hour.

Spencer Avenue – is a City street classified a minor arterial north of, and a major collector south of its intersection with Connelly Boulevard (SR 0062). Spencer Avenue intersects SR 0062 at an approximate 50-degree angle. Its northern leg is posted Do Not Enter and One Way southbound at its intersection with SR 0062, however north of the intersection it functions as two-way. South of SR 0062, Spencer Avenue is signed One Way southbound with a weight restricted County-owned bridge (17 Tons Except 30 Tons for Combinations) over Pine Run located 100 feet south of the intersection. It is two way south of its intersection with Memorial Boulevard. The two-lane southbound approach to SR 0062 is composed of a 13 foot wide exclusive right turn lane and a 13 foot wide through/left lane. Spencer Avenue south of SR 0062 is 30 feet in width. The cartway is curbed. The right-of-way width is 50 feet. There are no sidewalks along Spencer Avenue within the intersection area. The posted speed limit is 25 mile per hour.

Service Avenue – is a local City street. Service Avenue intersects SR 0062 at an approximate 65-degree angle. Its northern leg permits two-way traffic and is 27 feet in width with a curbed cartway. There is a single southbound approach lane permitting left turns and right turns. South of SR 0062, Service Avenue is signed One Way northbound for 75 feet between Memorial Boulevard and SR 0062. There is a 15 foot wide left turn lane and a 15 foot wide shared through/right turn lane. This section of Service Avenue has a weight restricted County-owned bridge (13 Tons Except 24 Tons for Combinations) over Pine Run. It is two-way south of its intersection with Memorial Boulevard. Service Avenue south of SR 0062 is 30 feet in width. The cartway is curbed. The right-of-way width is 50 feet. There are no sidewalks along Spencer

Avenue within the intersection area. The posted speed limit is 25 mile per hour.

Photos of the approaches of the study intersections are included in Appendix E.

EVALUATION

An evaluation of the study intersections was performed that included capacity analyses, queuing analyses, traffic signal warrant evaluations, left turn signal evaluation, sight distance evaluation, a geometric evaluation of design vehicles and crash data analysis. This evaluation was used to develop safety and capacity mitigations. The following provides details of these evaluations and analyses.

Capacity Analysis

A capacity analysis of the intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue plus adjacent intersections of East Connelly Boulevard (SR 0062)/Stambaugh Avenue (SR 0518), East Connelly Boulevard (SR 0062)/Pine Hollow Boulevard/Smith Avenue and East Connelly Boulevard (SR 0062)/Griswold Street/Prindle Street was performed using *Synchro Version 11* for existing conditions using the methodology from the *2010 Highway Capacity Manual* and the observed peak hour volumes. For urban areas, PennDOT considers a minimum level of service (LOS) D as acceptable conditions. LOS definitions are provided in Appendix F. The results of the capacity analyses of the study intersections are summarized in **Table 2**. For existing conditions, all intersection approaches operate at a level of service (LOS) D or better, with the study intersections operating at an overall LOS A during the AM and PM peak hour and no movement operating below LOS D. Capacity analysis printouts are included in Appendix G.

Queuing Analysis

Existing traffic volumes were used to perform queuing analyses for each intersection approach/lane group. The 95th percentile queue lengths were determined by using *SimTraffic* software and averaging the queue lengths for five runs. The 95th percentile queue lengths for each lane group along with the available storage are summarized in **Table 3** for the AM peak hour and PM peak hour. Note that available storage was defined as either distance to the next intersection or length of turn lane storage.

The available queue capacity accommodates all 95th percentile queues at the study intersections for 2022 existing conditions with the following exception:

- The westbound left turn from East Connelly Boulevard (SR 0062) at Spencer Avenue is slightly over capacity during the PM peak hour.

SimTraffic printouts are included in Appendix H.

Traffic Signal Warrant Evaluation

Although both intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly

Boulevard (SR 0062)/Service Avenue are presently signalized, an evaluation of warrants for their installation per the criteria in the FHWA *Manual on Uniform Traffic Control Devices* (MUTCD) was performed as it is one of the criteria for the removal of signals in the FHWA *User Guide for Removal of Not Needed Traffic Signals*. For this evaluation, the following warrants were analyzed:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour

Due to the lack of pedestrian volume, Warrant 4, Pedestrian Volume, was not evaluated. Also, Warrant 7, Crash Experience, was not evaluated as the frequency of crashes were below the minimum criteria for consideration.

It was determined that the observed volumes at both study intersections were well below the thresholds to satisfy any of the applicable warrants. Traffic signal warrant worksheets are included in Appendix I.

Left Turn Signal Evaluation

An evaluation of the type of left turn phasing at the study intersections was performed in accordance with the criteria in PennDOT Publication 149, *Traffic Signal Design Handbook*. Chapter 3 of Publication 149 provides criteria including conflict factors (product of the left turn volume times the opposing through/right volume), crash experience and geometric considerations for the need for, and type of, left turn phasing (i.e., permitted/protected).

It was determined that based on left turn and opposing through/right turn volumes, left turn phases are neither justified for the westbound left turn from SR 0062 at Spencer Avenue nor the eastbound left turn from SR 0062 at Service Avenue. Note that due to other factors such as the speed of oncoming vehicles and sight distance restrictions, the existing left turn phases may still be justified. Left turn conflict factor calculations are included in Appendix J.

Sight Distance Evaluation

Stopping sight distance (SSD) and intersection sight distance (ISD) were evaluated on the Spencer Avenue southbound approach and the Service Avenue northbound and southbound approaches to East Connelly Boulevard (SR 0062). In addition, SSD and ISD were evaluated for left turns from the westbound SR 0062 left turn lane at Spencer Avenue and the eastbound left turn lane at Service Avenue. Sight distance at these locations was measured and SSD was calculated in accordance with PennDOT Publication 212 *Official Traffic Control Devices*. ISD was determined from the tables in AASHTO's *A Policy on the Geometric Design of Highways and Streets 7th Edition* (Green Book) Chapter 9. The evaluation was performed to determine if SSD is available to perform safe turning maneuvers from Spencer Avenue and from Service Avenue if either signal were removed. Sight distance from the SR 0062 left turn lanes was evaluated to determine if less restrictive left turn signal phasing, i.e., protected/permitted or permitted only, or signal

removal, could be implemented. It was determined there was insufficient sight distance looking left and right from the southbound Spencer Avenue approach due to an embankment and vegetation. It was also determined there was insufficient sight distance looking to the left from the southbound Service Avenue approach due to vegetation and a fence. Sight distance at all other locations including the SR 0062 left turn lanes is sufficient. The results of this evaluation are summarized on **Table 4**. Sight distance measurements and SSD calculations are included in Appendix K.

Geometric Evaluation of Design Vehicles

A geometric evaluation of selected vehicles was performed using *AutoTURN* software. Movements for a 30 foot long single unit truck were performed turning right from northbound Spencer Avenue and northbound Service Avenue onto East Connelly Boulevard (SR 0062). Such movements are accommodated at the study intersections provided that the vehicle can enter both the curb lane and passing lane on SR 0062. A transit bus was also evaluated turning left onto Memorial Boulevard from northbound Service Avenue and then turning right onto Spencer Avenue assuming Service Avenue between Memorial Boulevard and SR 0062 is eliminated as discussed under Alternative 1 in the following section of this report. Such a movement would require enlarging the radius on the northeast corner of the Spencer Avenue/Memorial Boulevard intersection to prevent encroachment into the oncoming lane. *AutoTURN* vehicle paths are presented in Appendix L.

Crash Data Analysis

There were seven reportable crashes at the East Connelly Boulevard and Spencer Avenue intersection from 2017 to 2020, one of which included a suspected minor injury. Three of the crashes were caused by drivers running red lights with two of those on the westbound approach. The remaining crashes were of various types and causes, with no discernable pattern or location.

There were three reportable crashes at the East Connelly Boulevard and Service Avenue intersection from 2017 to 2019. All three of the crashes were caused by drivers running red lights with two of those on the eastbound approach. One of the crashes included a possible injury.

The 15 non-reportable crashes obtained from the Sharon Police Department for the period 2016 to the present included 10 crashes at the Spencer Avenue intersection and 5 crashes at the Service Avenue intersection. As there were no descriptions provided for the types of crashes or causation factors, the non-reportable crashes could not be evaluated further.

According to PennDOT Publication 212, *Official Traffic Control Devices*, a crash problem is indicated by the occurrence of five (5) or more reportable crashes with similar causation factors during a continuous 12-month period. As there was no 12-month period with five or more reportable crashes at either study intersection over the five-year period in which crash data was obtained, there does not appear to be a crash problem within the study area. Crash data is summarized in **Table 1**.

ANALYSIS OF ALTERNATIVES

Based on the data collected and an evaluation of existing conditions, TA developed and analyzed alternatives that were meant to simplify the operation of the study intersections while maintaining or improving their safety and capacity. Towards that end, the following aspects were evaluated:

- Restricting movements;
- Eliminating cross street approaches;
- One-way street conversions;
- Removal or reconfiguring signals;
- Intersection removal;
- Extending turning lanes;
- Extending median;
- Enlarging curb radii; and
- Improving sight distance.

As both study intersections operate at satisfactory levels of service with few queuing issues, and neither intersection satisfies warrants for signalization, removal of one or both traffic signals was explored as alternatives, while maintaining as many movements at the intersections as possible. This resulted in alternatives that converted Spencer Avenue to two-way traffic flow at East Connelly Boulevard (SR 0062). It also explores the elimination of, or limitations to, traffic flow or movements on Service Avenue and Spencer Avenue at East Connelly Boulevard (SR 0062), including the closure and/or elimination of both intersections. The following provides explanations of these alternatives.

Alternative 1

This alternative retains the signal at East Connelly Boulevard (SR 0062) and Spencer Avenue but assumes the signal at East Connelly Boulevard (SR 0062) and Service Avenue along with the section of Service Avenue between Memorial Boulevard and SR 0062 is removed. Although the existing approach volumes are slightly higher at the Service Avenue intersection than at Spencer Avenue, the removal of this signal located 670 feet west of the signalized intersection of Pine Hollow Boulevard/Smith Avenue, would result in better signal spacing along SR 0062. In addition, the westbound approach of East Connelly Boulevard (SR 0062) to Service Avenue has limited visibility to the overhead signals. Removal of Service Avenue between Memorial Boulevard and SR 0062 would also eliminate a weight restricted bridge (13 Tons Except 24 Tons for Combinations) over Pine Run. As there is very limited sight distance looking left from the southbound Service Avenue approach along East Connelly Boulevard (SR 0062), this part of Service Avenue is recommended to be made one-way northbound thus eliminating the southbound approach. As Spencer Avenue would be converted to two-way traffic, vehicles from southbound Service Avenue could divert to southbound Spencer to access SR 0062.

The key aspects of this alternative are as follows:

- Remove signal at East Connelly Boulevard (SR 0062) and Service Avenue;
- Eliminate Service Avenue between Memorial Boulevard and SR 0062 including weight restricted bridge;
- Convert Service Avenue to one-way northbound north of East Connelly Boulevard (SR 0062);
- Convert Spencer Avenue to two-way traffic south of East Connelly Boulevard (SR 0062);
- Convert Spencer Avenue to two-way traffic north of East Connelly Boulevard (SR 0062). Maintain no left turn prohibition from eastbound East Connelly Boulevard; and
- Modify the traffic signal at Spencer Avenue to provide signal indications for the northbound Spencer Avenue approach.

A conceptual plan of this alternative is presented in **Figure 4**.

An analysis of this alternative was performed to determine levels of service and queuing at the intersections, and if any additional mitigation is needed. To perform this analysis, the 2022 existing peak hour volumes were rerouted to reflect the closure of Service Avenue and the changes in traffic patterns. The adjustments made are reflected in **Figure 5**. These adjustments were then applied to the 2022 existing peak hour volumes to determine the peak hour volumes at the intersections for Alternative 1. The Alternative 1 peak hour volumes are shown on **Figure 6**.

A capacity analysis of the intersections was performed using *Synchro Version 11* for the projected Alternative 1 peak hour volumes shown on Figure 6. The results of the capacity analyses are summarized in **Table 2**. For Alternative 1, the Spencer Avenue intersection approaches operate at a level of service (LOS) D or better, with an overall intersection LOS B during the AM and PM peak hour and no movement operating below LOS D. As the only movement that yields at the Service Avenue intersection is the eastbound left turn, that movement is projected to operate at LOS A. Adjacent intersections where volumes were diverted continue to operate at the same LOS as existing conditions. Capacity analysis printouts are included in the Appendix.

The 95th percentile queue lengths were determined by using *SimTraffic* software and averaging the queue lengths for five runs. The 95th percentile queue lengths for each lane group along with the available storage are summarized in **Table 3** for the AM peak hour and PM peak hour. The available queue capacity accommodates all 95th percentile queues at the intersections for Alternative 1. *SimTraffic* printouts are included in the Appendix.

In addition to performing a capacity and queuing analysis of this alternative, the rerouted volumes for the intersection of East Connelly Boulevard (SR 0062) and Spencer Avenue were also evaluated for signal warrants. As Spencer Avenue would be reduced to single lane approaches and volumes from southbound Service Avenue are anticipated to be diverted to Spencer, Warrant 1 Eight-Hour Vehicular Volume and Warrant 2 Four-Hour Vehicular Volume are projected to be met. A traffic signal warrant worksheet for Alternative 1 conditions is included in the Appendix.

Alternative 2

This alternative assumes the elimination of both signals at East Connelly Boulevard (SR 0062) and Spencer Avenue, and at East Connelly Boulevard (SR 0062) and Service Avenue. Only right turns from the minor streets would be permitted. As there is very limited corner sight distance looking left from southbound Spencer Avenue along East Connelly Boulevard (SR 0062) due to an embankment, it is recommended that Spencer be converted to one-way northbound from SR 0062 to Griswold Street. South of SR 0062, Spencer Avenue is recommended to be converted to two-way traffic. As the sight distance looking left from the southbound Service Avenue approach along East Connelly Boulevard (SR 0062) is also limited due to trees and vegetation behind the curb along SR 0062, clearing of this vegetation to provide the requisite stopping sight distance is recommended. Two-way traffic flow is recommended on Service Avenue south of East Connelly Boulevard (SR 0062). Although through movements and left turns from the minor streets would not be permitted, it would still be possible to cross East Connelly Boulevard (SR 0062) by turning right from either northbound Spencer Avenue or southbound Service Avenue, entering the eastbound or westbound left turn lane on SR 0062, and then turning onto northbound Service Avenue or southbound Spencer Avenue, respectively. Left turns from Spencer Avenue and Service Avenue southbound towards eastbound SR 0062 would be accommodated at the signalized intersection of East Connelly Boulevard (SR 0062) and Smith Avenue/Pine Hollow Boulevard.

The key aspects of this alternative are as follows:

- Remove signals at East Connelly Boulevard (SR 0062)/Service Avenue and East Connelly Boulevard (SR 0062)/Spencer Avenue;
- Convert Spencer Avenue to one-way northbound from East Connelly Boulevard (SR 0062) to Griswold Street. The left turn prohibition from eastbound East Connelly Boulevard at Spencer Avenue is maintained;
- Convert Spencer Avenue to two-way traffic south of East Connelly Boulevard (SR 0062);
- Two-way traffic flow is recommended on Service Avenue south of East Connelly Boulevard (SR 0062).
- Restrict movements to right turn only at northbound Spencer Avenue and northbound/southbound Service Avenue approaches to East Connelly Boulevard (SR 0062); *Note: Modification/extension of the median in SR 0062 is recommended to reinforce these turn restrictions;* and
- Remove vegetation along the north side of East Connelly Boulevard (SR 0062) to provide the requisite stopping sight distance looking left from Service Avenue.

A conceptual plan of this alternative is presented in **Figure 7**.

An analysis of this alternative was performed to determine levels of service and queuing at the intersections, and if any additional mitigation is needed. To perform this analysis, the 2022 existing peak hour volumes were rerouted to reflect the restricted movements from Spencer Avenue and Service Avenue at East Connelly Boulevard (SR 0062) and the changes in traffic patterns. The adjustments made are reflected in **Figure 8**. These adjustments were then applied to the 2022 existing peak hour volumes to

determine the peak hour volumes at the intersections for Alternative 2. The Alternative 2 peak hour volumes are shown on **Figure 9**.

A capacity analysis of the intersections was performed using *Synchro Version 11* for the projected Alternative 2 peak hour volumes shown on Figure 9. The results of the capacity analyses are summarized in **Table 2**. For Alternative 2, the Service Avenue southbound approach operates at a level of service (LOS) A during the AM and PM peak hour. The Spencer Avenue and Service Avenue northbound approaches operate at LOS A during the AM peak hour and LOS B during the PM peak hour. Overall intersections operate at LOS A during the AM and PM peak hour with no movement operating below LOS B. Adjacent intersections where volumes were diverted continue to operate at the same LOS as existing conditions. Capacity analysis printouts are included in the Appendix.

The 95th percentile queue lengths were determined by using *SimTraffic* software and averaging the queue lengths for five runs. The 95th percentile queue lengths for each lane group along with the available storage are summarized in **Table 3** for the AM peak hour and PM peak hour. The available queue capacity accommodates all 95th percentile queues at the intersections for Alternative 2. *SimTraffic* printouts are included in the Appendix.

Alternative 3

This alternative assumes the elimination of both intersections and signals at East Connelly Boulevard (SR 0062) and Spencer Avenue, and at East Connelly Boulevard (SR 0062) and Service Avenue. The north legs of Spencer Avenue and Service Avenue would be permanently closed at East Connelly Boulevard (SR 0062). The south legs of Spencer Avenue and Service Avenue would be removed between East Connelly Boulevard (SR 0062) and Memorial Boulevard. Movements to and from Spencer Avenue and Service Avenue and SR 0062 would be accommodated at adjacent intersections including East Connelly Boulevard (SR 0062) and Smith Avenue/Pine Hollow Boulevard, East Connelly Boulevard (SR 0062) and Griswold Street, and East Connelly Boulevard and Stambaugh Avenue (SR 0518).

The key aspects of this alternative are as follows:

- Remove signals at East Connelly Boulevard (SR 0062)/Service Avenue and East Connelly Boulevard (SR 0062)/Spencer Avenue;
- Permanently close the north legs of Spencer Avenue and Service Avenue at East Connelly Boulevard (SR 0062) through curbing/landscaping. Construct turnarounds at closed ends of both streets.
- Permanently close Spencer Avenue and Service Avenue south of East Connelly Boulevard (SR 0062) to Memorial Boulevard through removal of pavement and bridges.
- Modify/construct medians in SR 0062 through both intersections to eliminate the left turn lanes.

A conceptual plan of this alternative is presented in **Figure 10**.

An analysis of this alternative was performed to determine levels of service and queuing at the

intersections, and if any additional mitigation at those intersections would be needed. To perform this analysis, the 2022 existing peak hour volumes were rerouted to reflect the closure of Spencer Avenue and Service Avenue at East Connelly Boulevard (SR 0062) and the changes in traffic patterns. The adjustments made are reflected in **Figure 11**. These adjustments were then applied to the 2022 existing peak hour volumes at the intersections for Alternative 3. The Alternative 3 peak hour volumes are shown on **Figure 12**.

A capacity analysis of the intersections was performed using *Synchro Version 11* for the projected Alternative 3 peak hour volumes shown on Figure 12. The results of the capacity analyses of the study intersections are summarized in **Table 2**. For Alternative 3, adjacent intersections where volumes were diverted continue to operate at the same LOS as existing conditions. It is noted that minor signal timing adjustments were implemented for this condition. Capacity analysis printouts are included in the Appendix.

The 95th percentile queue lengths were determined by using *SimTraffic* software and averaging the queue lengths for five runs. The 95th percentile queue lengths for each lane group along with the available storage are summarized in **Table 3** for the AM peak hour and PM peak hour. The available queue capacity accommodates all 95th percentile queues at the intersections for Alternative 3. *SimTraffic* printouts are included in the Appendix.

All three alternatives will affect the SVSS bus route that currently turns left from Service Avenue onto westbound SR 0062. While this route may utilize Spencer Avenue in Alternative 1 with enlargement of the radius on the northeast corner of the Memorial Boulevard/Spencer Avenue intersection, a new route would be needed for Alternative 2 and Alternative 3 as northbound left turns would be prohibited or eliminated from both Spencer Avenue and Service Avenue. School buses, delivery vehicles and emergency vehicles would also be impacted, although to a lesser degree with Alternative 1.

CONCLUSIONS AND RECOMMENDATIONS

It was determined that vehicular volumes at the intersections of East Connelly Boulevard (SR 0062)/Spencer Avenue and East Connelly Boulevard (SR 0062)/Service Avenue are well below the thresholds to satisfy any of the applicable signal warrants. Traffic counts at the intersections conclude that while the volume on East Connelly Boulevard (SR 0062) exceeds 11,000 vehicles per day (vpd), there was less than 1,000 vpd on any of the minor street approaches. Pedestrian volumes are minimal. Both the average and 85th percentile vehicle speed exceeds the posted speed limit of 40 miles per hour. There have been 10 reportable and 15 non-reportable crashes at both intersections since 2016. Six of the reportable crashes were attributable to running red lights. A capacity analysis of the intersections determined that both operate at satisfactory levels of service. Vehicle queuing does not exceed available capacity with the exception of westbound left turns from East Connelly Boulevard (SR 0062) at Spencer Avenue which is slightly over capacity during the PM peak hour. Corner sight distance is deficient looking left and right from southbound Spencer Avenue, and looking left from southbound Service Avenue.

Three alternatives were developed as follows:

Alternative 1 - This alternative removes the signal at the East Connelly Boulevard (SR 0062) and Service Avenue intersection and eliminates Service Avenue between Memorial Boulevard and SR 0062 including a weight restricted bridge. Service Avenue is converted to one-way northbound north of East Connelly Boulevard (SR 0062). Spencer Avenue is converted to two-way traffic north and south of East Connelly Boulevard (SR 0062). The left turn prohibition from eastbound East Connelly Boulevard at Spencer Avenue is maintained. The traffic signal at Spencer Avenue would need modified to provide signal indications for the northbound Spencer Avenue approach. A conceptual plan of this alternative is presented in **Figure 4**.

Alternative 2 – This alternative assumes the elimination of both signals at East Connelly Boulevard (SR 0062) and Spencer Avenue, and at East Connelly Boulevard (SR 0062) and Service Avenue. Only right turns from the minor streets would be permitted. Due to limited sight distance, Spencer Avenue would be converted to one-way northbound from East Connelly Boulevard (SR 0062) to Griswold Street. The left turn prohibition from eastbound East Connelly Boulevard (SR 0062) at Spencer Avenue is maintained. South of East Connelly Boulevard (SR 0062), two-way traffic flow is recommended on Spencer Avenue. Two-way traffic flow is also recommended on Service Avenue south of East Connelly Boulevard (SR 0062). Movements would be restricted to right turn only at the northbound Spencer Avenue approach and the northbound/southbound Service Avenue approaches to East Connelly Boulevard (SR 0062). A modification or extension of the median in SR 0062 is recommended to reinforce these turn restrictions. Vegetation along the north side of East Connelly Boulevard (SR 0062) is needed to provide the requisite stopping sight distance looking left from Service Avenue. A conceptual plan of this alternative is presented in **Figure 7**.

Alternative 3 - This alternative assumes the elimination of both intersections and signals at East Connelly Boulevard (SR 0062) and Spencer Avenue, and at East Connelly Boulevard (SR 0062) and Service Avenue. The north legs of Spencer Avenue and Service Avenue would be permanently closed at East Connelly Boulevard (SR 0062). Branch-type turnarounds at the closed ends of both streets could be constructed within right-of-way to accommodate vehicles up to 30 foot single unit trucks. The south legs of Spencer Avenue and Service Avenue including both bridges over Pine Run would be removed between East Connelly Boulevard (SR 0062) and Memorial Boulevard. A modification or extension of the median in SR 0062 through both intersections eliminating the left turn lanes would be needed. Movements to and from Spencer Avenue and Service Avenue and SR 0062 would be accommodated at adjacent intersections including East Connelly Boulevard (SR 0062) and Smith Avenue/Pine Hollow Boulevard, East Connelly Boulevard (SR 0062) and Griswold Street and East Connelly Boulevard and Stambaugh Avenue (SR 0518). A conceptual plan of this alternative is presented in **Figure 10**.

Although all three alternatives provide acceptable capacity including at adjacent intersections where volumes would be diverted, Alternative 2 and Alternative 3 are far more restrictive in that some traffic patterns would be diverted up to 0.3 mile to access SR 0062. In addition, these alternatives will affect the SVSS bus route, school buses, delivery vehicles and emergency vehicles, more so than Alternative 1.

Alternative 1 eliminates future maintenance and replacement of the Service Avenue bridge over Pine Run and a traffic signal. Costs for this alternative include bridge and pavement removal, additional curb, guiderail, overhead signals for the northbound Spencer Avenue approach, signs and pavement markings. Alternative 2 would eliminate future maintenance of both signals at Spencer Avenue and Service Avenue. Costs for this alternative include additional median in SR 0062 at both intersections, signs and pavement markings. Alternative 3 would also eliminate future maintenance of both signals at Spencer Avenue and Service Avenue plus future maintenance and replacement of the Service Avenue and Spencer Avenue bridges over Pine Run. Costs for this alternative include additional median in SR 0062 at both intersections, bridge and pavement removal, additional curb, turnarounds and guiderail.

This concludes the intersection safety study in the City of Sharon, Mercer County, Pennsylvania. Included with this report is a Technical Appendix containing all data collection, analyses and calculations.

TABLES

Table 1
CRASH DATA SUMMARY
City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Date	Reportable?	Crash Type	Severity	Direction of Travel - Primary	Direction of Travel - Secondary	Direction of Travel - Tertiary	Comments
East Connelly Boulevard (SR 0062) and Spencer Avenue							
5/21/2017	Yes	Angle	Property Damage Only	WB	SB	N/A	Primary vehicle negotiating curve right suddenly slowed and was struck by secondary vehicle.
12/22/2017	Yes	Angle	Property Damage Only	SB	WB	N/A	Primary vehicle running red light turning left struck by secondary vehicle negotiating curve right.
1/8/2018	Yes	Angle	Suspected Minor Injury	SB	SB	N/A	Primary vehicle in left lane going straight struck secondary vehicle. Environmental factors: Slippery road.
8/17/2018	Yes	Rear-End	Property Damage Only	EB	EB	N/A	Primary vehicle in left lane going straight struck secondary vehicle in left lane suddenly slowing/stopping.
10/26/2019	Yes	Head-On	Property Damage Only	WB	SB	N/A	Primary vehicle going straight ran red light and struck secondary vehicle going straight.
1/9/2020	Yes	Hit Fixed Object	Property Damage Only	EB	N/A	N/A	Primary vehicle in right lane turning right struck traffic signal support/sign and embankment.
10/8/2020	Yes	Head-On	Property Damage Only	WB	SB	N/A	Primary vehicle whose driver was distracted ran red light and struck secondary vehicle.
East Connelly Boulevard (SR 0062) and Service Avenue							
8/3/2017	Yes	Head-On	Unknown	EB	NB	N/A	Primary vehicle in left lane going straight ran red light and struck secondary vehicle.
11/11/2018	Yes	Angle	Possible Injury	EB	NB	WB	Primary vehicle running red light going straight struck secondary vehicle going straight and tertiary vehicle stopped in traffic.
3/19/2019	Yes	Angle	Property Damage Only	WB	NB	N/A	Primary vehicle negotiating curve right ran red light and struck secondary vehicle going straight.

Source: PCIT - Pennsylvania Crash Information Tool.

Table 2
CAPACITY ANALYSIS SUMMARY
City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Direction	Approach / Movement	Level of Service (Delay in Seconds) [1]			
		2022 Existing	Alternative 1	Alternative 2	Alternative 3
AM PEAK HOUR [2]					
INTERSECTION	**East Connelly Boulevard (SR 0062) and Spencer Avenue**				
East Connelly Blvd Eastbound	**Approach**	A (5.3)	A (5.7)	A (0.0)	N/A
East Connelly Blvd Westbound	**Left Turn**	D (44.2)	D (44.2)	A (8.5)	N/A
	Through/Right	A (2.3)	A (2.5)	A (0.0)	N/A
	Approach	A (4.6)	A (5.0)	A (1.2)	N/A
Spencer Avenue Northbound	**Approach**	N/A	D (41.3)	A (9.9)	N/A
Spencer Avenue Southbound	**Left/Through**	D (41.5)	D (40.3)	N/A	N/A
	Right Turn	D (39.8)			
	Approach	D (41.2)	D (40.3)	N/A	N/A
OVERALL		**A (7.8)**	**B (11.2)**	**A (0.9)**	**N/A**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Service Avenue**				
East Connelly Blvd Eastbound	**Left Turn**	D (49.0)	A (7.9)	A (8.0)	N/A
	Through/Right	A (2.3)	A (0.0)	A (0.0)	N/A
	Approach	A (3.4)	A (0.2)	A (0.7)	N/A
East Connelly Blvd Westbound	**Approach**	A (4.4)	A (0.0)	A (0.0)	N/A
Service Avenue Northbound	**Left Turn**	D (39.0)	N/A	N/A	N/A
	Through/Right	D (45.6)			
	Approach	D (45.0)	N/A	A (9.9)	N/A
Service Avenue Southbound	**Approach**	D (39.3)	A (0.0)	A (9.4)	N/A
OVERALL		**A (8.1)**	**A (0.1)**	**A (1.3)**	**N/A**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Stambaugh Avenue (SR 0518)**				
East Connelly Blvd Eastbound	**Left Turn**	D (49.5)	D (49.5)	D (49.5)	D (44.6)
	Through/Right	B (19.7)	B (19.7)	B (19.7)	B (19.3)
	Approach	C (24.5)	C (24.5)	C (24.5)	C (23.4)
East Connelly Blvd Westbound	**Left Turn**	D (45.7)	D (45.7)	D (45.7)	D (42.7)
	Through/Right	B (19.3)	B (19.3)	B (19.3)	B (18.8)
	Approach	C (23.4)	C (23.4)	C (23.4)	C (22.6)
Stambaugh Avenue Northbound	**Left Turn**	C (28.3)	C (28.3)	C (28.3)	C (28.4)
	Through/Right	D (36.4)	D (36.4)	D (36.4)	D (35.6)
	Approach	C (34.5)	C (34.5)	C (34.5)	C (33.8)
Stambaugh Avenue Southbound	**Left Turn**	C (28.1)	C (28.1)	C (28.1)	C (28.3)
	Through/Right	D (45.9)	D (45.9)	D (45.9)	D (44.4)
	Approach	D (44.1)	D (44.1)	D (44.1)	D (42.8)
OVERALL		**C (30.0)**	**C (30.0)**	**C (30.0)**	**C (29.1)**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Pine Hollow Boulevard/Smith Avenue**				
East Connelly Blvd Eastbound	**Left Turn**	D (43.3)	D (43.3)	D (43.3)	D (42.8)
	Through	A (4.5)	A (4.5)	A (4.5)	A (6.3)
	Approach	A (6.9)	A (6.9)	A (7.0)	A (9.8)
East Connelly Blvd Westbound	**Left Turn**	D (47.2)	D (47.2)	D (47.2)	D (43.6)
	Through/Right	A (5.4)	A (5.5)	A (5.5)	A (6.9)
	Approach	A (6.1)	A (6.1)	A (6.2)	A (9.3)
Pine Hollow Boulevard Northbound	**Approach**	D (40.5)	D (40.5)	D (40.5)	D (40.3)
Smith Avenue Southbound	**Approach**	D (40.5)	D (40.6)	D (41.2)	D (39.6)
OVERALL		**B (10.8)**	**B (11.0)**	**B (12.1)**	**B (17.0)**
INTERSECTION	**SR 0062 Ramp and Pine Hollow Boulevard**				
SR 0062 Ramp Eastbound	**Approach**	A (8.6)	A (8.6)	A (8.8)	A (8.8)
OVERALL		**A (1.8)**	**A (1.8)**	**A (2.2)**	**A (1.0)**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Prindle Street/Griswold Street**				
East Connelly Blvd Eastbound	**Approach**	A (0.0)	A (0.0)	A (0.0)	A (0.0)
East Connelly Blvd Westbound	**Approach**	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Prindle Street Northbound	**Approach**	B (10.0)	B (10.0)	B (10.0)	B (10.0)
Griswold Street Southbound	**Approach**	A (9.7)	A (9.7)	A (9.8)	A (9.7)
OVERALL		**A (1.2)**	**A (1.2)**	**A (1.4)**	**A (1.4)**

Table 2 (continued)
CAPACITY ANALYSIS SUMMARY
City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Direction	Approach / Movement	Level of Service (Delay in Seconds) [1]			
		2022 Existing	Alternative 1	Alternative 2	Alternative 3
PM PEAK HOUR [3]					
INTERSECTION	**East Connelly Boulevard (SR 0062) and Spencer Avenue**				
East Connelly Blvd Eastbound	**Approach**	A (5.6)	A (6.5)	A (0.0)	N/A
East Connelly Blvd Westbound	**Left Turn**	D (49.6)	D (49.7)	A (8.9)	N/A
	Through/Right	A (1.9)	A (2.4)	A (0.0)	N/A
	Approach	A (8.2)	A (8.8)	A (1.4)	N/A
Spencer Avenue Northbound	**Approach**	N/A	D (46.1)	B (10.0)	N/A
Spencer Avenue Southbound	**Left/Through**	D (47.2)	D (44.6)	N/A	N/A
	Right Turn	D (46.2)			
	Approach	D (47.0)	D (44.6)	N/A	N/A
OVERALL		**A (8.1)**	**B (10.7)**	**A (0.8)**	**N/A**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Service Avenue**				
East Connelly Blvd Eastbound	**Left Turn**	D (54.6)	A (8.8)	A (8.9)	N/A
	Through/Right	A (2.0)	A (0.0)	A (0.0)	N/A
	Approach	A (3.0)	A (0.2)	A (0.3)	N/A
East Connelly Blvd Westbound	**Approach**	A (4.4)	A (0.0)	A (0.0)	N/A
Service Avenue Northbound	**Left Turn**	D (44.6)	N/A	N/A	N/A
	Through/Right	D (49.7)			
	Approach	D (48.8)	N/A	B (10.2)	N/A
Service Avenue Southbound	**Approach**	D (44.4)	A (0.0)	B (10.4)	N/A
OVERALL		**A (6.4)**	**A (0.1)**	**A (0.8)**	**N/A**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Stambaugh Avenue (SR 0518)**				
East Connelly Blvd Eastbound	**Left Turn**	D (49.8)	D (49.8)	D (49.8)	D (49.6)
	Through/Right	B (17.6)	B (17.6)	B (17.6)	B (17.6)
	Approach	C (22.5)	C (22.5)	C (22.5)	C (22.6)
East Connelly Blvd Westbound	**Left Turn**	D (48.4)	D (48.4)	D (48.4)	D (48.4)
	Through/Right	B (17.4)	B (17.4)	B (17.4)	B (17.4)
	Approach	C (21.7)	C (21.7)	C (21.7)	C (21.9)
Stambaugh Avenue Northbound	**Left Turn**	C (33.6)	C (33.6)	C (33.6)	C (33.8)
	Through/Right	D (38.6)	D (38.6)	D (38.6)	D (38.4)
	Approach	D (36.8)	D (36.8)	D (36.8)	D (36.7)
Stambaugh Avenue Southbound	**Left Turn**	C (33.0)	C (33.0)	C (33.0)	C (32.9)
	Through/Right	D (48.1)	D (48.1)	D (48.1)	D (48.1)
	Approach	D (45.9)	D (45.9)	D (45.9)	D (45.9)
OVERALL		**C (28.3)**	**C (28.3)**	**C (28.3)**	**C (28.4)**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Pine Hollow Boulevard/Smith Avenue**				
East Connelly Blvd Eastbound	**Left Turn**	D (48.2)	D (48.2)	D (48.2)	D (47.9)
	Through	A (4.9)	A (5.0)	A (5.2)	A (7.7)
	Approach	A (7.4)	A (7.5)	A (7.7)	B (11.0)
East Connelly Blvd Westbound	**Left Turn**	D (49.1)	D (49.1)	D (49.1)	D (49.2)
	Through/Right	A (5.6)	A (5.7)	A (5.9)	A (6.8)
	Approach	A (7.0)	A (7.0)	A (7.3)	B (14.2)
Pine Hollow Boulevard Northbound	**Approach**	D (46.3)	D (46.2)	D (45.9)	D (45.0)
Smith Avenue Southbound	**Approach**	D (46.5)	D (46.4)	D (45.7)	D (43.9)
OVERALL		**B (12.5)**	**B (12.6)**	**B (13.2)**	**B (18.7)**
INTERSECTION	**SR 0062 Ramp and Pine Hollow Boulevard**				
East Connelly Blvd Eastbound	**Approach**	A (8.8)	A (8.8)	A (9.0)	A (8.9)
OVERALL		**A (1.6)**	**A (1.6)**	**A (2.0)**	**A (1.1)**
INTERSECTION	**East Connelly Boulevard (SR 0062) and Prindle Street/Griswold Street**				
East Connelly Blvd Eastbound	**Approach**	A (0.0)	A (0.0)	A (0.0)	A (0.0)
East Connelly Blvd Westbound	**Approach**	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Prindle Street Northbound	**Approach**	B (10.5)	B (10.5)	B (10.5)	B (10.4)
Griswold Street Southbound	**Approach**	B (10.0)	B (10.0)	B (10.0)	B (10.0)
OVERALL		**A (0.7)**	**A (0.8)**	**A (0.8)**	**A (0.8)**

(1) Level of service and vehicular delay calculated using methodologies published in *Highway Capacity Manual 2010*, published by the Transportation Research Board, 2010.

(2) 7:30 AM to 8:30 AM

(3) 4:30 PM to 5:30 PM

Table 3
QUEUING ANALYSIS SUMMARY
City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Direction	Approach / Movement	Available Storage in Feet	95th Percentile Queue Length (in feet per lane) [2]			
			2022 Existing	Alternative 1	Alternative 2	Alternative 3
AM PEAK HOUR [3]						
INTERSECTION	**East Connelly Boulevard (SR 0062) and Spencer Avenue**					
East Connelly Blvd Eastbound	**Approach**	**>1000**	9	32	0	N/A
East Connelly Blvd Westbound	**Left Turn**	**75**	32	16	8	N/A
	Through/Right	**275**	33	16	0	N/A
Spencer Avenue Northbound	**Approach**	**[225]**	N/A	73	32	N/A
Spencer Avenue Southbound	**Left/Through**	**>700**	49	72	N/A	N/A
	Right Turn	**70**	21			
INTERSECTION	**East Connelly Boulevard (SR 0062) and Service Avenue**					
East Connelly Blvd Eastbound	**Left Turn**	**100**	11	18	9	N/A
	Through/Right	**275**	21	0	0	N/A
East Connelly Blvd Westbound	**Approach**	**>600**	47	0	0	N/A
Service Avenue Northbound	**Left Turn**	**50**	17	N/A	45	N/A
	Through/Right	**[>500]**	79			
Service Avenue Southbound	**Approach**	**>900**	27	N/A	36	N/A
INTERSECTION	**East Connelly Boulevard (SR 0062) and Stambaugh Avenue (SR 0518)**					
East Connelly Blvd Eastbound	**Left Turn**	**125**	89	113	90	99
	Through/Right	**>1000**	142	153	145	160
East Connelly Blvd Westbound	**Left Turn**	**125**	78	79	69	78
	Through/Right	**>500**	102	100	101	103
Stambaugh Ave Northbound	**Left Turn**	**125**	83	117	99	114
	Through/Right	**170**	194	211	199	194
Stambaugh Ave Southbound	**Left Turn**	**175**	44	64	60	49
	Through/Right	**>850**	198	207	207	196
INTERSECTION	**East Connelly Boulevard (SR 0062) and Pine Hollow Boulevard/Smith Avenue**					
East Connelly Blvd Eastbound	**Left Turn**	**200**	49	51	54	59
	Through	**>1000**	46	49	47	57
East Connelly Blvd Westbound	**Left Turn**	**175**	23	24	20	43
	Through/Right	**>1000**	86	84	95	98
Pine Hollow Blvd Northbound	**Approach**	**>1000**	72	77	81	98
Smith Avenue Southbound	**Approach**	**1000**	89	85	114	128
INTERSECTION	**SR 0062 Ramp and Pine Hollow Boulevard**					
East Connelly Blvd Eastbound	**Approach**	**250**	37	38	43	39
Pine Hollow Blvd Northbound	**Approach**	**>1000**	13	19	16	52
INTERSECTION	**East Connelly Boulevard (SR 0062) and Prindle Street/Griswold Street**					
East Connelly Blvd Eastbound	**Approach**	**>500**	0	0	0	0
East Connelly Blvd Westbound	**Approach**	**>1000**	0	0	0	0
Prindle Street Northbound	**Approach**	**425**	16	13	13	16
Griswold Street Southbound	**Approach**	**70**	40	39	41	41

Table 3 (continued)
QUEUING ANALYSIS SUMMARY
City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Direction	Approach / Movement	Available Storage in Feet	95th Percentile Queue Length (in feet per lane) [2]			
			2022 Existing	Alternative 1	Alternative 2	Alternative 3
PM PEAK HOUR [4]						
INTERSECTION	**East Connelly Boulevard (SR 0062) and Spencer Avenue**					
East Connelly Blvd Eastbound	**Approach**	**>1000**	40	62	2	N/A
East Connelly Blvd Westbound	**Left Turn**	**75**	85	75	17	N/A
	Through/Right	**275**	54	36	0	N/A
Spencer Avenue Northbound	**Approach**	**[225]**	N/A	62	21	N/A
Spencer Avenue Southbound	**Left/Through**	**>700**	23	52	0	N/A
	Right Turn	**70**	16			
INTERSECTION	**East Connelly Boulevard (SR 0062) and Service Avenue**					
East Connelly Blvd Eastbound	**Left Turn**	**100**	14	19	9	N/A
	Through/Right	**275**	35	0	0	N/A
East Connelly Blvd Westbound	**Approach**	**>600**	51	0	0	N/A
Service Avenue Northbound	**Left Turn**	**50**	24	N/A	48	N/A
	Through/Right	**[>500]**	53			
Service Avenue Southbound	**Approach**	**>900**	0	N/A	32	N/A
INTERSECTION	**East Connelly Boulevard (SR 0062) and Stambaugh Avenue (SR 0518)**					
East Connelly Blvd Eastbound	**Left Turn**	**125**	119	113	114	121
	Through/Right	**>1000**	165	171	175	174
East Connelly Blvd Westbound	**Left Turn**	**125**	88	89	87	96
	Through/Right	**>500**	125	130	128	122
Stambaugh Ave Northbound	**Left Turn**	**125**	105	117	108	116
	Through/Right	**170**	162	171	175	180
Stambaugh Ave Southbound	**Left Turn**	**175**	85	66	72	89
	Through/Right	**>850**	228	228	234	248
INTERSECTION	**East Connelly Boulevard (SR 0062) and Pine Hollow Boulevard/Smith Avenue**					
East Connelly Blvd Eastbound	**Left Turn**	**200**	65	56	57	66
	Through	**>1000**	47	47	57	79
East Connelly Blvd Westbound	**Left Turn**	**175**	48	46	40	121
	Through/Right	**>1000**	122	137	132	108
Pine Hollow Blvd Northbound	**Approach**	**>1000**	90	86	91	94
Smith Avenue Southbound	**Approach**	**1000**	108	113	101	120
INTERSECTION	**SR 0062 Ramp and Pine Hollow Boulevard**					
East Connelly Blvd Eastbound	**Approach**	**250**	40	39	53	40
Pine Hollow Blvd Northbound	**Approach**	**>1000**	25	28	28	55
INTERSECTION	**East Connelly Boulevard (SR 0062) and Prindle Street/Griswold Street**					
East Connelly Blvd Eastbound	**Approach**	**>500**	8	9	3	5
East Connelly Blvd Westbound	**Approach**	**>1000**	4	0	6	4
Prindle Street Northbound	**Approach**	**425**	15	14	14	12
Griswold Street Southbound	**Approach**	**70**	31	32	35	32

(1) [XXX] = Available storage capacity under proposed (alternative) conditions

(2) Queue length derived from SimTraffic simulations reports.

(3) 7:30 AM to 8:30 AM

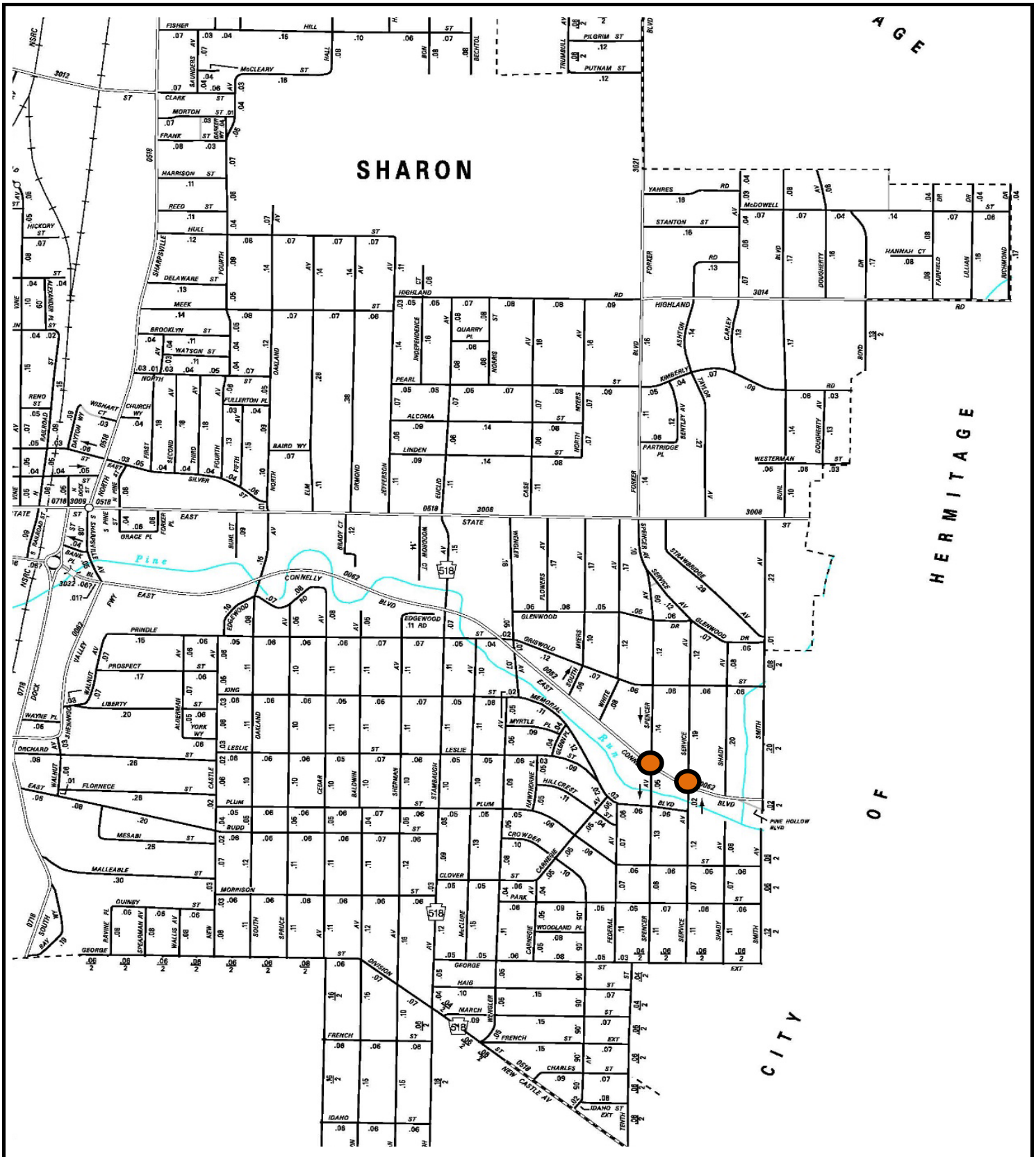
(4) 4:30 PM to 5:30 PM

Table 4
SIGHT DISTANCE EVALUATION
City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Location	Measured Sight Distance (ft) [1]	Posted Speed of Conflicting Traffic (mph)	Approaching Roadway Grade (percent)	Stopping Sight Distance (ft) [1]	Intersection Sight Distance (ft) [2]	Sight Distance Acceptable?
East Connelly Boulevard (SR 0062) and Spencer Avenue						
Spencer Avenue Southbound Looking Left	123	40	-0.8	318	385	No
Spencer Avenue Southbound Looking Right	244	40	1.8	305	445	No
E Connelly Blvd Westbound Left Turn Lane Looking Towards Oncoming Traffic	> 700	40	1.8	305	325	Yes
East Connelly Boulevard (SR 0062) and Service Avenue						
Service Avenue Northbound Looking Left	> 700	40	1.4	307	385	Yes
Service Avenue Northbound Looking Right	> 700	40	-1.7	323	445	Yes
Service Avenue Southbound Looking Left	263	40	-1.7	323	385	No
Service Avenue Southbound Looking Right	427	40	1.4	307	445	Yes
E Connelly Blvd Eastbound Left Turn Lane Looking Towards Oncoming Traffic	514	40	-1.7	323	325	Yes

(1) Sight distance measured and stopping sight distance calculated in accordance with PennDOT Chapter 212.
(2) Intersection sight distance from AASHTO Green Book Table 9-7, Table 9-9, Table 9-11 and Table 9-17.

FIGURES



Trans ASSOCIATES

Small Firm Client Experience, Big Firm Capabilities

Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

SCALE: N.T.S.

PROJECT NO: sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE:

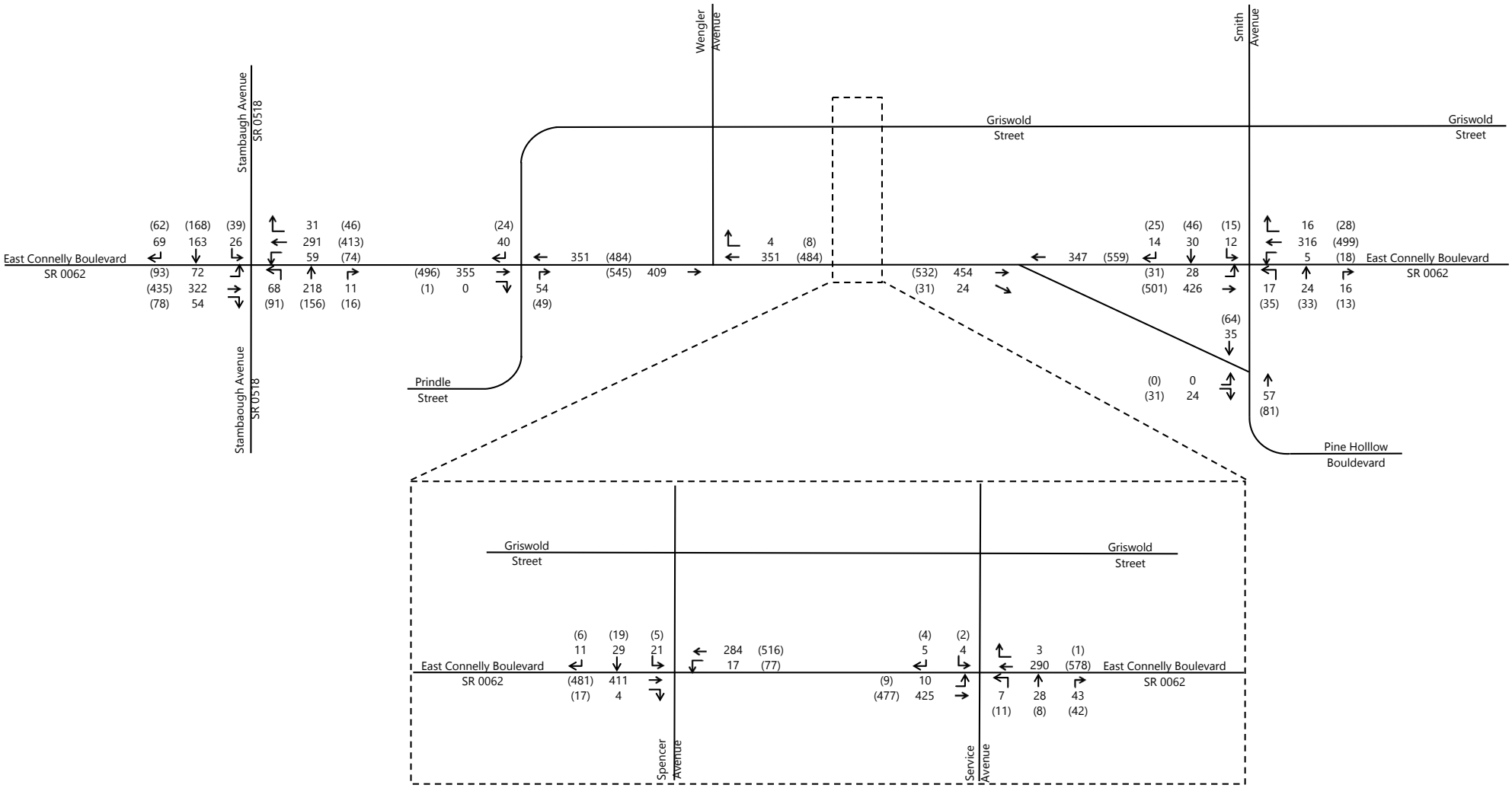
Study Intersections

FIGURE 1

D.B. REG

C.B. REG

REV.



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 / (412) 490-0630

PROJECT NO: sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: 2022 Existing Peak Hour Traffic Volumes

FIGURE 2

D. B. ZTS
C.B. REG
REV.

Legend

123 - Average Daily Traffic Volume

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 / (412) 490-0630

PROJECT NO: sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: 2022 Average Daily Traffic Volumes

FIGURE 3

D.B. REG
C.B. REG
REV.

PLOTTED: 4/7/2022

FILE NAME: P:\sharon00\22041\Concepts\22041Concept1_Alt1.dgn

SCALE: NTS

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Pittsburgh, Pennsylvania 15205, 412-490-0630

PROJECT NO. sharo00 - 22041

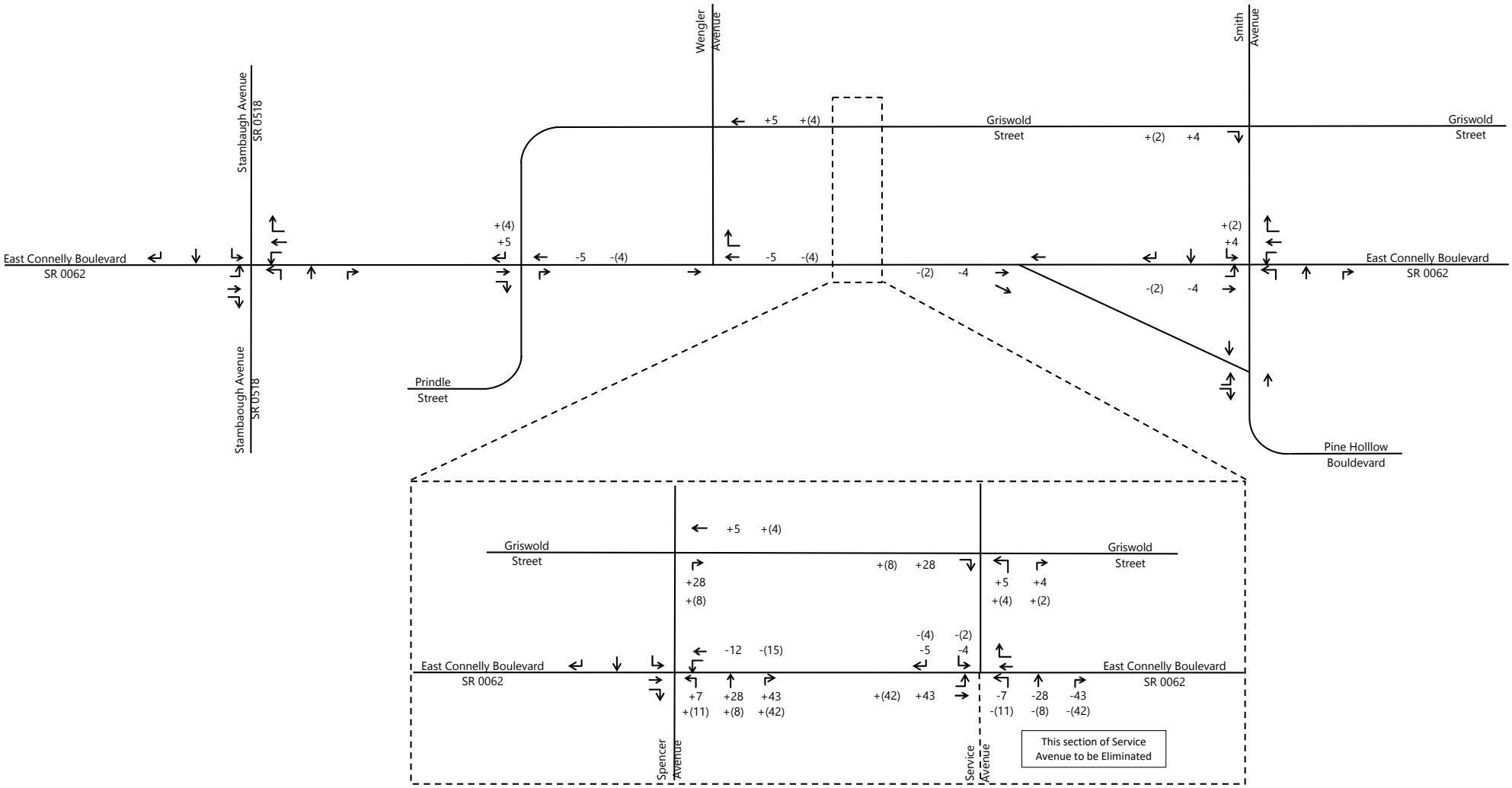
PROJECT SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE:

Alternative 1
Conceptual Plan

FIGURE 4

D.B. BJ
C.B. REG
REV. XX



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

SCALE: N.T.S.

Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

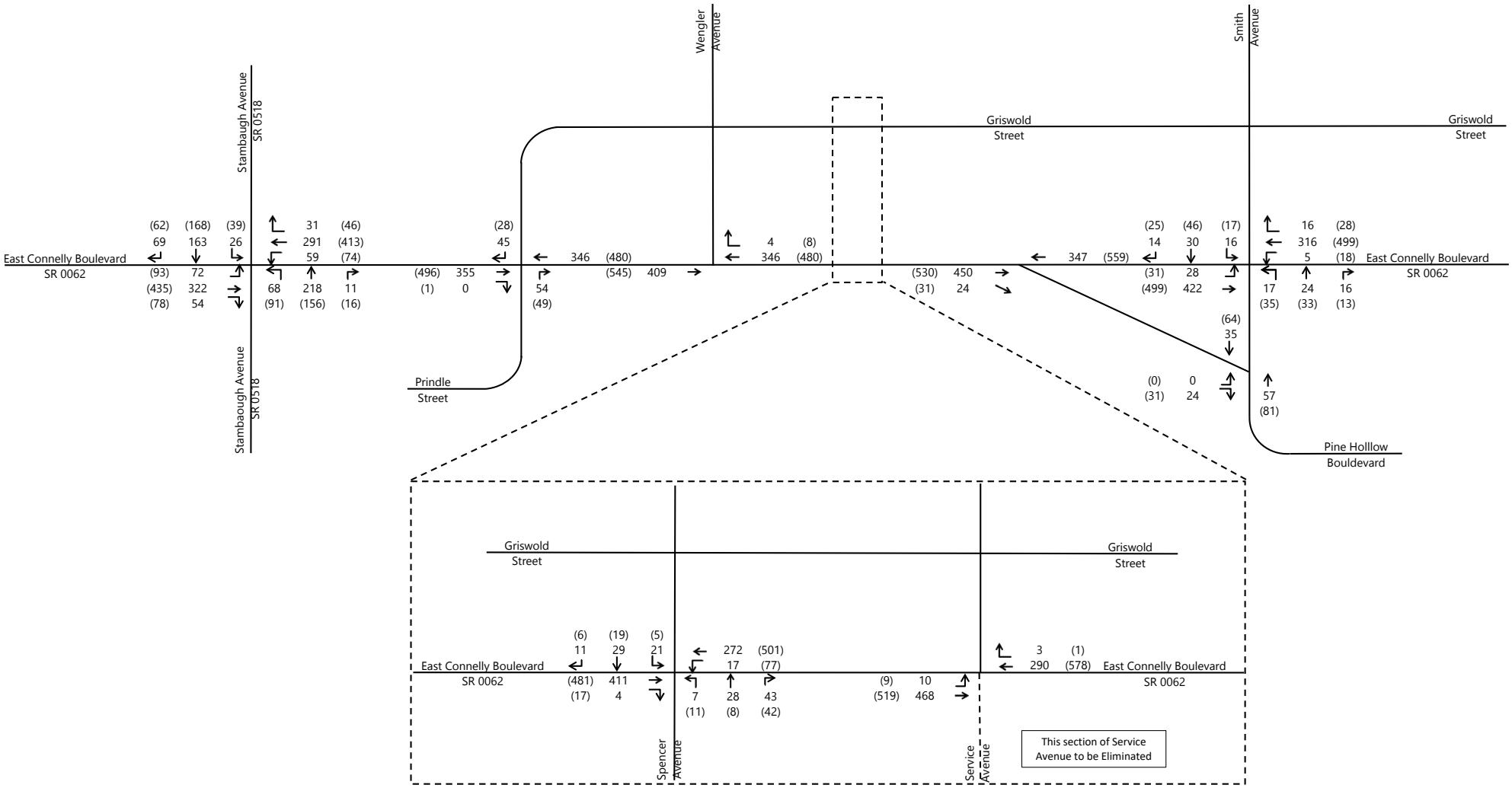
PROJECT NO: sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: Alternative 1
Volume Redistribution

FIGURE 5

D. B. ZTS
C.B. REG
REV.



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

SCALE: N.T.S.

Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

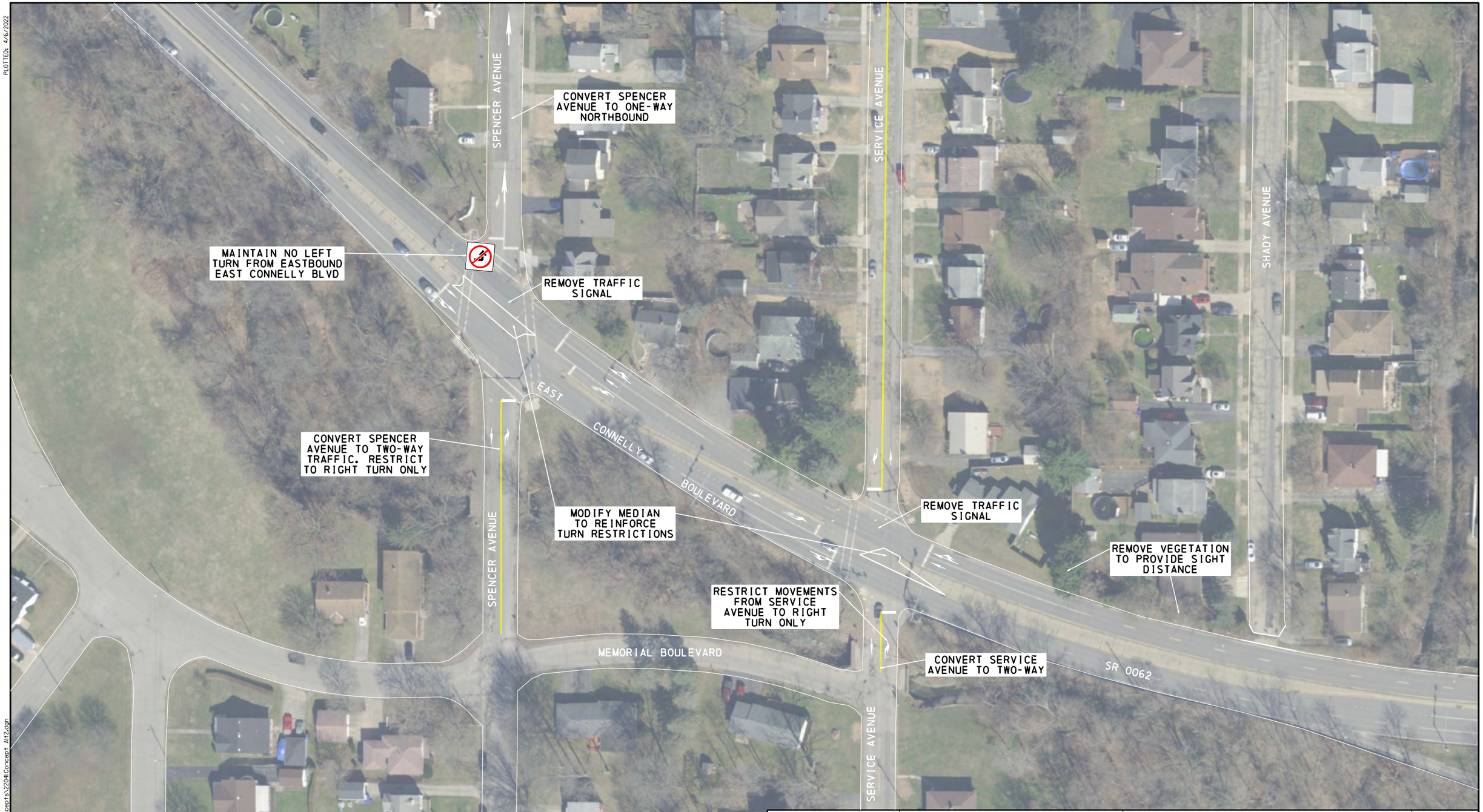
PROJECT NO: sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: Alternative 1 Peak Hour Traffic Volumes

FIGURE 6

D. B. ZTS
C.B. REG
REV.



PLOTTED: 4/6/2022

FILE NAME: P:\sharon00\22041\Concepts\22041Concept1_Alt2.dgn

N

SCALE: NTS

Trans ASSOCIATES

Small Firm Client Experience, Big Firm Capabilities

4955 Steubenville Pike, Twin Towers Suite 400
Pittsburgh, Pennsylvania 15205, 412-490-0630

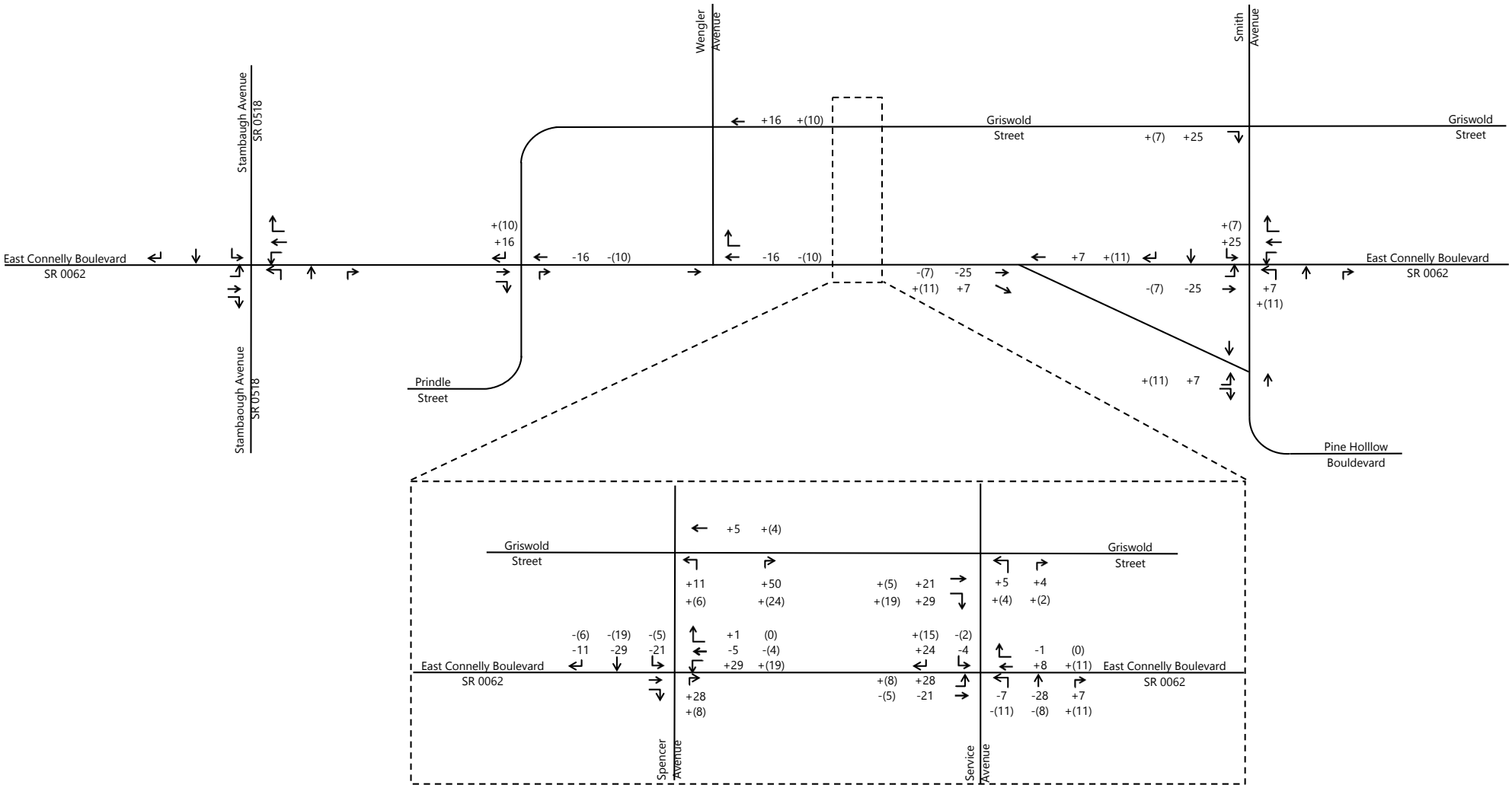
PROJECT NO. sharo00 - 22041

PROJECT SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: Alternative 2
Conceptual Plan

FIGURE 7

D.B. BJ
C.B. REG
REV. XX



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

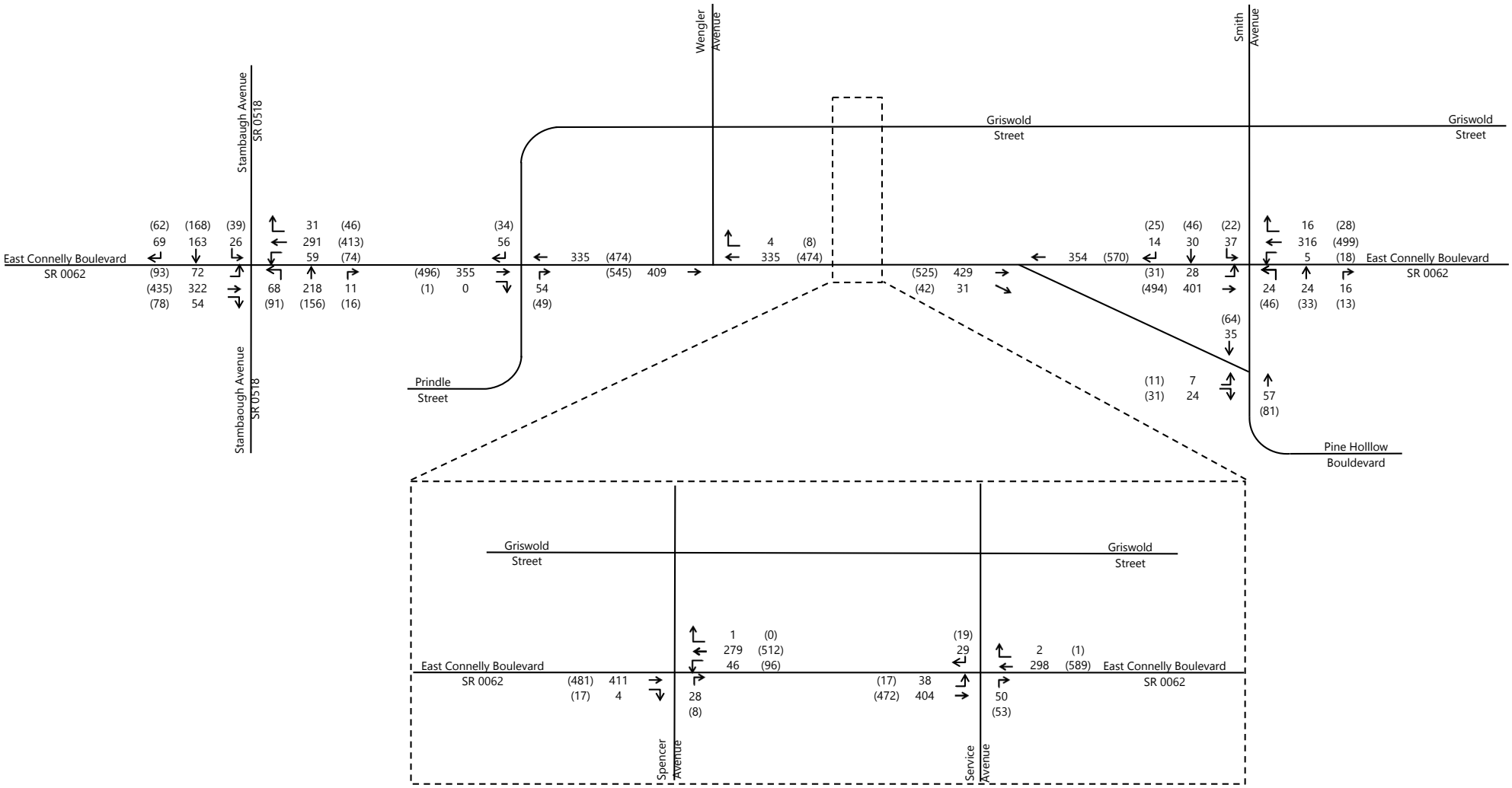
SCALE: N.T.S.

Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

PROJECT NO: sharo00 - 22041
PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA
TITLE: Alternative 2
Volume Redistribution

FIGURE 8

D. B. ZTS
C.B. REG
REV.



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

SCALE: N.T.S.

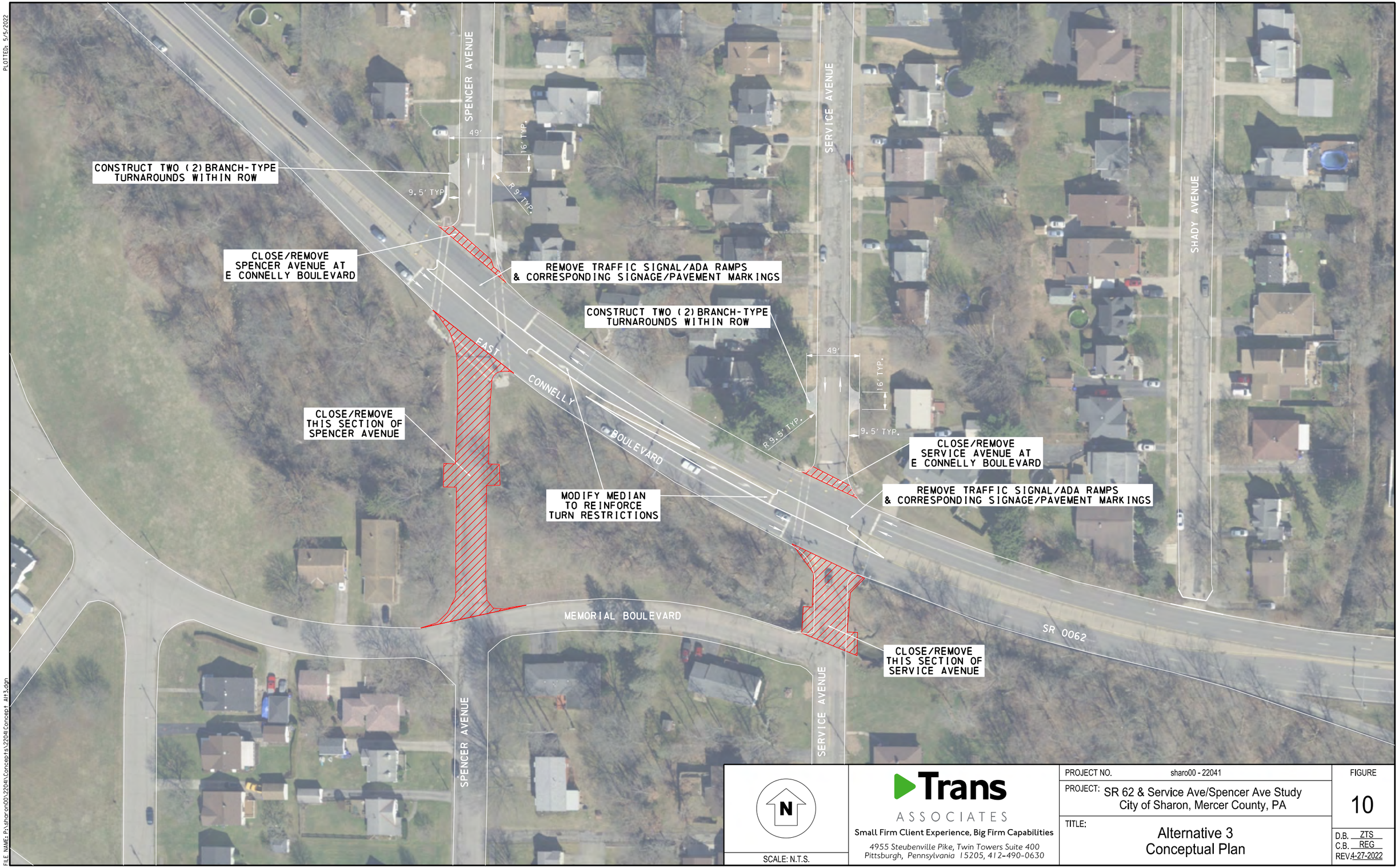
Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

PROJECT NO: sharo00 - 22041
PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA
TITLE: Alternative 2 Peak Hour Traffic Volumes

FIGURE 9

D. B. ZTS
C.B. REG
REV.

PLOTTED: 5/5/2022



FILE NAME: P:\sharon00\22041\Concepts\22041 Concept_Alt3.dgn

N

SCALE: N.T.S.

Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
4955 Steubenville Pike, Twin Towers Suite 400
Pittsburgh, Pennsylvania 15205, 412-490-0630

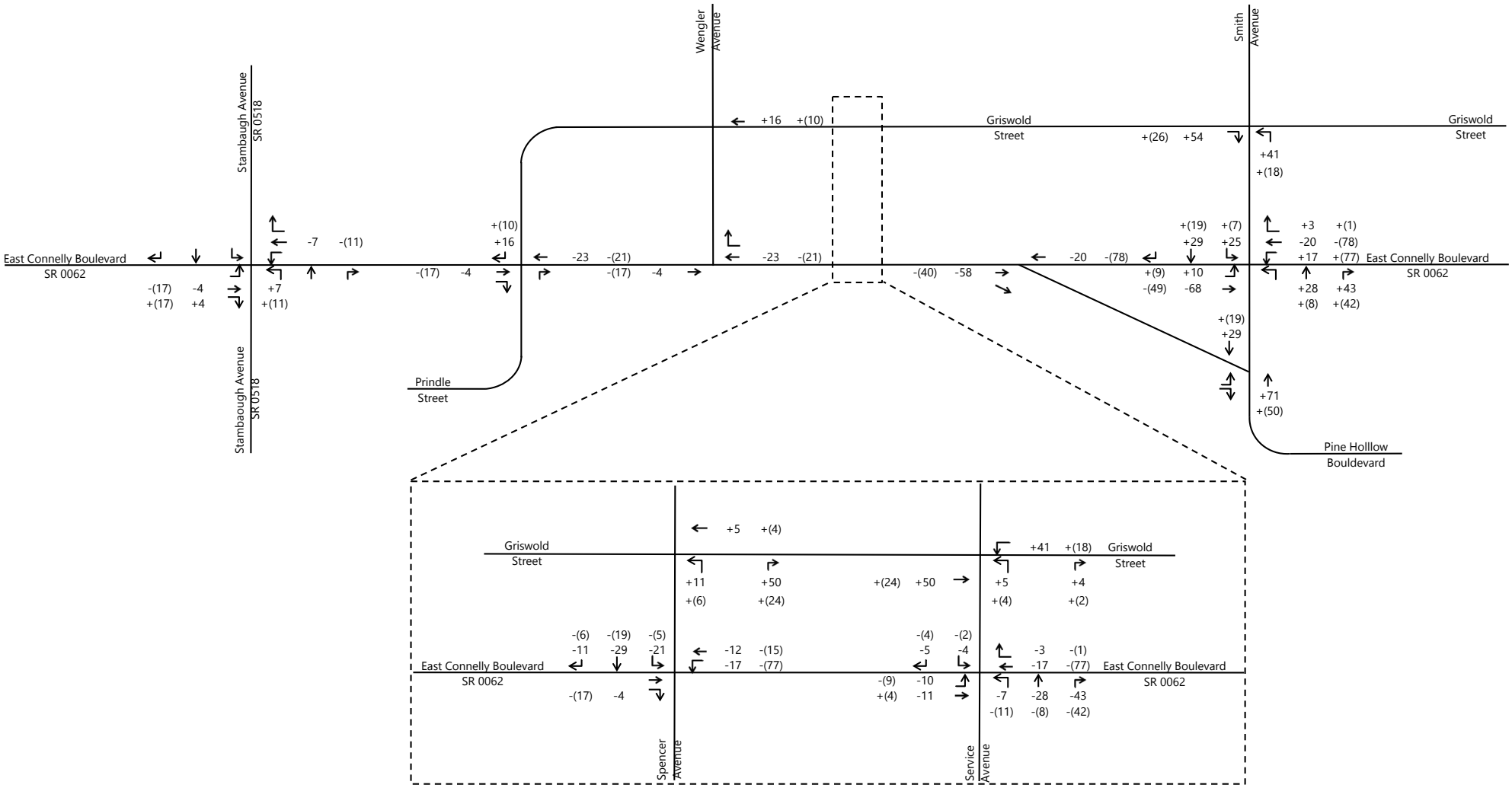
PROJECT NO. sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: Alternative 3
Conceptual Plan

FIGURE 10

D.B. ZTS
C.B. REG
REV 4-27-2022



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

SCALE: N.T.S.

Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

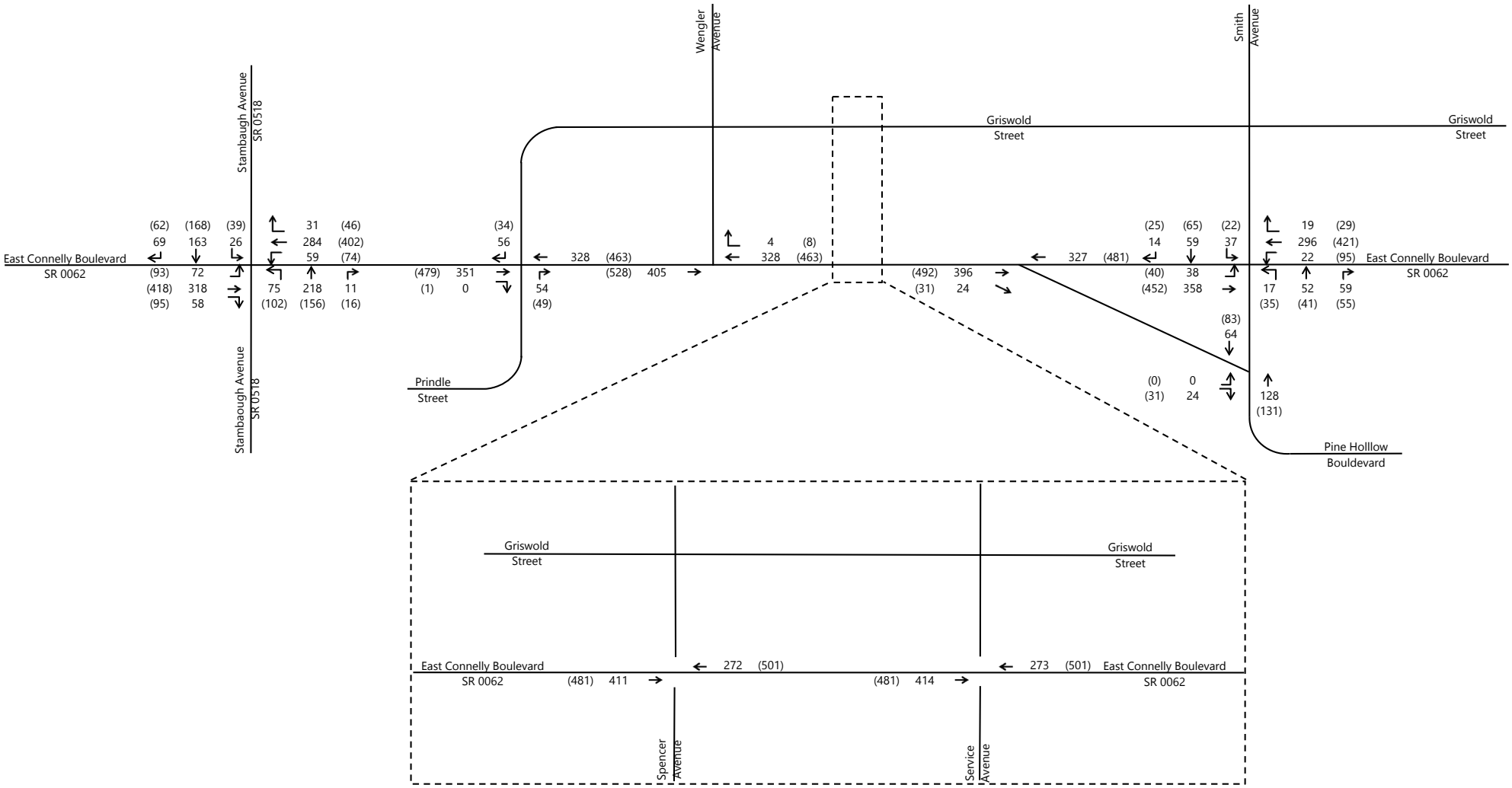
PROJECT NO: sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: Alternative 3
Volume Redistribution

FIGURE 11

D. B. ZTS
C.B. REG
REV.



Legend

123 - AM Peak Hour Traffic Volumes
(123) - PM Peak Hour Traffic Volumes

SCALE: N.T.S.

Trans ASSOCIATES
Small Firm Client Experience, Big Firm Capabilities
Twin Towers Suite 400 / 4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 / (412) 490-0630

PROJECT NO: sharo00 - 22041
PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA
TITLE: Alternative 3
Peak Hour Traffic Volumes

FIGURE 12

D. B. ZTS
C.B. REG
REV.

TECHNICAL APPENDIX

Appendix A

Traffic Counts

Turning Movement Counts

Trans Associates

Service Avenue and Connelly Boulevard

File Name : Service & Connelly_AM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	0	50	0	0	50	0	64	0	0	64	0	1	0	3	4	0	0	0	1	1	119
07:15 AM	3	75	0	0	78	0	64	0	0	64	3	1	2	8	14	0	0	1	0	1	157
07:30 AM	3	96	0	0	99	0	89	1	0	90	3	12	1	9	25	2	0	0	0	2	216
07:45 AM	3	126	0	0	129	0	75	1	0	76	1	11	2	14	28	0	0	1	1	2	235
Total	9	347	0	0	356	0	292	2	0	294	7	25	5	34	71	2	0	2	2	6	727
08:00 AM	1	99	0	0	100	0	61	0	0	61	3	2	1	9	15	1	0	2	0	3	179
08:15 AM	3	104	0	0	107	0	65	1	0	66	0	3	2	5	10	1	0	0	1	2	185
08:30 AM	1	92	0	0	93	0	81	1	0	82	0	3	2	8	13	0	0	0	0	0	188
08:45 AM	1	84	0	0	85	0	67	0	0	67	4	5	2	12	23	0	0	0	1	1	176
Total	6	379	0	0	385	0	274	2	0	276	7	13	7	34	61	2	0	2	2	6	728
Grand Total	15	726	0	0	741	0	566	4	0	570	14	38	12	68	132	4	0	4	4	12	1455
Apprch %	2	98	0	0		0	99.3	0.7	0		10.6	28.8	9.1	51.5		33.3	0	33.3	33.3		
Total %	1	49.9	0	0	50.9	0	38.9	0.3	0	39.2	1	2.6	0.8	4.7	9.1	0.3	0	0.3	0.3	0.8	
Typical Vehicles																					
% Typical Vehicles	100	97	0	0	97	0	96.5	100	0	96.5	92.9	100	100	100	99.2	100	0	100	100	100	97
Heavy Duty Vehicles	0	22	0	0	22	0	20	0	0	20	1	0	0	0	1	0	0	0	0	0	43
% Heavy Duty Vehicles	0	3	0	0	3	0	3.5	0	0	3.5	7.1	0	0	0	0.8	0	0	0	0	0	3

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	3	96	0	0	99	0	89	1	0	90	3	12	1	9	25	2	0	0	0	2	216
07:45 AM	3	126	0	0	129	0	75	1	0	76	1	11	2	14	28	0	0	1	1	2	235
08:00 AM	1	99	0	0	100	0	61	0	0	61	3	2	1	9	15	1	0	2	0	3	179
08:15 AM	3	104	0	0	107	0	65	1	0	66	0	3	2	5	10	1	0	0	1	2	185
Total Volume	10	425	0	0	435	0	290	3	0	293	7	28	6	37	78	4	0	3	2	9	815
% App. Total	2.3	97.7	0	0		0	99	1	0		9	35.9	7.7	47.4		44.4	0	33.3	22.2		
PHF	.833	.843	.000	.000	.843	.000	.815	.750	.000	.814	.583	.583	.750	.661	.696	.500	.000	.375	.500	.750	.867
Typical Vehicles																					
% Typical Vehicles	100	97.6	0	0	97.7	0	97.2	100	0	97.3	100	100	100	100	100	100	0	100	100	100	97.8
Heavy Duty Vehicles	0	10	0	0	10	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	18
% Heavy Duty Vehicles	0	2.4	0	0	2.3	0	2.8	0	0	2.7	0	0	0	0	0	0	0	0	0	0	2.2

Trans Associates

Service Avenue and Connelly Boulevard

File Name : Service & Connelly_AM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Trans Associates

Service Avenue and Connelly Boulevard

File Name : Service & Connelly_PM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	4	108	0	0	112	0	136	3	0	139	2	4	2	11	19	1	0	0	0	1	271
04:15 PM	4	117	0	0	121	0	118	4	0	122	0	4	2	9	15	1	0	0	0	1	259
04:30 PM	1	109	0	0	110	0	153	1	0	154	1	3	0	10	14	0	0	3	0	3	281
04:45 PM	5	117	0	0	122	0	137	0	0	137	2	2	1	10	15	2	0	1	0	3	277
Total	14	451	0	0	465	0	544	8	0	552	5	13	5	40	63	4	0	4	0	8	1088
05:00 PM	2	131	0	0	133	0	161	0	0	161	6	0	3	7	16	0	0	0	0	0	310
05:15 PM	1	120	0	0	121	0	127	0	0	127	2	3	1	10	16	0	0	0	0	0	264
05:30 PM	2	132	0	0	134	0	109	0	0	109	3	2	0	18	23	0	0	0	0	0	266
05:45 PM	2	114	0	0	116	0	92	3	0	95	4	2	0	8	14	0	0	0	0	0	225
Total	7	497	0	0	504	0	489	3	0	492	15	7	4	43	69	0	0	0	0	0	1065
Grand Total	21	948	0	0	969	0	1033	11	0	1044	20	20	9	83	132	4	0	4	0	8	2153
Apprch %	2.2	97.8	0	0		0	98.9	1.1	0		15.2	15.2	6.8	62.9		50	0	50	0		
Total %	1	44	0	0	45	0	48	0.5	0	48.5	0.9	0.9	0.4	3.9	6.1	0.2	0	0.2	0	0.4	
Typical Vehicles																					
% Typical Vehicles	100	98.8	0	0	98.9	0	98.3	100	0	98.3	95	100	100	97.6	97.7	100	0	100	0	100	98.5
Heavy Duty Vehicles	0	11	0	0	11	0	18	0	0	18	1	0	0	2	3	0	0	0	0	0	32
% Heavy Duty Vehicles	0	1.2	0	0	1.1	0	1.7	0	0	1.7	5	0	0	2.4	2.3	0	0	0	0	0	1.5

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	1	109	0	0	110	0	153	1	0	154	1	3	0	10	14	0	0	3	0	3	281
04:45 PM	5	117	0	0	122	0	137	0	0	137	2	2	1	10	15	2	0	1	0	3	277
05:00 PM	2	131	0	0	133	0	161	0	0	161	6	0	3	7	16	0	0	0	0	0	310
05:15 PM	1	120	0	0	121	0	127	0	0	127	2	3	1	10	16	0	0	0	0	0	264
Total Volume	9	477	0	0	486	0	578	1	0	579	11	8	5	37	61	2	0	4	0	6	1132
% App. Total	1.9	98.1	0	0		0	99.8	0.2	0		18	13.1	8.2	60.7		33.3	0	66.7	0		
PHF	.450	.910	.000	.000	.914	.000	.898	.250	.000	.899	.458	.667	.417	.925	.953	.250	.000	.333	.000	.500	.913
Typical Vehicles																					
% Typical Vehicles	100	99.0	0	0	99.0	0	97.9	100	0	97.9	90.9	100	100	97.3	96.7	100	0	100	0	100	98.3
Heavy Duty Vehicles	0	5	0	0	5	0	12	0	0	12	1	0	0	1	2	0	0	0	0	0	19
% Heavy Duty Vehicles	0	1.0	0	0	1.0	0	2.1	0	0	2.1	9.1	0	0	2.7	3.3	0	0	0	0	0	1.7

Trans Associates

Service Avenue and Connelly Boulevard

File Name : Service & Connelly_PM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Connelly Boulevard Eastbound					Connelly Boulevard Westbound					Service Avenue Northbound					Service Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Trans Associates

Spencer Avenue and Connelly Boulevard

File Name : Spencer & Connelly_AM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:00 AM	0	37	0	0	37	4	56	0	0	60	0	0	0	0	0	3	2	0	1	6	103
07:15 AM	0	76	0	0	76	4	62	0	0	66	0	0	0	0	0	3	5	1	0	9	151
07:30 AM	0	92	1	0	93	6	87	0	0	93	0	0	0	0	0	7	7	2	0	16	202
07:45 AM	0	125	0	0	125	3	76	0	0	79	0	0	0	0	0	6	12	5	2	25	229
Total	0	330	1	0	331	17	281	0	0	298	0	0	0	0	0	19	26	8	3	56	685
08:00 AM	0	93	2	0	95	2	61	0	0	63	0	0	0	0	0	3	5	2	0	10	168
08:15 AM	0	101	1	0	102	6	60	0	0	66	0	0	0	0	0	5	5	0	0	10	178
08:30 AM	0	90	0	0	90	2	81	0	0	83	0	0	0	0	0	3	4	3	0	10	183
08:45 AM	0	84	2	0	86	1	73	0	0	74	0	0	0	0	0	3	1	1	0	5	165
Total	0	368	5	0	373	11	275	0	0	286	0	0	0	0	0	14	15	6	0	35	694
Grand Total	0	698	6	0	704	28	556	0	0	584	0	0	0	0	0	33	41	14	3	91	1379
Apprch %	0	99.1	0.9	0		4.8	95.2	0	0		0	0	0	0		36.3	45.1	15.4	3.3		
Total %	0	50.6	0.4	0	51.1	2	40.3	0	0	42.3	0	0	0	0	0	2.4	3	1	0.2	6.6	
Typical Vehicles																					
% Typical Vehicles	0	97.3	66.7	0	97	96.4	96.4	0	0	96.4	0	0	0	0	0	100	100	100	100	100	97
Heavy Duty Vehicles	0	19	2	0	21	1	20	0	0	21	0	0	0	0	0	0	0	0	0	0	42
% Heavy Duty Vehicles	0	2.7	33.3	0	3	3.6	3.6	0	0	3.6	0	0	0	0	0	0	0	0	0	0	3

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	0	92	1	0	93	6	87	0	0	93	0	0	0	0	0	7	7	2	0	16	202
07:45 AM	0	125	0	0	125	3	76	0	0	79	0	0	0	0	0	6	12	5	2	25	229
08:00 AM	0	93	2	0	95	2	61	0	0	63	0	0	0	0	0	3	5	2	0	10	168
08:15 AM	0	101	1	0	102	6	60	0	0	66	0	0	0	0	0	5	5	0	0	10	178
Total Volume	0	411	4	0	415	17	284	0	0	301	0	0	0	0	0	21	29	9	2	61	777
% App. Total	0	99	1	0		5.6	94.4	0	0		0	0	0	0		34.4	47.5	14.8	3.3		
PHF	.000	.822	.500	.000	.830	.708	.816	.000	.000	.809	.000	.000	.000	.000	.000	.750	.604	.450	.250	.610	.848
Typical Vehicles																					
% Typical Vehicles	0	97.6	75.0	0	97.3	100	97.2	0	0	97.3	0	0	0	0	0	100	100	100	100	100	97.6
Heavy Duty Vehicles	0	10	1	0	11	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	19
% Heavy Duty Vehicles	0	2.4	25.0	0	2.7	0	2.8	0	0	2.7	0	0	0	0	0	0	0	0	0	0	2.4

Trans Associates

Spencer Avenue and Connelly Boulevard

File Name : Spencer & Connelly_AM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Apprch %	0	100	0	0		0	0	0	100		0	0	0	0		0	0	0	0		
Total %	0	50	0	0	50	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0	0		0	0	0	100		0	0	0	0		0	0	0	0		
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Trans Associates

Spencer Avenue and Connelly Boulevard

File Name : Spencer & Connelly_PM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:00 PM	0	112	2	0	114	14	128	0	0	142	0	0	0	0	0	3	3	0	0	6	262
04:15 PM	0	117	1	0	118	13	102	0	0	115	0	0	0	0	0	1	3	2	0	6	239
04:30 PM	0	109	2	0	111	18	140	0	0	158	0	0	0	0	0	3	8	0	0	11	280
04:45 PM	0	122	4	0	126	17	121	0	0	138	0	0	0	0	0	2	6	0	0	8	272
Total	0	460	9	0	469	62	491	0	0	553	0	0	0	0	0	9	20	2	0	31	1053
05:00 PM	0	134	5	0	139	21	148	0	0	169	0	0	0	0	0	0	2	4	2	8	316
05:15 PM	0	116	5	1	122	21	107	0	0	128	0	0	0	0	0	0	3	0	0	3	253
05:30 PM	0	130	1	0	131	9	103	0	0	112	0	0	0	0	0	4	7	2	0	13	256
05:45 PM	0	116	1	0	117	10	83	0	0	93	0	0	0	0	0	0	1	2	0	3	213
Total	0	496	12	1	509	61	441	0	0	502	0	0	0	0	0	4	13	8	2	27	1038
Grand Total	0	956	21	1	978	123	932	0	0	1055	0	0	0	0	0	13	33	10	2	58	2091
Apprch %	0	97.8	2.1	0.1		11.7	88.3	0	0		0	0	0	0		22.4	56.9	17.2	3.4		
Total %	0	45.7	1	0	46.8	5.9	44.6	0	0	50.5	0	0	0	0	0	0.6	1.6	0.5	0.1	2.8	
Typical Vehicles																					
% Typical Vehicles	0	98.8	100	100	98.9	100	97.9	0	0	98.1	0	0	0	0	0	100	100	100	100	100	98.5
Heavy Duty Vehicles	0	11	0	0	11	0	20	0	0	20	0	0	0	0	0	0	0	0	0	0	31
% Heavy Duty Vehicles	0	1.2	0	0	1.1	0	2.1	0	0	1.9	0	0	0	0	0	0	0	0	0	0	1.5

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	109	2	0	111	18	140	0	0	158	0	0	0	0	0	3	8	0	0	11	280
04:45 PM	0	122	4	0	126	17	121	0	0	138	0	0	0	0	0	2	6	0	0	8	272
05:00 PM	0	134	5	0	139	21	148	0	0	169	0	0	0	0	0	0	2	4	2	8	316
05:15 PM	0	116	5	1	122	21	107	0	0	128	0	0	0	0	0	0	3	0	0	3	253
Total Volume	0	481	16	1	498	77	516	0	0	593	0	0	0	0	0	5	19	4	2	30	1121
% App. Total	0	96.6	3.2	0.2		13	87	0	0		0	0	0	0		16.7	63.3	13.3	6.7		
PHF	.000	.897	.800	.250	.896	.917	.872	.000	.000	.877	.000	.000	.000	.000	.000	.417	.594	.250	.250	.682	.887
Typical Vehicles																					
% Typical Vehicles	0	99.0	100	100	99.0	100	97.3	0	0	97.6	0	0	0	0	0	100	100	100	100	100	98.3
Heavy Duty Vehicles	0	5	0	0	5	0	14	0	0	14	0	0	0	0	0	0	0	0	0	0	19
% Heavy Duty Vehicles	0	1.0	0	0	1.0	0	2.7	0	0	2.4	0	0	0	0	0	0	0	0	0	0	1.7

Trans Associates

Spencer Avenue and Connelly Boulevard

File Name : Spencer & Connelly_PM
Site Code : 22041000
Start Date : 3/23/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Apprch %	0	0	0	100		0	0	0	100		0	0	0	0		0	0	0	0		
Total %	0	0	0	50	50	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	

	Connelly Avenue Eastbound					Connelly Avenue Westbound					Spencer Avenue Northbound					Spencer Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	100		0	0	0	100		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.250	.250	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Trans Associates

E. Connelly Boulevard and
Stambaugh Avenue

File Name : Stambaugh Av_730-830 AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:30 AM	28	100	16	0	144	11	79	3	0	93	14	67	2	0	83	7	36	13	8	64	384
07:45 AM	21	106	19	0	146	29	74	12	0	115	19	66	0	0	85	11	50	19	0	80	426
Total	49	206	35	0	290	40	153	15	0	208	33	133	2	0	168	18	86	32	8	144	810
08:00 AM	9	64	7	0	80	10	67	8	0	85	15	48	5	1	69	5	44	15	1	65	299
08:15 AM	14	52	12	0	78	9	71	8	0	88	20	37	3	0	60	3	33	9	4	49	275
Grand Total	72	322	54	0	448	59	291	31	0	381	68	218	10	1	297	26	163	56	13	258	1384
Apprch %	16.1	71.9	12.1	0		15.5	76.4	8.1	0		22.9	73.4	3.4	0.3		10.1	63.2	21.7	5		
Total %	5.2	23.3	3.9	0	32.4	4.3	21	2.2	0	27.5	4.9	15.8	0.7	0.1	21.5	1.9	11.8	4	0.9	18.6	
Typical Vehicles																					
% Typical Vehicles	94.4	96	94.4	0	95.5	98.3	95.5	96.8	0	96.1	97.1	98.2	100	100	98	100	99.4	96.4	92.3	98.4	96.7
Heavy Duty Vehicles	4	13	3	0	20	1	13	1	0	15	2	4	0	0	6	0	1	2	1	4	45
% Heavy Duty Vehicles	5.6	4	5.6	0	4.5	1.7	4.5	3.2	0	3.9	2.9	1.8	0	0	2	0	0.6	3.6	7.7	1.6	3.3

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	28	100	16	0	144	11	79	3	0	93	14	67	2	0	83	7	36	13	8	64	384
07:45 AM	21	106	19	0	146	29	74	12	0	115	19	66	0	0	85	11	50	19	0	80	426
08:00 AM	9	64	7	0	80	10	67	8	0	85	15	48	5	1	69	5	44	15	1	65	299
08:15 AM	14	52	12	0	78	9	71	8	0	88	20	37	3	0	60	3	33	9	4	49	275
Total Volume	72	322	54	0	448	59	291	31	0	381	68	218	10	1	297	26	163	56	13	258	1384
% App. Total	16.1	71.9	12.1	0		15.5	76.4	8.1	0		22.9	73.4	3.4	0.3		10.1	63.2	21.7	5		
PHF	.643	.759	.711	.000	.767	.509	.921	.646	.000	.828	.850	.813	.500	.250	.874	.591	.815	.737	.406	.806	.812
Typical Vehicles																					
% Typical Vehicles	94.4	96.0	94.4	0	95.5	98.3	95.5	96.8	0	96.1	97.1	98.2	100	100	98.0	100	99.4	96.4	92.3	98.4	96.7
Heavy Duty Vehicles	4	13	3	0	20	1	13	1	0	15	2	4	0	0	6	0	1	2	1	4	45
% Heavy Duty Vehicles	5.6	4.0	5.6	0	4.5	1.7	4.5	3.2	0	3.9	2.9	1.8	0	0	2.0	0	0.6	3.6	7.7	1.6	3.3

Trans Associates

E. Connelly Boulevard and
Stambaugh Avenue

File Name : Stambaugh Av_730-830 AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:30 AM	0	0	0	3	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6
Apprch %	0	0	0	100		0	0	0	100		0	0	0	0		0	0	0	0		
Total %	0	0	0	50	50	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	3	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6
% App. Total	0	0	0	100		0	0	0	100		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.250	.250	.000	.000	.000	.375	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375

Trans Associates

E. Connelly Boulevard and
Stambaugh Avenue

File Name : Stambaugh Av_430-530 PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:30 PM	16	97	16	0	129	18	97	7	0	122	23	37	3	2	65	9	49	12	2	72	388
04:45 PM	14	116	19	0	149	15	91	14	0	120	26	48	1	1	76	10	39	18	1	68	413
Total	30	213	35	0	278	33	188	21	0	242	49	85	4	3	141	19	88	30	3	140	801
05:00 PM	33	112	24	0	169	21	113	10	0	144	20	23	5	2	50	12	42	9	2	65	428
05:15 PM	30	110	19	0	159	20	112	14	1	147	22	48	1	1	72	8	38	15	3	64	442
Grand Total	93	435	78	0	606	74	413	45	1	533	91	156	10	6	263	39	168	54	8	269	1671
Apprch %	15.3	71.8	12.9	0		13.9	77.5	8.4	0.2		34.6	59.3	3.8	2.3		14.5	62.5	20.1	3		
Total %	5.6	26	4.7	0	36.3	4.4	24.7	2.7	0.1	31.9	5.4	9.3	0.6	0.4	15.7	2.3	10.1	3.2	0.5	16.1	
Typical Vehicles																					
% Typical Vehicles	98.9	99.3	97.4	0	99	98.6	97.8	100	100	98.1	97.8	97.4	100	100	97.7	100	98.8	100	100	99.3	98.6
Heavy Duty Vehicles	1	3	2	0	6	1	9	0	0	10	2	4	0	0	6	0	2	0	0	2	24
% Heavy Duty Vehicles	1.1	0.7	2.6	0	1	1.4	2.2	0	0	1.9	2.2	2.6	0	0	2.3	0	1.2	0	0	0.7	1.4

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	16	97	16	0	129	18	97	7	0	122	23	37	3	2	65	9	49	12	2	72	388
04:45 PM	14	116	19	0	149	15	91	14	0	120	26	48	1	1	76	10	39	18	1	68	413
05:00 PM	33	112	24	0	169	21	113	10	0	144	20	23	5	2	50	12	42	9	2	65	428
05:15 PM	30	110	19	0	159	20	112	14	1	147	22	48	1	1	72	8	38	15	3	64	442
Total Volume	93	435	78	0	606	74	413	45	1	533	91	156	10	6	263	39	168	54	8	269	1671
% App. Total	15.3	71.8	12.9	0		13.9	77.5	8.4	0.2		34.6	59.3	3.8	2.3		14.5	62.5	20.1	3		
PHF	.705	.938	.813	.000	.896	.881	.914	.804	.250	.906	.875	.813	.500	.750	.865	.813	.857	.750	.667	.934	.945
Typical Vehicles																					
% Typical Vehicles	98.9	99.3	97.4	0	99.0	98.6	97.8	100	100	98.1	97.8	97.4	100	100	97.7	100	98.8	100	100	99.3	98.6
Heavy Duty Vehicles	1	3	2	0	6	1	9	0	0	10	2	4	0	0	6	0	2	0	0	2	24
% Heavy Duty Vehicles	1.1	0.7	2.6	0	1.0	1.4	2.2	0	0	1.9	2.2	2.6	0	0	2.3	0	1.2	0	0	0.7	1.4

Trans Associates

E. Connelly Boulevard and
Stambaugh Avenue

File Name : Stambaugh Av_430-530 PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	3	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
Apprch %	0	0	0	100		0	0	0	100		0	0	0	0		0	0	0	0		
Total %	0	0	0	75	75	0	0	0	25	25	0	0	0	0	0	0	0	0	0	0	

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Stambaugh Avenue Northbound					Stambaugh Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	3	3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
% App. Total	0	0	0	100		0	0	0	100		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.250	.250	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333

Trans Associates

E. Connelly Boulevard and
Griswold St./ Wengler Ave.

File Name : Griswold St__730-830 AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavyb Duty Vehicles

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Int. Total
07:30 AM	0	0	0	0	0	0	89	2	0	91	0	0	0	0	0	0	0	13	0	13	104
07:45 AM	0	0	0	0	0	0	93	0	0	93	0	0	0	0	0	0	0	12	0	12	105
Total	0	0	0	0	0	0	182	2	0	184	0	0	0	0	0	0	0	25	0	25	209
08:00 AM	0	0	0	0	0	0	81	0	0	81	0	0	0	0	0	0	0	6	0	6	87
08:15 AM	0	0	0	0	0	0	88	2	0	90	0	0	0	0	0	0	0	9	0	9	99
Grand Total	0	0	0	0	0	0	351	4	0	355	0	0	0	0	0	0	0	40	0	40	395
Apprch %	0	0	0	0		0	98.9	1.1	0		0	0	0	0		0	0	100	0		
Total %	0	0	0	0	0	0	88.9	1	0	89.9	0	0	0	0	0	0	0	10.1	0	10.1	
Typical Vehicles																					
% Typical Vehicles	0	0	0	0	0	0	94.6	100	0	94.6	0	0	0	0	0	0	0	100	0	100	95.2
Heavyb Duty Vehicles	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	0	0	19
% Heavyb Duty Vehicles	0	0	0	0	0	0	5.4	0	0	5.4	0	0	0	0	0	0	0	0	0	0	4.8

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	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	0	0	0	0	0	89	2	0	91	0	0	0	0	0	0	0	13	0	13	104
07:45 AM	0	0	0	0	0	0	93	0	0	93	0	0	0	0	0	0	0	12	0	12	105
08:00 AM	0	0	0	0	0	0	81	0	0	81	0	0	0	0	0	0	0	6	0	6	87
08:15 AM	0	0	0	0	0	0	88	2	0	90	0	0	0	0	0	0	0	9	0	9	99
Total Volume	0	0	0	0	0	0	351	4	0	355	0	0	0	0	0	0	0	40	0	40	395
% App. Total	0	0	0	0		0	98.9	1.1	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.944	.500	.000	.954	.000	.000	.000	.000	.000	.000	.000	.769	.000	.769	.940
Typical Vehicles																					
% Typical Vehicles	0	0	0	0	0	0	94.6	100	0	94.6	0	0	0	0	0	0	0	100	0	100	95.2
Heavyb Duty Vehicles	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	0	0	0	19
% Heavyb Duty Vehicles	0	0	0	0	0	0	5.4	0	0	5.4	0	0	0	0	0	0	0	0	0	0	4.8

Trans Associates

E. Connelly Boulevard and
Griswold St./ Wengler Ave.

File Name : Griswold St__730-830 AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Trans Associates

E. Connelly Boulevard and
Griswold St./ Wengler Ave.

File Name : Griswold St__430-530 PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavyb Duty Vehicles

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Int. Total
04:30 PM	0	0	0	0	0	0	110	1	0	111	0	0	0	0	0	0	0	6	0	6	117
04:45 PM	0	0	0	0	0	0	111	1	0	112	0	0	0	0	0	0	0	7	0	7	119
Total	0	0	0	0	0	0	221	2	0	223	0	0	0	0	0	0	0	13	0	13	236
05:00 PM	0	0	0	0	0	0	140	3	0	143	0	0	0	0	0	0	0	6	0	6	149
05:15 PM	0	0	0	0	0	0	123	3	0	126	0	0	0	0	0	0	0	5	0	5	131
Grand Total	0	0	0	0	0	0	484	8	0	492	0	0	0	0	0	0	0	24	0	24	516
Apprch %	0	0	0	0		0	98.4	1.6	0		0	0	0	0		0	0	100	0		
Total %	0	0	0	0	0	0	93.8	1.6	0	95.3	0	0	0	0	0	0	0	4.7	0	4.7	
Typical Vehicles																					
% Typical Vehicles	0	0	0	0	0	0	98.3	100	0	98.4	0	0	0	0	0	0	0	100	0	100	98.4
Heavyb Duty Vehicles	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	8
% Heavyb Duty Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	0	0	0	0	0	0	0	0	0	0	1.6

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	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	0	0	0	0	110	1	0	111	0	0	0	0	0	0	0	6	0	6	117
04:45 PM	0	0	0	0	0	0	111	1	0	112	0	0	0	0	0	0	0	7	0	7	119
05:00 PM	0	0	0	0	0	0	140	3	0	143	0	0	0	0	0	0	0	6	0	6	149
05:15 PM	0	0	0	0	0	0	123	3	0	126	0	0	0	0	0	0	0	5	0	5	131
Total Volume	0	0	0	0	0	0	484	8	0	492	0	0	0	0	0	0	0	24	0	24	516
% App. Total	0	0	0	0		0	98.4	1.6	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.864	.667	.000	.860	.000	.000	.000	.000	.000	.000	.000	.857	.000	.857	.866
Typical Vehicles																					
% Typical Vehicles	0	0	0	0	0	0	98.3	100	0	98.4	0	0	0	0	0	0	0	100	0	100	98.4
Heavyb Duty Vehicles	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	8
% Heavyb Duty Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	0	0	0	0	0	0	0	0	0	0	1.6

Trans Associates

E. Connelly Boulevard and
Griswold St./ Wengler Ave.

File Name : Griswold St__430-530 PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
Apprch %	0	0	0	0		0	0	0	100		0	0	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	

	N/A Eastbound					E. Connelly Boulevard Westbound					N/A Northbound					Griswold St./ Wengler Ave. Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	0		0	0	0	100		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Trans Associates

E. Connelly Boulevard and Prindle Street

File Name : Prindle St_730-830 AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Int. Total
07:30 AM	0	100	0	0	100	0	0	0	0	0	0	0	16	0	16	0	0	0	0	0	116
07:45 AM	0	120	0	0	120	0	0	0	0	0	0	0	14	0	14	0	0	0	0	0	134
Total	0	220	0	0	220	0	0	0	0	0	0	0	30	0	30	0	0	0	0	0	250
08:00 AM	0	72	0	0	72	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	85
08:15 AM	0	63	0	0	63	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	74
Grand Total	0	355	0	0	355	0	0	0	0	0	0	0	54	0	54	0	0	0	0	0	409
Apprch %	0	100	0	0		0	0	0	0		0	0	100	0		0	0	0	0		
Total %	0	86.8	0	0	86.8	0	0	0	0	0	0	0	13.2	0	13.2	0	0	0	0	0	
Typical Vehicles																					
% Typical Vehicles	0	96.3	0	0	96.3	0	0	0	0	0	0	0	98.1	0	98.1	0	0	0	0	0	96.6
Heavy Duty Vehicles	0	13	0	0	13	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	14
% Heavy Duty Vehicles	0	3.7	0	0	3.7	0	0	0	0	0	0	0	1.9	0	1.9	0	0	0	0	0	3.4

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	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	100	0	0	100	0	0	0	0	0	0	0	16	0	16	0	0	0	0	0	116
07:45 AM	0	120	0	0	120	0	0	0	0	0	0	0	14	0	14	0	0	0	0	0	134
08:00 AM	0	72	0	0	72	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	85
08:15 AM	0	63	0	0	63	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	74
Total Volume	0	355	0	0	355	0	0	0	0	0	0	0	54	0	54	0	0	0	0	0	409
% App. Total	0	100	0	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.000	.740	.000	.000	.740	.000	.000	.000	.000	.000	.000	.000	.844	.000	.844	.000	.000	.000	.000	.000	.763
Typical Vehicles																					
% Typical Vehicles	0	96.3	0	0	96.3	0	0	0	0	0	0	0	98.1	0	98.1	0	0	0	0	0	96.6
Heavy Duty Vehicles	0	13	0	0	13	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	14
% Heavy Duty Vehicles	0	3.7	0	0	3.7	0	0	0	0	0	0	0	1.9	0	1.9	0	0	0	0	0	3.4

Trans Associates

E. Connelly Boulevard and Prindle Street

File Name : Prindle St_730-830 AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:30 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Grand Total	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	3
Apprch %	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	0		
Total %	0	0	0	33.3	33.3	0	0	0	33.3	33.3	0	0	0	33.3	33.3	0	0	0	0	0	

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Total Volume	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	3
% App. Total	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	0		
PHF	.000	.000	.000	.250	.250	.000	.000	.000	.250	.250	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.375

Trans Associates

E. Connelly Boulevard and Prindle Street

File Name : Prindle St_430-530 PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Int. Total
04:30 PM	0	120	0	0	120	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	133
04:45 PM	0	131	0	0	131	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	142
Total	0	251	0	0	251	0	0	0	0	0	0	0	24	0	24	0	0	0	0	0	275
05:00 PM	0	128	0	0	128	0	0	0	0	0	0	0	12	0	12	0	0	0	0	0	140
05:15 PM	0	117	1	0	118	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	131
Grand Total	0	496	1	0	497	0	0	0	0	0	0	0	49	0	49	0	0	0	0	0	546
Apprch %	0	99.8	0.2	0		0	0	0	0		0	0	100	0		0	0	0	0		
Total %	0	90.8	0.2	0	91	0	0	0	0	0	0	0	9	0	9	0	0	0	0	0	
Typical Vehicles																					
% Typical Vehicles	0	99.4	100	0	99.4	0	0	0	0	0	0	0	98	0	98	0	0	0	0	0	99.3
Heavy Duty Vehicles	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
% Heavy Duty Vehicles	0	0.6	0	0	0.6	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0.7

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	App. Total	Left	Thru	Right	N/A	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	120	0	0	120	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	133
04:45 PM	0	131	0	0	131	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	142
05:00 PM	0	128	0	0	128	0	0	0	0	0	0	0	12	0	12	0	0	0	0	0	140
05:15 PM	0	117	1	0	118	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	131
Total Volume	0	496	1	0	497	0	0	0	0	0	0	0	49	0	49	0	0	0	0	0	546
% App. Total	0	99.8	0.2	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.000	.947	.250	.000	.948	.000	.000	.000	.000	.000	.000	.000	.942	.000	.942	.000	.000	.000	.000	.000	.961
Typical Vehicles																					
% Typical Vehicles	0	99.4	100	0	99.4	0	0	0	0	0	0	0	98.0	0	98.0	0	0	0	0	0	99.3
Heavy Duty Vehicles	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
% Heavy Duty Vehicles	0	0.6	0	0	0.6	0	0	0	0	0	0	0	2.0	0	2.0	0	0	0	0	0	0.7

Trans Associates

E. Connelly Boulevard and Prindle Street

File Name : Prindle St_430-530 PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	E. Connely Boulevard Eastbound					N/A Westbound					Prindle Street Northbound					N/A Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Trans Associates

E. Connelly Boulevard and Smith Avenue/ Pine Hollow Boulevard

File Name : Smith Av-Pine Hollow Blvd_730-830_AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
07:30 AM	8	111	4	0	123	1	84	3	2	90	4	9	2	2	17	3	3	1	3	10	240
07:45 AM	10	147	6	0	163	3	73	5	1	82	4	7	2	2	15	2	11	2	3	18	278
Total	18	258	10	0	286	4	157	8	3	172	8	16	4	4	32	5	14	3	6	28	518
08:00 AM	7	88	5	0	100	0	74	2	1	77	6	2	5	0	13	5	10	0	1	16	206
08:15 AM	3	80	9	0	92	1	85	2	0	88	3	6	1	2	12	2	6	4	0	12	204
Grand Total	28	426	24	0	478	5	316	12	4	337	17	24	10	6	57	12	30	7	7	56	928
Apprch %	5.9	89.1	5	0		1.5	93.8	3.6	1.2		29.8	42.1	17.5	10.5		21.4	53.6	12.5	12.5		
Total %	3	45.9	2.6	0	51.5	0.5	34.1	1.3	0.4	36.3	1.8	2.6	1.1	0.6	6.1	1.3	3.2	0.8	0.8	6	
Typical Vehicles																					
% Typical Vehicles	100	97.4	100	0	97.7	100	94	91.7	100	94.1	94.1	100	90	100	96.5	91.7	96.7	100	100	96.4	96.2
Heavy Duty Vehicles	0	11	0	0	11	0	19	1	0	20	1	0	1	0	2	1	1	0	0	2	35
% Heavy Duty Vehicles	0	2.6	0	0	2.3	0	6	8.3	0	5.9	5.9	0	10	0	3.5	8.3	3.3	0	0	3.6	3.8

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	8	111	4	0	123	1	84	3	2	90	4	9	2	2	17	3	3	1	3	10	240
07:45 AM	10	147	6	0	163	3	73	5	1	82	4	7	2	2	15	2	11	2	3	18	278
08:00 AM	7	88	5	0	100	0	74	2	1	77	6	2	5	0	13	5	10	0	1	16	206
08:15 AM	3	80	9	0	92	1	85	2	0	88	3	6	1	2	12	2	6	4	0	12	204
Total Volume	28	426	24	0	478	5	316	12	4	337	17	24	10	6	57	12	30	7	7	56	928
% App. Total	5.9	89.1	5	0		1.5	93.8	3.6	1.2		29.8	42.1	17.5	10.5		21.4	53.6	12.5	12.5		
PHF	.700	.724	.667	.000	.733	.417	.929	.600	.500	.936	.708	.667	.500	.750	.838	.600	.682	.438	.583	.778	.835
Typical Vehicles																					
% Typical Vehicles	100	97.4	100	0	97.7	100	94.0	91.7	100	94.1	94.1	100	90.0	100	96.5	91.7	96.7	100	100	96.4	96.2
Heavy Duty Vehicles	0	11	0	0	11	0	19	1	0	20	1	0	1	0	2	1	1	0	0	2	35
% Heavy Duty Vehicles	0	2.6	0	0	2.3	0	6.0	8.3	0	5.9	5.9	0	10.0	0	3.5	8.3	3.3	0	0	3.6	3.8

Trans Associates

E. Connelly Boulevard and Smith Avenue/ Pine Hollow Boulevard

File Name : Smith Av-Pine Hollow Blvd_730-830_AM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Trans Associates

E. Connelly Boulevard and Smith Avenue/ Pine Hollow Boulevard

File Name : Smith Av-Pine Hollow Blvd_430-530_PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Typical Vehicles - Heavy Duty Vehicles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Int. Total
04:30 PM	8	121	8	0	137	2	114	4	1	121	7	6	3	0	16	6	19	3	2	30	304
04:45 PM	9	111	6	0	126	6	118	9	0	133	10	11	2	1	24	4	5	6	0	15	298
Total	17	232	14	0	263	8	232	13	1	254	17	17	5	1	40	10	24	9	2	45	602
05:00 PM	9	139	12	0	160	7	145	7	2	161	6	8	3	1	18	4	13	4	2	23	362
05:15 PM	5	130	5	0	140	3	122	5	0	130	12	8	0	3	23	1	9	8	0	18	311
Grand Total	31	501	31	0	563	18	499	25	3	545	35	33	8	5	81	15	46	21	4	86	1275
Apprch %	5.5	89	5.5	0		3.3	91.6	4.6	0.6		43.2	40.7	9.9	6.2		17.4	53.5	24.4	4.7		
Total %	2.4	39.3	2.4	0	44.2	1.4	39.1	2	0.2	42.7	2.7	2.6	0.6	0.4	6.4	1.2	3.6	1.6	0.3	6.7	
Typical Vehicles																					
% Typical Vehicles	100	99.4	100	0	99.5	100	98.6	100	100	98.7	100	100	100	100	100	100	100	100	100	100	99.2
Heavy Duty Vehicles	0	3	0	0	3	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	10
% Heavy Duty Vehicles	0	0.6	0	0	0.5	0	1.4	0	0	1.3	0	0	0	0	0	0	0	0	0	0	0.8

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	App. Total	Left	Thru	Right	Rt on Red	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	8	121	8	0	137	2	114	4	1	121	7	6	3	0	16	6	19	3	2	30	304
04:45 PM	9	111	6	0	126	6	118	9	0	133	10	11	2	1	24	4	5	6	0	15	298
05:00 PM	9	139	12	0	160	7	145	7	2	161	6	8	3	1	18	4	13	4	2	23	362
05:15 PM	5	130	5	0	140	3	122	5	0	130	12	8	0	3	23	1	9	8	0	18	311
Total Volume	31	501	31	0	563	18	499	25	3	545	35	33	8	5	81	15	46	21	4	86	1275
% App. Total	5.5	89	5.5	0		3.3	91.6	4.6	0.6		43.2	40.7	9.9	6.2		17.4	53.5	24.4	4.7		
PHF	.861	.901	.646	.000	.880	.643	.860	.694	.375	.846	.729	.750	.667	.417	.844	.625	.605	.656	.500	.717	.881
Typical Vehicles																					
% Typical Vehicles	100	99.4	100	0	99.5	100	98.6	100	100	98.7	100	100	100	100	100	100	100	100	100	100	99.2
Heavy Duty Vehicles	0	3	0	0	3	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	10
% Heavy Duty Vehicles	0	0.6	0	0	0.5	0	1.4	0	0	1.3	0	0	0	0	0	0	0	0	0	0	0.8

Trans Associates

E. Connelly Boulevard and Smith Avenue/ Pine Hollow Boulevard

File Name : Smith Av-Pine Hollow Blvd_430-530_PM
Site Code : 22041000
Start Date : 4/27/2022
Page No : 1

Groups Printed- Pedestrians and Bicycles

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	E. Connelly Boulevard Eastbound					E. Connelly Boulevard Westbound					Pine Hollow Boulevard Northbound					Smith Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Automatic Traffic Recorder Counts

Trans Associates

Connelly Boulevard Eastbound
west of Spencer Avenue

Connelly Blvd EB_48hrs
Site Code: 220410102

Start Time	21-Mar-22		Tue		Wed		Thu		Fri		Sat		Sun		Average Da	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	4	105	7	108	*	*	*	*	*	*	6	106
12:15	*	*	*	*	2	91	10	107	*	*	*	*	*	*	6	99
12:30	*	*	*	*	2	103	3	101	*	*	*	*	*	*	2	102
12:45	*	*	*	*	1	96	2	134	*	*	*	*	*	*	2	115
01:00	*	*	*	*	8	84	4	88	*	*	*	*	*	*	6	86
01:15	*	*	*	*	0	93	2	101	*	*	*	*	*	*	1	97
01:30	*	*	*	*	4	91	6	108	*	*	*	*	*	*	5	100
01:45	*	*	*	*	2	102	4	111	*	*	*	*	*	*	3	106
02:00	*	*	*	*	1	98	1	85	*	*	*	*	*	*	1	92
02:15	*	*	*	*	3	85	3	97	*	*	*	*	*	*	3	91
02:30	*	*	*	*	3	110	2	132	*	*	*	*	*	*	2	121
02:45	*	*	*	*	4	122	2	**134**	*	*	*	*	*	*	3	**128**
03:00	*	*	*	*	4	140	2	**152**	*	*	*	*	*	*	3	**146**
03:15	*	*	*	*	2	113	6	**137**	*	*	*	*	*	*	4	**125**
03:30	*	*	*	*	6	118	4	**133**	*	*	*	*	*	*	5	**126**
03:45	*	*	*	*	2	129	3	128	*	*	*	*	*	*	2	128
04:00	*	*	*	*	3	123	2	123	*	*	*	*	*	*	2	123
04:15	*	*	*	*	8	111	13	126	*	*	*	*	*	*	10	118
04:30	*	*	*	*	11	107	14	156	*	*	*	*	*	*	12	132
04:45	*	*	*	*	11	**125**	9	106	*	*	*	*	*	*	10	116
05:00	*	*	*	*	11	**148**	13	123	*	*	*	*	*	*	12	136
05:15	*	*	*	*	17	**115**	19	130	*	*	*	*	*	*	18	122
05:30	*	*	*	*	11	**123**	20	146	*	*	*	*	*	*	16	134
05:45	*	*	*	*	32	118	17	86	*	*	*	*	*	*	24	102
06:00	*	*	*	*	24	102	22	103	*	*	*	*	*	*	23	102
06:15	*	*	*	*	35	79	40	103	*	*	*	*	*	*	38	91
06:30	*	*	*	*	49	62	56	96	*	*	*	*	*	*	52	79
06:45	*	*	*	*	54	82	60	70	*	*	*	*	*	*	57	76
07:00	*	*	*	*	44	66	55	84	*	*	*	*	*	*	50	75
07:15	*	*	*	*	76	72	88	80	*	*	*	*	*	*	82	76
07:30	*	*	*	*	**99**	62	86	59	*	*	*	*	*	*	**92**	60
07:45	*	*	*	*	**132**	69	**128**	73	*	*	*	*	*	*	**130**	71
08:00	*	*	*	*	**95**	48	**89**	50	*	*	*	*	*	*	**92**	49
08:15	*	*	*	*	**97**	39	**89**	58	*	*	*	*	*	*	**93**	48
08:30	*	*	*	*	90	54	**88**	61	*	*	*	*	*	*	89	58
08:45	*	*	*	*	94	40	94	47	*	*	*	*	*	*	94	44
09:00	*	*	*	*	76	46	61	43	*	*	*	*	*	*	68	44
09:15	*	*	*	*	69	28	80	25	*	*	*	*	*	*	74	26
09:30	*	*	*	*	86	27	92	40	*	*	*	*	*	*	89	34
09:45	*	*	*	*	78	30	88	38	*	*	*	*	*	*	83	34
10:00	*	*	*	*	62	24	98	26	*	*	*	*	*	*	80	25
10:15	*	*	*	*	79	17	84	20	*	*	*	*	*	*	82	18
10:30	*	*	*	*	83	24	77	22	*	*	*	*	*	*	80	23
10:45	*	*	*	*	98	27	112	22	*	*	*	*	*	*	105	24
11:00	*	*	*	*	82	21	79	22	*	*	*	*	*	*	80	22
11:15	*	*	*	*	67	11	74	15	*	*	*	*	*	*	70	13
11:30	*	*	*	*	76	13	76	10	*	*	*	*	*	*	76	12
11:45	*	*	*	*	101	10	109	5	*	*	*	*	*	*	105	8
Total	0	0	0	0	1998	3703	2093	4024	0	0	0	0	0	0	2042	3863
Day Total	0		0		5701		6117		0		0		0		5905	
% Splits	0.0%	0.0%	0.0%	0.0%	35.0 %	65.0 %	34.2 %	65.8 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.6 %	65.4%
Peak	-	-	-	-	07:30	04:45	07:45	02:45	-	-	-	-	-	-	07:30	02:45
Vol.	-	-	-	-	423	511	394	556	-	-	-	-	-	-	407	525
P.H.F.					0.801	0.863	0.770	0.914							0.783	0.899

ADT ADT 5,909 AADT 5,909

Trans Associates

Connelly Boulevard Westbound
east of Service Avenue

Connelly Blvd WB_48hrs
Site Code: 220410204

Start	21-Mar-22		Tue		Wed		Thu		Fri		Sat		Sun		Average Da	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	10	112	6	119	*	*	*	*	*	*	8	116
12:15	*	*	*	*	6	104	9	105	*	*	*	*	*	*	8	104
12:30	*	*	*	*	5	89	8	88	*	*	*	*	*	*	6	88
12:45	*	*	*	*	4	93	6	110	*	*	*	*	*	*	5	102
01:00	*	*	*	*	3	105	6	112	*	*	*	*	*	*	4	108
01:15	*	*	*	*	2	88	3	105	*	*	*	*	*	*	2	96
01:30	*	*	*	*	3	96	3	104	*	*	*	*	*	*	3	100
01:45	*	*	*	*	5	101	5	91	*	*	*	*	*	*	5	96
02:00	*	*	*	*	3	93	1	99	*	*	*	*	*	*	2	96
02:15	*	*	*	*	4	86	7	107	*	*	*	*	*	*	6	96
02:30	*	*	*	*	1	92	2	100	*	*	*	*	*	*	2	96
02:45	*	*	*	*	1	92	1	104	*	*	*	*	*	*	1	98
03:00	*	*	*	*	2	140	3	134	*	*	*	*	*	*	2	137
03:15	*	*	*	*	3	105	2	133	*	*	*	*	*	*	2	119
03:30	*	*	*	*	5	107	4	121	*	*	*	*	*	*	4	114
03:45	*	*	*	*	4	131	6	132	*	*	*	*	*	*	5	132
04:00	*	*	*	*	3	144	2	122	*	*	*	*	*	*	2	133
04:15	*	*	*	*	4	115	6	120	*	*	*	*	*	*	5	118
04:30	*	*	*	*	6	**157**	4	**130**	*	*	*	*	*	*	5	**144**
04:45	*	*	*	*	10	**134**	13	**133**	*	*	*	*	*	*	12	**134**
05:00	*	*	*	*	21	**164**	22	**164**	*	*	*	*	*	*	22	**164**
05:15	*	*	*	*	26	**128**	35	**153**	*	*	*	*	*	*	30	**140**
05:30	*	*	*	*	17	108	17	104	*	*	*	*	*	*	17	106
05:45	*	*	*	*	15	93	22	96	*	*	*	*	*	*	18	94
06:00	*	*	*	*	26	103	29	108	*	*	*	*	*	*	28	106
06:15	*	*	*	*	36	104	37	103	*	*	*	*	*	*	36	104
06:30	*	*	*	*	54	79	52	89	*	*	*	*	*	*	53	84
06:45	*	*	*	*	59	90	59	82	*	*	*	*	*	*	59	86
07:00	*	*	*	*	71	85	68	88	*	*	*	*	*	*	70	86
07:15	*	*	*	*	61	53	81	69	*	*	*	*	*	*	71	61
07:30	*	*	*	*	94	98	84	66	*	*	*	*	*	*	89	82
07:45	*	*	*	*	77	63	72	73	*	*	*	*	*	*	74	68
08:00	*	*	*	*	68	46	76	73	*	*	*	*	*	*	72	60
08:15	*	*	*	*	66	73	73	55	*	*	*	*	*	*	70	64
08:30	*	*	*	*	88	44	80	61	*	*	*	*	*	*	84	52
08:45	*	*	*	*	74	50	59	43	*	*	*	*	*	*	66	46
09:00	*	*	*	*	**90**	43	60	48	*	*	*	*	*	*	75	46
09:15	*	*	*	*	**64**	27	68	46	*	*	*	*	*	*	66	36
09:30	*	*	*	*	**87**	29	58	26	*	*	*	*	*	*	72	28
09:45	*	*	*	*	**92**	31	67	38	*	*	*	*	*	*	80	34
10:00	*	*	*	*	63	34	82	39	*	*	*	*	*	*	72	36
10:15	*	*	*	*	70	21	78	19	*	*	*	*	*	*	74	20
10:30	*	*	*	*	93	17	81	24	*	*	*	*	*	*	**87**	20
10:45	*	*	*	*	81	22	72	22	*	*	*	*	*	*	**76**	22
11:00	*	*	*	*	83	22	**91**	35	*	*	*	*	*	*	**87**	28
11:15	*	*	*	*	72	16	**102**	30	*	*	*	*	*	*	**87**	23
11:30	*	*	*	*	84	7	**69**	14	*	*	*	*	*	*	76	10
11:45	*	*	*	*	79	10	**85**	11	*	*	*	*	*	*	82	10
Total	0	0	0	0	1895	3844	1876	4048	0	0	0	0	0	0	1882	3943
Day Total	0		0		5739		5924		0		0		0		5825	
% Splits	0.0%	0.0%	0.0%	0.0%	33.0 %	67.0 %	31.7 %	68.3 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.3 %	67.7%
Peak	-	-	-	-	09:00	04:30	11:00	04:30	-	-	-	-	-	-	10:30	04:30
Vol.	-	-	-	-	333	583	347	580	-	-	-	-	-	-	337	582
P.H.F.					0.905	0.889	0.850	0.884							0.968	0.887

ADT ADT 5,832 AADT 5,832

Trans Associates

Service Avenue Northbound
south of Connelly Boulevard

SERVICE AVE NB_48HRS
Site Code: 220410503

Start Time	21-Mar-22 A.M.	21-Mar-22 P.M.	Tue A.M.	Tue P.M.	Wed A.M.	Wed P.M.	Thu A.M.	Thu P.M.	Fri A.M.	Fri P.M.	Sat A.M.	Sat P.M.	Sun A.M.	Sun P.M.	Average Da A.M.	Average Da P.M.
12:00	*	*	*	*	0	6	2	12	*	*	*	*	*	*	1	9
12:15	*	*	*	*	0	12	0	11	*	*	*	*	*	*	0	12
12:30	*	*	*	*	0	15	1	12	*	*	*	*	*	*	0	14
12:45	*	*	*	*	0	12	0	7	*	*	*	*	*	*	0	10
01:00	*	*	*	*	0	11	0	19	*	*	*	*	*	*	0	15
01:15	*	*	*	*	0	18	1	9	*	*	*	*	*	*	0	14
01:30	*	*	*	*	0	8	0	18	*	*	*	*	*	*	0	13
01:45	*	*	*	*	0	17	0	18	*	*	*	*	*	*	0	18
02:00	*	*	*	*	0	16	0	7	*	*	*	*	*	*	0	12
02:15	*	*	*	*	0	15	1	14	*	*	*	*	*	*	0	14
02:30	*	*	*	*	0	17	0	17	*	*	*	*	*	*	0	17
02:45	*	*	*	*	0	20	0	19	*	*	*	*	*	*	0	20
03:00	*	*	*	*	0	14	1	20	*	*	*	*	*	*	0	17
03:15	*	*	*	*	1	27	0	21	*	*	*	*	*	*	0	24
03:30	*	*	*	*	0	19	0	14	*	*	*	*	*	*	0	16
03:45	*	*	*	*	0	19	0	13	*	*	*	*	*	*	0	16
04:00	*	*	*	*	0	18	0	20	*	*	*	*	*	*	0	19
04:15	*	*	*	*	0	16	0	16	*	*	*	*	*	*	0	16
04:30	*	*	*	*	1	14	1	12	*	*	*	*	*	*	1	13
04:45	*	*	*	*	2	15	2	14	*	*	*	*	*	*	2	14
05:00	*	*	*	*	6	16	3	18	*	*	*	*	*	*	4	17
05:15	*	*	*	*	3	16	4	15	*	*	*	*	*	*	4	16
05:30	*	*	*	*	4	22	3	19	*	*	*	*	*	*	4	20
05:45	*	*	*	*	6	14	7	18	*	*	*	*	*	*	6	16
06:00	*	*	*	*	2	16	4	14	*	*	*	*	*	*	3	15
06:15	*	*	*	*	3	20	8	19	*	*	*	*	*	*	6	20
06:30	*	*	*	*	4	11	11	16	*	*	*	*	*	*	8	14
06:45	*	*	*	*	0	11	9	10	*	*	*	*	*	*	4	10
07:00	*	*	*	*	6	7	6	15	*	*	*	*	*	*	6	11
07:15	*	*	*	*	13	3	16	16	*	*	*	*	*	*	14	10
07:30	*	*	*	*	25	8	32	11	*	*	*	*	*	*	28	10
07:45	*	*	*	*	27	8	21	13	*	*	*	*	*	*	24	10
08:00	*	*	*	*	13	13	11	9	*	*	*	*	*	*	12	11
08:15	*	*	*	*	10	3	16	5	*	*	*	*	*	*	13	4
08:30	*	*	*	*	12	7	5	5	*	*	*	*	*	*	8	6
08:45	*	*	*	*	23	5	15	9	*	*	*	*	*	*	19	7
09:00	*	*	*	*	10	1	8	4	*	*	*	*	*	*	9	2
09:15	*	*	*	*	6	2	13	4	*	*	*	*	*	*	10	3
09:30	*	*	*	*	11	5	9	8	*	*	*	*	*	*	10	6
09:45	*	*	*	*	9	3	10	3	*	*	*	*	*	*	10	3
10:00	*	*	*	*	9	3	9	4	*	*	*	*	*	*	9	4
10:15	*	*	*	*	6	5	3	5	*	*	*	*	*	*	4	5
10:30	*	*	*	*	11	4	11	3	*	*	*	*	*	*	11	4
10:45	*	*	*	*	10	6	15	2	*	*	*	*	*	*	12	4
11:00	*	*	*	*	9	1	11	0	*	*	*	*	*	*	10	0
11:15	*	*	*	*	7	1	15	3	*	*	*	*	*	*	11	2
11:30	*	*	*	*	15	1	10	1	*	*	*	*	*	*	12	1
11:45	*	*	*	*	16	1	15	0	*	*	*	*	*	*	16	0
Total	0	0	0	0	280	522	309	542	0	0	0	0	0	0	291	534
Day Total	0		0		802		851		0		0		0		825	
% Splits	0.0%	0.0%	0.0%	0.0%	34.9 %	65.1 %	36.3 %	63.7 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	35.3 %	64.7%
Peak	-	-	-	-	07:15	03:15	07:15	02:30	-	-	-	-	-	-	07:15	02:30
Vol.	-	-	-	-	78	83	80	77	-	-	-	-	-	-	78	78
P.H.F.					0.722	0.769	0.625	0.917							0.696	0.813

ADT ADT 826 AADT 826

Trans Associates

Service Avenue Southbound
north of Connelly Boulevard

SERVICE AVE SB_48HRS
Site Code: 220410503

Start Time	21-Mar-22 A.M.		21-Mar-22 P.M.		Tue A.M.	Tue P.M.	Wed A.M.	Wed P.M.	Thu A.M.	Thu P.M.	Fri A.M.	Fri P.M.	Sat A.M.	Sat P.M.	Sun A.M.	Sun P.M.	Average Da A.M.	Average Da P.M.
12:00	*	*	*	*	1	6	0	4	*	*	*	*	*	*	0	5		
12:15	*	*	*	*	0	5	0	2	*	*	*	*	*	*	0	4		
12:30	*	*	*	*	0	2	0	5	*	*	*	*	*	*	0	4		
12:45	*	*	*	*	1	8	0	2	*	*	*	*	*	*	0	5		
01:00	*	*	*	*	0	6	0	6	*	*	*	*	*	*	0	6		
01:15	*	*	*	*	0	1	0	5	*	*	*	*	*	*	0	3		
01:30	*	*	*	*	0	1	0	3	*	*	*	*	*	*	0	2		
01:45	*	*	*	*	0	1	0	4	*	*	*	*	*	*	0	2		
02:00	*	*	*	*	0	5	0	3	*	*	*	*	*	*	0	4		
02:15	*	*	*	*	0	5	0	7	*	*	*	*	*	*	0	6		
02:30	*	*	*	*	0	**6**	1	**8**	*	*	*	*	*	*	0	**7**		
02:45	*	*	*	*	0	**12**	0	**8**	*	*	*	*	*	*	0	**10**		
03:00	*	*	*	*	1	**13**	0	**11**	*	*	*	*	*	*	0	**12**		
03:15	*	*	*	*	0	**12**	0	**12**	*	*	*	*	*	*	0	**12**		
03:30	*	*	*	*	0	4	1	5	*	*	*	*	*	*	0	4		
03:45	*	*	*	*	0	6	0	9	*	*	*	*	*	*	0	8		
04:00	*	*	*	*	0	11	0	11	*	*	*	*	*	*	0	11		
04:15	*	*	*	*	1	11	0	8	*	*	*	*	*	*	0	10		
04:30	*	*	*	*	0	5	0	4	*	*	*	*	*	*	0	4		
04:45	*	*	*	*	0	6	0	8	*	*	*	*	*	*	0	7		
05:00	*	*	*	*	1	2	0	7	*	*	*	*	*	*	0	4		
05:15	*	*	*	*	0	4	1	7	*	*	*	*	*	*	0	6		
05:30	*	*	*	*	0	4	0	2	*	*	*	*	*	*	0	3		
05:45	*	*	*	*	1	6	0	7	*	*	*	*	*	*	0	6		
06:00	*	*	*	*	0	5	0	8	*	*	*	*	*	*	0	6		
06:15	*	*	*	*	0	8	0	9	*	*	*	*	*	*	0	8		
06:30	*	*	*	*	1	5	1	5	*	*	*	*	*	*	1	5		
06:45	*	*	*	*	1	4	1	7	*	*	*	*	*	*	1	6		
07:00	*	*	*	*	1	4	0	7	*	*	*	*	*	*	0	6		
07:15	*	*	*	*	4	5	5	6	*	*	*	*	*	*	4	6		
07:30	*	*	*	*	**17**	7	**10**	1	*	*	*	*	*	*	**14**	4		
07:45	*	*	*	*	**15**	4	**13**	8	*	*	*	*	*	*	**14**	6		
08:00	*	*	*	*	**3**	6	**4**	6	*	*	*	*	*	*	**4**	6		
08:15	*	*	*	*	**6**	5	**8**	4	*	*	*	*	*	*	**7**	4		
08:30	*	*	*	*	4	1	2	5	*	*	*	*	*	*	3	3		
08:45	*	*	*	*	7	2	3	2	*	*	*	*	*	*	5	2		
09:00	*	*	*	*	3	5	3	5	*	*	*	*	*	*	3	5		
09:15	*	*	*	*	2	1	5	2	*	*	*	*	*	*	4	2		
09:30	*	*	*	*	1	1	1	4	*	*	*	*	*	*	1	2		
09:45	*	*	*	*	3	2	5	1	*	*	*	*	*	*	4	2		
10:00	*	*	*	*	5	1	6	3	*	*	*	*	*	*	6	2		
10:15	*	*	*	*	0	1	2	5	*	*	*	*	*	*	1	3		
10:30	*	*	*	*	4	5	1	2	*	*	*	*	*	*	2	4		
10:45	*	*	*	*	2	3	1	1	*	*	*	*	*	*	2	2		
11:00	*	*	*	*	2	1	2	1	*	*	*	*	*	*	2	1		
11:15	*	*	*	*	7	1	5	1	*	*	*	*	*	*	6	1		
11:30	*	*	*	*	6	0	2	0	*	*	*	*	*	*	4	0		
11:45	*	*	*	*	7	0	4	0	*	*	*	*	*	*	6	0		
Total	0	0	0	0	107	219	87	241	0	0	0	0	0	0	94	231		
Day Total	0		0		326		328		0		0		0		325			
% Splits	0.0%	0.0%	0.0%	0.0%	32.8 %	67.2 %	26.5 %	73.5 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.9 %	71.1%		
Peak	-	-	-	-	07:30	02:30	07:30	02:30	-	-	-	-	-	-	07:30	02:30		
Vol.	-	-	-	-	41	43	35	39	-	-	-	-	-	-	39	41		
P.H.F.					0.603	0.827	0.673	0.813							0.696	0.854		

ADT ADT 327 AADT 327

Trans Associates

Spencer Avenue Southbound
north of Connelly Boulevard

Spencer Ave SB_48hrs
Site Code: 220410503

Start Time	21-Mar-22 A.M.	21-Mar-22 P.M.	Tue A.M.	Tue P.M.	Wed A.M.	Wed P.M.	Thu A.M.	Thu P.M.	Fri A.M.	Fri P.M.	Sat A.M.	Sat P.M.	Sun A.M.	Sun P.M.	Average Da A.M.	Average Da P.M.
12:00	*	*	*	*	1	11	1	9	*	*	*	*	*	*	1	10
12:15	*	*	*	*	0	8	0	5	*	*	*	*	*	*	0	6
12:30	*	*	*	*	0	6	0	8	*	*	*	*	*	*	0	7
12:45	*	*	*	*	0	7	0	5	*	*	*	*	*	*	0	6
01:00	*	*	*	*	1	5	0	3	*	*	*	*	*	*	0	4
01:15	*	*	*	*	0	9	0	12	*	*	*	*	*	*	0	10
01:30	*	*	*	*	2	2	0	3	*	*	*	*	*	*	1	2
01:45	*	*	*	*	2	7	0	5	*	*	*	*	*	*	1	6
02:00	*	*	*	*	0	4	0	11	*	*	*	*	*	*	0	8
02:15	*	*	*	*	0	7	0	9	*	*	*	*	*	*	0	8
02:30	*	*	*	*	0	10	0	12	*	*	*	*	*	*	0	11
02:45	*	*	*	*	0	**15**	0	**8**	*	*	*	*	*	*	0	**12**
03:00	*	*	*	*	0	**20**	0	**25**	*	*	*	*	*	*	0	**22**
03:15	*	*	*	*	2	**9**	0	**15**	*	*	*	*	*	*	1	**12**
03:30	*	*	*	*	0	**15**	0	**15**	*	*	*	*	*	*	0	**15**
03:45	*	*	*	*	0	11	0	6	*	*	*	*	*	*	0	8
04:00	*	*	*	*	0	8	0	12	*	*	*	*	*	*	0	10
04:15	*	*	*	*	0	6	0	16	*	*	*	*	*	*	0	11
04:30	*	*	*	*	1	9	1	12	*	*	*	*	*	*	1	10
04:45	*	*	*	*	4	9	3	17	*	*	*	*	*	*	4	13
05:00	*	*	*	*	2	9	4	13	*	*	*	*	*	*	3	11
05:15	*	*	*	*	3	3	2	10	*	*	*	*	*	*	2	6
05:30	*	*	*	*	3	14	1	13	*	*	*	*	*	*	2	14
05:45	*	*	*	*	3	2	2	5	*	*	*	*	*	*	2	4
06:00	*	*	*	*	1	4	4	8	*	*	*	*	*	*	2	6
06:15	*	*	*	*	4	8	2	2	*	*	*	*	*	*	3	5
06:30	*	*	*	*	1	7	8	6	*	*	*	*	*	*	4	6
06:45	*	*	*	*	4	4	2	11	*	*	*	*	*	*	3	8
07:00	*	*	*	*	7	3	5	13	*	*	*	*	*	*	6	8
07:15	*	*	*	*	9	8	10	7	*	*	*	*	*	*	10	8
07:30	*	*	*	*	**16**	5	**14**	7	*	*	*	*	*	*	**15**	6
07:45	*	*	*	*	**25**	7	**24**	6	*	*	*	*	*	*	**24**	6
08:00	*	*	*	*	**11**	6	**7**	7	*	*	*	*	*	*	**9**	6
08:15	*	*	*	*	**11**	4	**11**	4	*	*	*	*	*	*	**11**	4
08:30	*	*	*	*	10	3	8	7	*	*	*	*	*	*	9	5
08:45	*	*	*	*	5	4	10	2	*	*	*	*	*	*	8	3
09:00	*	*	*	*	6	4	2	4	*	*	*	*	*	*	4	4
09:15	*	*	*	*	3	0	6	2	*	*	*	*	*	*	4	1
09:30	*	*	*	*	4	2	5	4	*	*	*	*	*	*	4	3
09:45	*	*	*	*	4	2	5	3	*	*	*	*	*	*	4	2
10:00	*	*	*	*	1	2	2	1	*	*	*	*	*	*	2	2
10:15	*	*	*	*	4	4	4	1	*	*	*	*	*	*	4	2
10:30	*	*	*	*	7	0	6	0	*	*	*	*	*	*	6	0
10:45	*	*	*	*	3	2	2	2	*	*	*	*	*	*	2	2
11:00	*	*	*	*	5	4	7	3	*	*	*	*	*	*	6	4
11:15	*	*	*	*	7	0	4	1	*	*	*	*	*	*	6	0
11:30	*	*	*	*	9	0	3	3	*	*	*	*	*	*	6	2
11:45	*	*	*	*	9	2	9	0	*	*	*	*	*	*	9	1
Total	0	0	0	0	190	291	174	353	0	0	0	0	0	0	179	320
Day Total	0		0		481		527		0		0		0		499	
% Splits	0.0%	0.0%	0.0%	0.0%	39.5 %	60.5 %	33.0 %	67.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	35.9 %	64.1%
Peak	-	-	-	-	07:30	02:45	07:30	02:45	-	-	-	-	-	-	07:30	02:45
Vol.	-	-	-	-	63	59	56	63	-	-	-	-	-	-	59	61
P.H.F.					0.630	0.738	0.583	0.630							0.615	0.693

ADT ADT 504 AADT 504

Appendix B

Speed Data

Speed Study
Connelly Boulevard (SR 0062)
City of Sharon, Mercer County, PA

Date: March 22, 2022 Posted Speed: 40 mph Project No. sharo00-22041

Location: Eastbound @ Spencer Avenue			
Obs. #	Speed (mph)	Obs. #	Speed (mph)
1	47	51	43
2	50	52	40
3	38	53	45
4	39	54	40
5	39	55	43
6	44	56	36
7	39	57	30
8	36	58	53
9	36	59	44
10	40	60	41
11	44	61	37
12	44	62	42
13	45	63	40
14	43	64	44
15	43	65	42
16	37	66	46
17	34	67	49
18	45	68	38
19	48	69	40
20	44	70	40
21	39	71	43
22	36	72	46
23	36	73	43
24	37	74	40
25	38	75	38
26	35	76	41
27	54	77	40
28	41	78	38
29	43	79	37
30	48	80	37
31	33	81	45
32	36	82	40
33	37	83	56
34	36	84	43
35	36	85	40
36	35	86	37
37	43	87	28
38	29	88	26
39	28	89	33
40	28	90	34
41	44	91	32
42	38	92	37
43	40	93	38
44	39	94	38
45	41	95	43
46	44	96	45
47	44	97	44
48	40	98	40
49	50	99	37
50	49	100	35
		Average Speed:	**40.19**
		85th Percentile Speed:	**45**

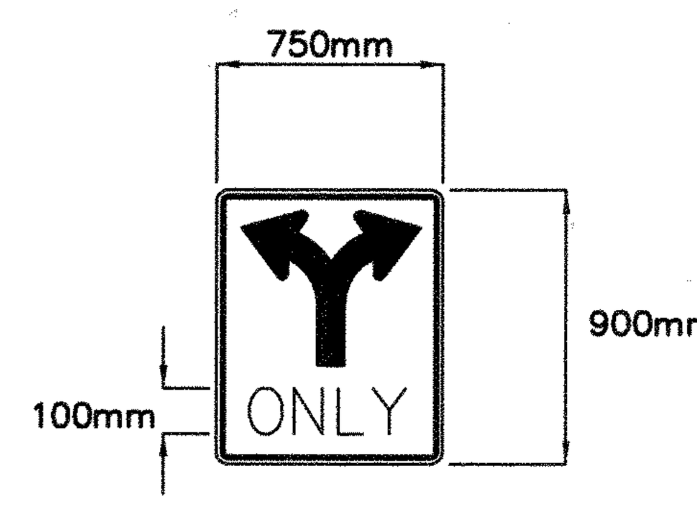
Location: Westbound @ Service Avenue			
Obs. #	Speed (mph)	Obs. #	Speed (mph)
1	35	51	47
2	38	52	41
3	39	53	34
4	38	54	39
5	40	55	37
6	42	56	40
7	38	57	36
8	37	58	35
9	42	59	41
10	40	60	28
11	37	61	27
12	46	62	40
13	45	63	38
14	44	64	38
15	41	65	45
16	36	66	45
17	49	67	47
18	51	68	45
19	45	69	29
20	48	70	41
21	41	71	39
22	46	72	37
23	43	73	37
24	42	74	38
25	40	75	38
26	41	76	41
27	42	77	38
28	51	78	40
29	48	79	40
30	41	80	40
31	38	81	38
32	39	82	42
33	42	83	41
34	35	84	42
35	34	85	36
36	41	86	44
37	40	87	46
38	38	88	46
39	42	89	44
40	40	90	38
41	48	91	37
42	46	92	46
43	41	93	40
44	38	94	35
45	44	95	34
46	33	96	34
47	58	97	38
48	49	98	43
49	34	99	42
50	28	100	43
		Average Speed:	**40.44**
		85th Percentile Speed:	**46**

Average Speed Both Directions: **40.32**

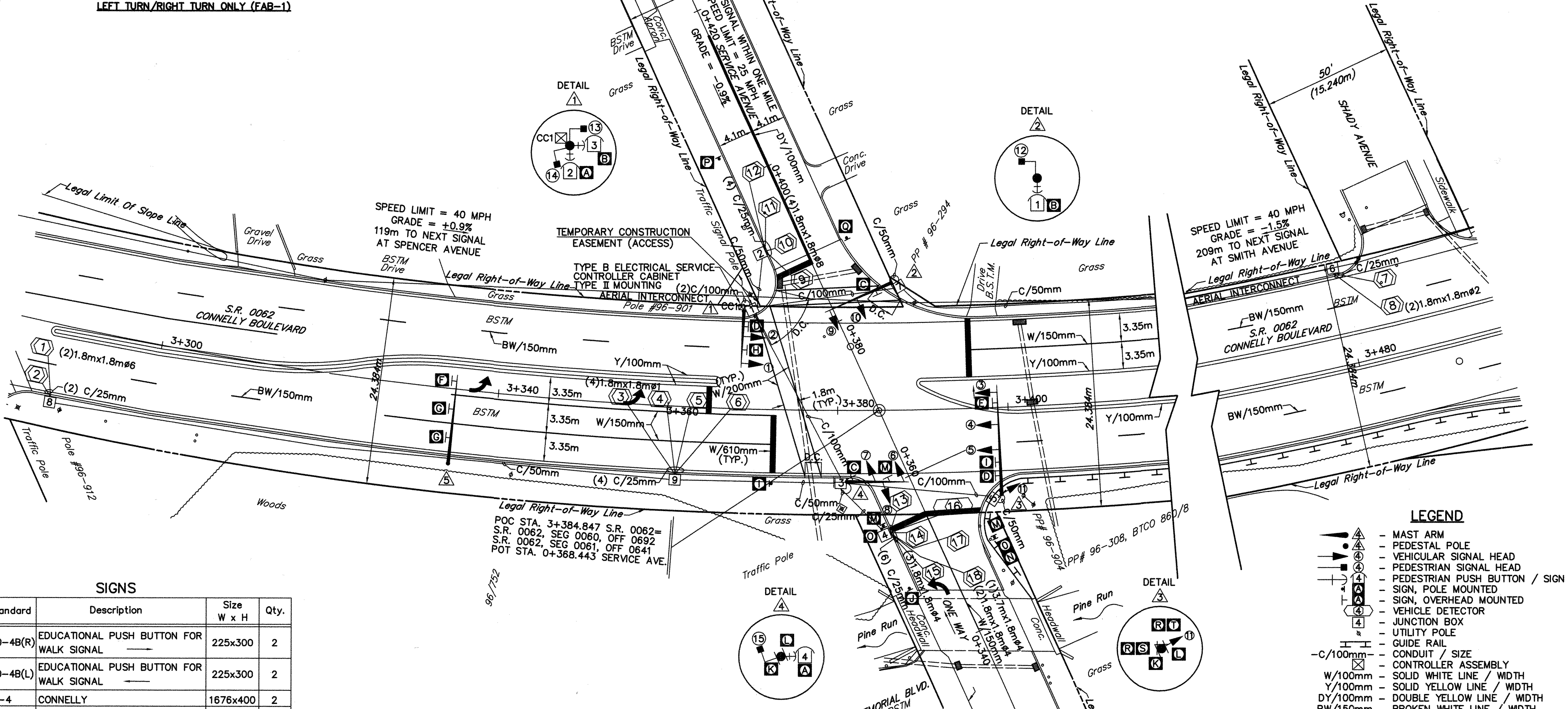
Appendix C

Traffic Signal Permit Drawings

Permit No. 4457	Sheet 2 of 3
Date Issued 07/27	Date Revised 01/30/03



LEFT TURN/RIGHT TURN ONLY (FAB-1)

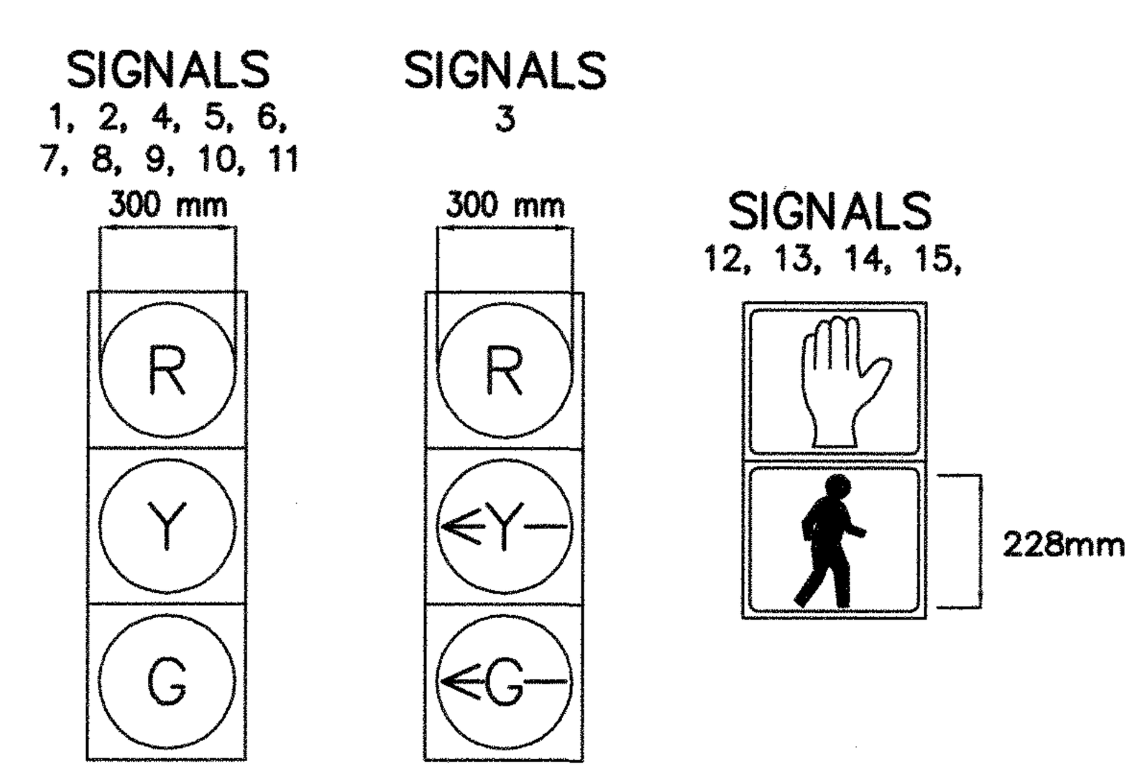


LEGEND

- MAST ARM
- PEDESTAL POLE
- VEHICULAR SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON / SIGN
- SIGN, POLE MOUNTED
- SIGN, OVERHEAD MOUNTED
- VEHICLE DETECTOR
- JUNCTION BOX
- UTILITY POLE
- GUIDE RAIL
- -C/100mm- CONDUIT / SIZE
- CONTROLLER ASSEMBLY
- W/100mm – SOLID WHITE LINE / WIDTH
- Y/100mm – SOLID YELLOW LINE / WIDTH
- DY/100mm – DOUBLE YELLOW LINE / WIDTH
- BW/150mm BROKEN WHITE LINE / WIDTH

SIGNS

Plan Symbol	Standard	Description	Size W x H	Qty.
A	R10-4B(R)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL →	225x300	2
B	R10-4B(L)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL ←	225x300	2
C	D3-4	CONNELLY	1676x400	2
D	D3-4	SERVICE	1524x400	2
E	R10-10L	LEFT TURN SIGNAL	750x900	1
F	R3-5L	LEFT TURN	750x900	1
G	R3-5S	STRAIGHT-THROUGH	750x900	2
H	R3-2	NO LEFT TURN	750x750	1
I	R3-1	NO RIGHT TURN	750x750	2
J	R3-7L	LEFT LANE MUST TURN LEFT	750x750	1
K	R6-1L	ONE WAY ←	900x300	2
L	R6-1R	ONE WAY →	900x300	2
M	R5-1	DO NOT ENTER	750x750	3
N	R6-10	TWO-WAY TRAFFIC AHEAD	600x750	1
O	R6-11	END ONE-WAY	600x750	2
P	FAB-1	LEFT TURN/RIGHT TURN ONLY	750x900	1
Q	W6-3	TWO WAY TRAFFIC	750x750	1
R	R9-3A	NO PEDESTRIAN CROSSING	600x600	2
S	R9-3BL	← USE CROSSWALK	450x300	1
T	R9-3BR	USE CROSSWALK →	450x300	1



SIGNAL NOTES:
SIGNALS 1, 2, 3, 4, 5, 6, 7, 9, & 10 WILL HAVE TUNNEL VISORS
ALL OTHER VEHICULAR SIGNALS WILL HAVE CUT AWAY VISORS
SIGNALS 1, 2, 3, 4 AND 5 WILL HAVE BACK PLATES

DETECTOR NOTES:
AMPLIFIERS FOR LOOPS 6, 9, AND 10
WILL HAVE DELAY TIMERS

D-1062

Paul T. Sucevic, P.E. 7/16/02

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON
INTERSECTION: S.R. 0062 (CONNELLY BOULEVARD) AND SERVICE AVENUE

REVIEWED: [signature] 07-19-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: Randall A. Bel 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

SCALE: 5m 0 5m 10m 15m

Permit No. 4457 Sheet 3 of 3
Date Issued 07/27/56 Date Revised 01/30/03

PHASING DIAGRAM

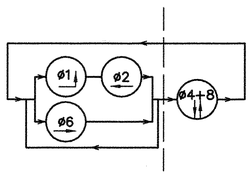
PHASE	1 + 6				2 + 6				4 + 8				Emergency Flashing
Interval / Signal	1	2	3		1	2	3	4	1	2	3	4	
1,2	R	R	R		G	G	Y	R	R	R	R	R	Y
11	R	R	R		G	G	Y	R	R	R	R	R	Y
3	-G-	-Y-	R		R	R	R	R	R	R	R	R	OFF
4,5	G	Y①	R①		G	G	Y②	R②	R	R	R	R	Y
6,7	R	R	R		R	R	R	R	G	G	Y	R	R
8	R	R	R		R	R	R	R	G	G	Y	R	R
9,10	R	R	R		R	R	R	R	G	G	Y	R	R
12,13	DW	DW	DW		W	FD	DW	DW	DW	DW	DW	DW	OFF
14,15	DW	DW	DW		DW	DW	DW	DW	W	FD	DW	DW	OFF
FIXED		4	2				4	2			3	3	
MINIMUM	7				10				7				
ADDED INITIAL					1.2								
MAX. INITIAL					35.2								
PASSAGE	3				5.7				3				
TO REDUCE					20.5								
BEFORE RED.					14.7								
MIN. GAP					3								
MAX. I**	18				69				29.5				
MAX.II**	17				60				29.5				
PEDESTRIAN*					10	10			12	16			
MEMORY	NL				MN				NL				

* UPON PEDESTRIAN ACTUATION, OTHERWISE "DON'T WALK" AT ALL TIMES.

① G IF FOLLOWED BY ø 2+6
② G IF FOLLOWED BY ø 1+6

MEMORY:
MN – MINIMUM RECALL
MX – MAXIMUM RECALL
L – LOCKING
NL – NON–LOCKING

** UPON CLOSED–LOOP SYSTEM FAILURE ONLY
MAX I: ALL OTHER TIMES
MAX II: 12:00 AM TO 6:00 AM



PHASING DIAGRAM

COORDINATION PROGRAM

Plan No.	Day of Week M	T	W	T	F	S	S	Time	Cycle	Offset	ø1+6 Max. Green	ø2+6 Min. ⊠ Green	ø4+8 Max. Green
1								6:00 AM – 9:00 AM	90	5	18	32	22
2								9:00 AM – 7:00 PM	100	14	19	41	22
1								7:00 PM – 10:00 PM	90	5	18	32	22
3								10:00 PM – 6:00 AM			AS PER PHASING DIAGRAM – MAX II		
2								6:00 AM – 10:00 PM	100	14	19	41	22

OFFSET IS REFERENCED TO THE BEGINNING OF INTERVAL 3 PHASE 2+6

⊠ UNUSED GREEN TIME FROM PHASES ø2+5, AND ø8 WILL BE PROVIDED TO ø2+6.

COORDINATION NOTE
THIS TRAFFIC SIGNAL IS HARDWIRE INTERCONNECTED TO THE TRAFFIC SIGNAL AT THE S.R. 0062/STAMBAUGH (S.R. 0518) INTERSECTION AND IS SUPERVISED BY A MASTER CONTROLLER LOCATED AT THAT INTERSECTION.

GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF THESE SIGNALS SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS GOVERNING THE DESIGN, LOCATION AND OPERATION OF SIGNS, SIGNALS AND PAVEMENT MARKINGS.

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE SECRETARY OF TRANSPORTATION OR HIS REPRESENTATIVE.

MAINTENANCE WORK ON ALL APPROACHES TO THE SIGNALIZED INTERSECTION NECESSARY FOR PROPER VISIBILITY OF THE SIGNS AND SIGNALS, INCLUDING TRIMMING OF TREES, IS THE RESPONSIBILITY OF THE PERMITTED.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF PUBLICATION 68, OFFICIAL TRAFFIC CONTROL DEVICES. EXCEPTIONS ARE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS, WHICH ARE MAINTAINED BY THE DEPARTMENT.

SUPPORT POLES FOR OVERHEAD SIGNALS SHALL HAVE A MINIMUM CLEARANCE OF .6 METERS BEHIND THE FACE OF THE CURB OF 3.7 METERS FROM THE EDGE OF TRAVELED ROADWAY TO EDGE OF SUPPORT POLE.

VEHICULAR SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A CLEARANCE OF 5.2 METERS ABOVE THE ROADWAY, UNLESS OTHERWISE NOTED, POST MOUNTED VEHICULAR SIGNALS SHALL HAVE A CLEARANCE OF NOT LESS 2.4 METERS NOR MORE THAN 4.6 METERS ABOVE THE SIDEWALK LEVEL OR PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALK EXISTS, UNLESS OTHERWISE NOTED, PEDESTRIAN SIGNALS SHALL HAVE A CLEARANCE OF 2.4 METERS ABOVE THE SIDEWALK LEVEL. UNLESS OTHERWISE NOTED, POST MOUNTED SIGNS SHALL BE 2.1 METERS ABOVE THE SIDEWALK LEVEL OR ROADWAY GRADE, IF NO SIDEWALK EXISTS. UNLESS OTHERWISE NOTED, THE TOP OF THE POST MOUNTED SIGNS SHALL BE A MINIMUM 2.7 METERS ABOVE GROUND LINE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH, SHALL BE 2.4 METERS.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPILES WITH THE PROVISIONS OF THE LATEST ACT PREVENTING DAMAGE TO UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS THAT MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PAUL T. SUCEVIC No. 8940 E

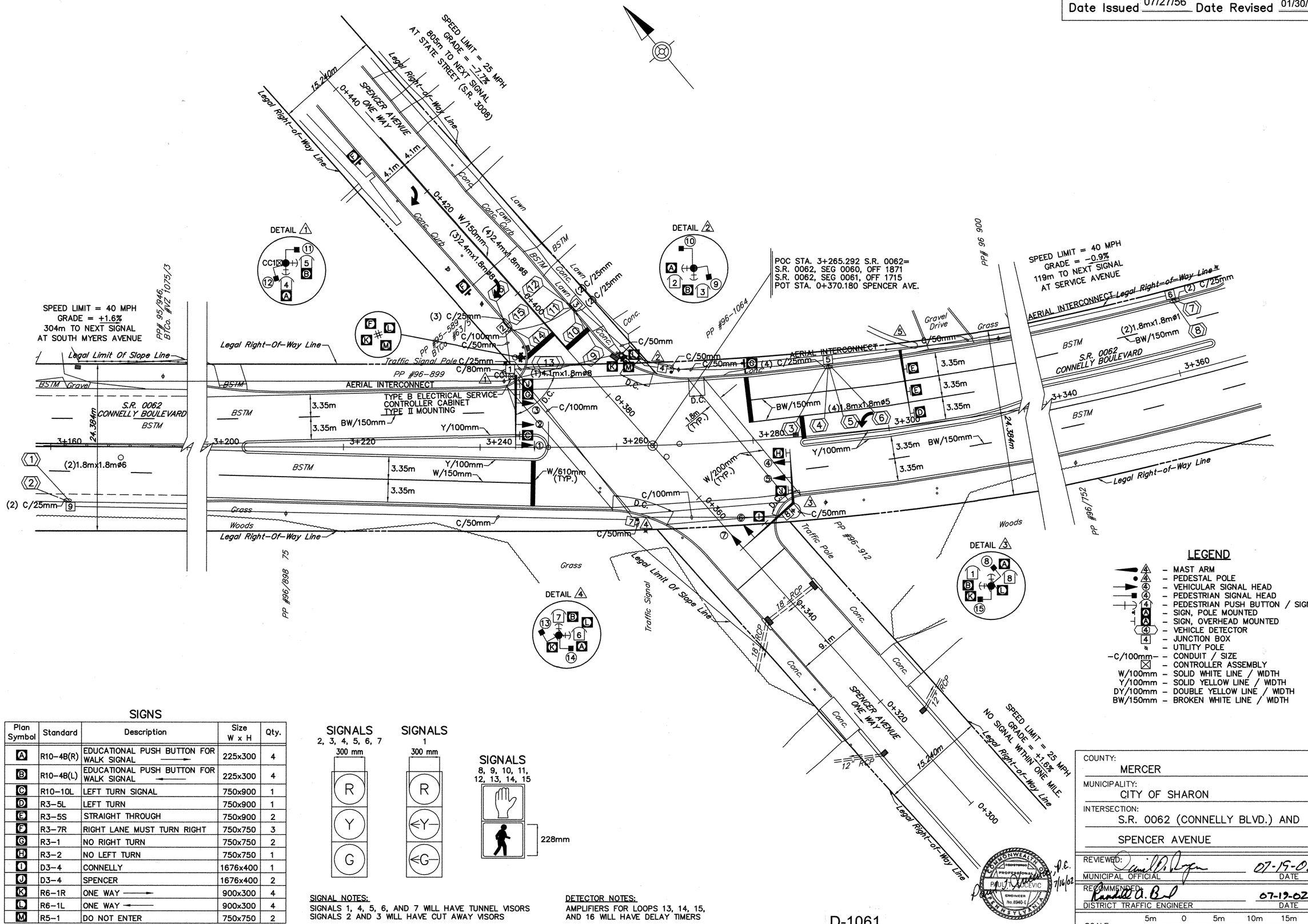
D-1062

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON
INTERSECTION: S.R. 0062 (CONNELLY BOULEVARD) AND SERVICE AVENUE

REVIEWED: David P. Rupert 07-19-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: Randall A. Bond 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

Permit No. 4458 Sheet 2 of 3
Date Issued 07/27/56 Date Revised 01/30/03



LEGEND

- MAST ARM
- PEDESTAL POLE
- VEHICULAR SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON / SIGN
- SIGN, POLE MOUNTED
- SIGN, OVERHEAD MOUNTED
- VEHICLE DETECTOR
- JUNCTION BOX
- UTILITY POLE
- -C/100mm- CONDUIT / SIZE
- CONTROLLER ASSEMBLY
- W/100mm SOLID WHITE LINE / WIDTH
- Y/100mm SOLID YELLOW LINE / WIDTH
- DY/100mm DOUBLE YELLOW LINE / WIDTH
- BW/150mm BROKEN WHITE LINE / WIDTH

SIGNS

Plan Symbol	Standard	Description	Size W x H	Qty.
A	R10-4B(R)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL →	225x300	4
B	R10-4B(L)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL ←	225x300	4
C	R10-10L	LEFT TURN SIGNAL	750x900	1
D	R3-5L	LEFT TURN	750x900	1
E	R3-5S	STRAIGHT THROUGH	750x900	2
F	R3-7R	RIGHT LANE MUST TURN RIGHT	750x750	3
G	R3-1	NO RIGHT TURN	750x750	2
H	R3-2	NO LEFT TURN	750x750	1
I	D3-4	CONNELLY	1676x400	1
J	D3-4	SPENCER	1676x400	2
K	R6-1R	ONE WAY →	900x300	4
L	R6-1L	ONE WAY ←	900x300	4
M	R5-1	DO NOT ENTER	750x750	2

SIGNALS
2, 3, 4, 5, 6, 7
300 mm
R
Y
G

SIGNALS
1
300 mm
R
Y
G

SIGNALS
8, 9, 10, 11, 12, 13, 14, 15
228mm

SIGNAL NOTES:
SIGNALS 1, 4, 5, 6, AND 7 WILL HAVE TUNNEL VISORS
SIGNALS 2 AND 3 WILL HAVE CUT AWAY VISORS

DETECTOR NOTES:
AMPLIFIERS FOR LOOPS 13, 14, 15, AND 16 WILL HAVE DELAY TIMERS

D-1061

COMMONWEALTH OF PENNSYLVANIA — PROFESSIONAL ENGINEER — PAUL T. SUCEVIC — No. 8940-E
P.E. 7/16/02

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON
INTERSECTION: S.R. 0062 (CONNELLY BLVD.) AND SPENCER AVENUE

REVIEWED: _____ 07-19-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: _____ 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

SCALE: 5m 0 5m 10m 15m

Permit No. 4458 Sheet 3 of 3
Date Issued 07/27/56 Date Revised _____

PHASING DIAGRAM

PHASE	2 + 5				2 + 6				8				Emergency Flashing
Interval / Signal	1	2	3	4	1	2	3	4	1	2	3	4	
1	←G	←G	Y	R	R	R	R	R	R	R	R	R	OFF
2,3	G	G	Y①	R①	G	G	Y②	R②	R	R	R	R	Y
4,5	R	R	R	R	G	G	Y	R	R	R	R	R	Y
6,7	R	R	R	R	R	R	R	R	G	G	Y	R	R
8,9	DW	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	OFF
10,11	W	FD	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	OFF
12,13	DW	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	OFF
14,15	DW	DW	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	OFF
FIXED			4	2			4	2			4	3	
MINIMUM	7				10				7				
ADDED INITIAL					1.2								
MAX. INITIAL					35.2								
PASSAGE	2				5.9				2				
TO REDUCE					20.5								
BEFORE RED.					14.7								
MIN. GAP					3								
MAX.I **	18				69				27				
MAX.II **	18				57				27				
PEDESTRIAN *	③	③			12	18			13	19			
MEMORY	NL				MN				NL				

* UPON PEDESTRIAN ACTUATION, OTHERWISE "DON'T WALK" AT ALL TIMES.

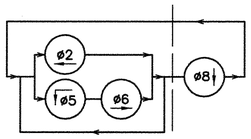
** UPON CLOSED-LOOP SYSTEM FAILURE ONLY
MAX I : ALL OTHER TIMES
MAX II : 12:00 AM TO 6:00 AM

① G IF FOLLOWED BY ø 2+6

② G IF FOLLOWED BY ø 2+5

③ TIMINGS AS SHOWN IN ø 2+6 INTERVALS MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN ø 2+6

MEMORY:
MN – MINIMUM RECALL
MX – MAXIMUM RECALL
L – LOCKING
NL – NON-LOCKING



PHASING DIAGRAM

COORDINATION PROGRAM

Plan No.	Day of Week M	T	W	T	F	S	S	Time	Cycle	Offset	ø2+5 Max. Green	ø2+6 Min.⊠ Green	ø8 Max. Green
1	▨	▨	▨	▨	▨			6:00 AM – 9:00 AM	90	2	19	32	20
2	▨	▨	▨	▨	▨			9:00 AM – 7:00 PM	100	3	19	40	22
1	▨	▨	▨	▨	▨			7:00 PM – 10:00 PM	90	2	19	32	20
3	▨	▨	▨	▨	▨	▨	▨	10:00 PM – 6:00 AM			AS PER PHASING DIAGRAM – MAX II		
2						▨	▨	6:00 AM – 10:00 PM	100	3	19	40	22

OFFSET IS REFERENCED TO THE BEGINNING OF PHASE 2+6, INTERVAL 3
⊠ UNUSED GREEN TIME FROM PHASES ø2+5, AND ø8 WILL BE PROVIDED TO ø2+6.

COORDINATION NOTE
THIS TRAFFIC SIGNAL IS HARDWIRE INTERCONNECTED TO THE TRAFFIC SIGNAL AT THE S.R. 0062/STAMBAUGH (S.R. 0518) INTERSECTION AND IS SUPERVISED BY A MASTER CONTROLLER LOCATED AT THAT INTERSECTION.

GENERAL NOTES

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MAINTENANCE WORK ON ALL APPROACHES TO THE SIGNALIZED INTERSECTION NECESSARY FOR PROPER VISIBILITY OF THE SIGNS AND SIGNALS, INCLUDING TRIMMING OF TREES, IS THE RESPONSIBILITY OF THE PERMITTED.

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SUPPORT POLES FOR OVERHEAD SIGNALS SHALL HAVE A MINIMUM CLEARANCE OF .6 METERS BEHIND THE FACE OF THE CURB OF 3.7 METERS FROM THE EDGE OF TRAVELED ROADWAY TO EDGE OF SUPPORT POLE.

VEHICULAR SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A CLEARANCE OF 5.2 METERS ABOVE THE ROADWAY, UNLESS OTHERWISE NOTED, POST MOUNTED VEHICULAR SIGNALS SHALL HAVE A CLEARANCE OF NOT LESS 2.4 METERS NOR MORE THAN 4.6 METERS ABOVE THE SIDEWALK LEVEL OR PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALK EXISTS, UNLESS OTHERWISE NOTED, PEDESTRIAN SIGNALS SHALL HAVE A CLEARANCE OF 2.4 METERS ABOVE THE SIDEWALK LEVEL. UNLESS OTHERWISE NOTED, POST MOUNTED SIGNS SHALL BE 2.1 METERS ABOVE THE SIDEWALK LEVEL OR ROADWAY GRADE, IF NO SIDEWALK EXISTS. UNLESS OTHERWISE NOTED, THE TOP OF THE POST MOUNTED SIGNS SHALL BE A MINIMUM 2.7 METERS ABOVE GROUND LINE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH, SHALL BE 2.4 METERS.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPILES WITH THE PROVISIONS OF THE LATEST ACT PREVENTING DAMAGE TO UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS THAT MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PAUL T. SUCEVIC No. 8940-E

D-1061

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON
INTERSECTION: S.R. 0062 (CONNELLY BLVD.) AND SPENCER AVENUE

REVIEWED: _____ 07-15-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: _____ 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

PHASING DIAGRAM

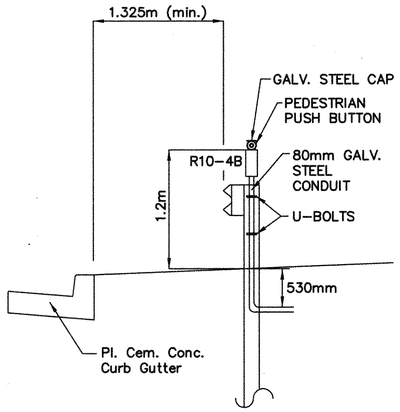
PHASE	1 + 5			1 + 6				2 + 5				2 + 6				3 + 7			4 + 7				3 + 8				4 + 8				Emergency Flashing
Interval / Signal	1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	
1	←G	Y	R①	R	R	R	R	←G	←G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	OFF
2,3	R	R	R	R	R	R	R	G	G	Y②	R②	G	G	Y②	R②	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
4	←G	Y	R③	←G	←G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	OFF
5,6	R	R	R	G	G	Y④	R④	R	R	R	R	G	G	Y④	R④	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
7	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R⑤	R⑤	Y⑤	R⑤	R	R	R	R	G⑥	G⑥	Y⑥	R⑥	G	G	Y	R	R
8	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R⑦	G	G	Y	R	R
9	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R⑧	R⑧	Y⑧	R⑧	G⑨	G⑨	Y⑨	R⑨	R	R	R	R	G	G	Y	R	R
10	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R	R	R	R	G	G	Y	R	R
11,12	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	OFF
13,14	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
15,16	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	W	FD	DW	DW	OFF
17,18	DW	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
FIXED		4	2			4	2			4	2			4	2		4.5	2			4.5	2			4.5	2			4.5	2	
MINIMUM	7			7				7				10				7			7				7				7				
ADDED INITIAL												1.2																		
MAX. INITIAL												35.2																		
PASSAGE	2			2				2				6.1				2			2				2				2			
TO REDUCE												20.5																		
BEFORE RED.												14.7																		
MIN. GAP												3																		
MAX. I	20			20				20				40				15			15				15				35			
MAX.II	15			15				15				36				15			15				15				35			
PEDESTRIAN*				⑩	⑩			⑩	⑩			14	13						⑪	⑪			⑪	⑪			14	19		
MEMORY	NL			NL				NL				MN				NL			NL				NL				NL			

* UPON PEDESTRIAN ACTUATION, OTHERWISE "DON'T WALK" AT ALL TIMES.

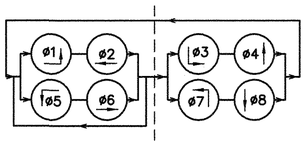
① ←G– IF FOLLOWED BY ø 2+5
② G IF FOLLOWED BY ø 2+6
③ G IF FOLLOWED BY ø 2+5
④ ←G– IF FOLLOWED BY ø 1+6
⑤ G IF FOLLOWED BY ø 1+6
⑥ R/←G IF FOLLOWED BY ø 3+8
⑦ G/←Y IF FOLLOWED BY ø 4+8
⑧ G IF FOLLOWED BY ø 4+8
⑨ R/←G IF FOLLOWED BY ø 4+7
⑩ TIMING WILL BE AS SHOWN IN ø 2+6, INTERVALS MAY TIME OUT IN THIS PHASE, OR MAY BE COMPLETED IN ø 2+6
⑪ TIMING WILL BE AS SHOWN IN ø 4+8, INTERVALS MAY TIME OUT IN THIS PHASE, OR MAY BE COMPLETED IN ø 4+8

MEMORY:
MN – MINIMUM RECALL
MX – MAXIMUM RECALL
L – LOCKING
NL – NON–LOCKING

MAX I : ALL OTHER TIMES
MAX II : 12:00 AM TO 6:00 AM



PUSH BUTTON
(1) (2) (3) (8)
DETAIL



PHASING DIAGRAM

GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF THESE SIGNALS SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS GOVERNING THE DESIGN, LOCATION AND OPERATION OF SIGNS, SIGNALS AND PAVEMENT MARKINGS.

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ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF PUBLICATION 68, OFFICIAL TRAFFIC CONTROL DEVICES. EXCEPTIONS ARE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS, WHICH ARE MAINTAINED BY THE DEPARTMENT.

SUPPORT POLES FOR OVERHEAD SIGNALS SHALL HAVE A MINIMUM CLEARANCE OF .6 METERS BEHIND THE FACE OF THE CURB OF 3.7 METERS FROM THE EDGE OF TRAVELED ROADWAY TO EDGE OF SUPPORT POLE.

VEHICULAR SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A CLEARANCE OF 5.2 METERS ABOVE THE ROADWAY, UNLESS OTHERWISE NOTED, POST MOUNTED VEHICULAR SIGNALS SHALL HAVE A CLEARANCE OF NOT LESS 2.4 METERS NOR MORE THAN 4.6 METERS ABOVE THE SIDEWALK LEVEL OR PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALK EXISTS, UNLESS OTHERWISE NOTED, PEDESTRIAN SIGNALS SHALL HAVE A CLEARANCE OF 2.4 METERS ABOVE THE SIDEWALK LEVEL. UNLESS OTHERWISE NOTED, POST MOUNTED SIGNS SHALL BE 2.1 METERS ABOVE THE SIDEWALK LEVEL OR ROADWAY GRADE, IF NO SIDEWALK EXISTS. UNLESS OTHERWISE NOTED, THE TOP OF THE POST MOUNTED SIGNS SHALL BE A MINIMUM 2.7 METERS ABOVE GROUND LINE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH, SHALL BE 2.4 METERS.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPILES WITH THE PROVISIONS OF THE LATEST ACT PREVENTING DAMAGE TO UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS THAT MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

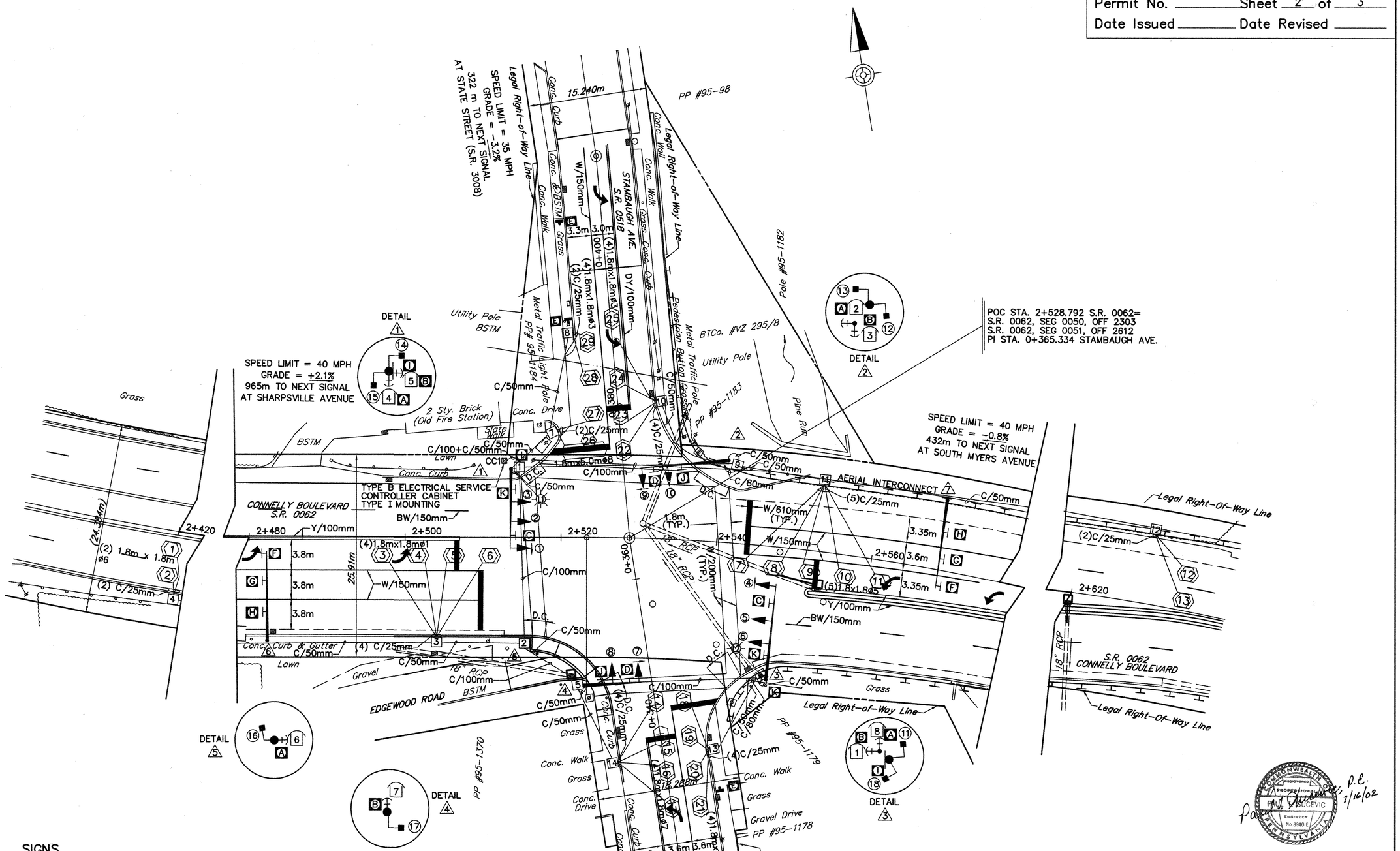
COORDINATION NOTE
THIS TRAFFIC SIGNAL IS PART OF A HARDWIRE INTERCONNECTED TRAFFIC SIGNAL SYSTEM AND IS SUPERVISED BY A MASTER CONTROLLER LOCATED AT THIS INTERSECTION. SIGNAL TIMINGS ARE NOT COORDINATED WITH THE OTHER INTERSECTIONS IN THIS SYSTEM.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PAUL T. SUCEVIC ENGINEER No. 8940-E

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON
INTERSECTION: S.R. 0062 (CONNELLY BOULEVARD) AND S.R. 0518 (STAMBAUGH AVENUE)

REVIEWED: _____ MUNICIPAL OFFICIAL — DATE 07-19-02
RECOMMENDED: _____ DISTRICT TRAFFIC ENGINEER — DATE 07-19-02

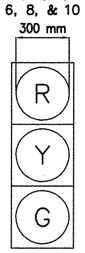
Permit No. _____ Sheet 2 of 3
Date Issued _____ Date Revised _____



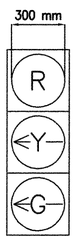
SIGNS

Plan Symbol	Standard	Description	Size W x H	Qty.
A	R10-4B(R)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL →	225X300	4
B	R10-4B(L)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL ←	225X300	4
C	R10-10L	LEFT TURN SIGNAL	750X900	2
D	R10-12	LEFT TURN YIELD ON GREEN	750X900	2
E	R3-7L	LEFT LANE MUST TURN LEFT	750X750	4
F	R3-5L	LEFT TURN	750X900	2
G	R3-5S	STRAIGHT-THROUGH	750X900	2
H	R3-6SR	OPTIONAL RIGHT TURN	750X900	2
I	D3-4	STAMBAUGH	2134X400	2
J	D3-4	CONNELLY	1676X400	2
K	R10-11	NO TURN ON RED	750x900	2

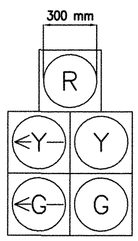
SIGNALS 2, 3, 5, 6, 8, & 10



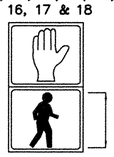
SIGNALS 1 & 4



SIGNALS 7 & 9



SIGNALS 11, 12, 13, 14, 15, 16, 17 & 18



SIGNAL NOTES:
SIGNALS 1, 4, 7, AND 9 WILL HAVE TUNNEL VISORS.
ALL OTHER VEHICULAR SIGNALS WILL HAVE CUT AWAY VISORS.
SIGNALS 1, 2, 3, 4, 5 AND 6 WILL HAVE BACKPLATES.

DETECTOR NOTES:
AMPLIFIERS FOR LOOPS 6, 7, 8, 14, 15, 22 AND 23 WILL HAVE DELAY TIMERS

D-514

LEGEND

- MAST ARM
- PEDESTAL POLE
- VEHICULAR SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON / SIGN
- LUMINAIRE
- SIGN, POLE MOUNTED
- SIGN, OVERHEAD MOUNTED
- VEHICLE DETECTOR
- JUNCTION BOX
- UTILITY POLE
- NEW GUIDE RAIL
- EXISTING GUIDE RAIL
- CONDUIT / SIZE
- CONTROLLER ASSEMBLY
- W/100mm – SOLID WHITE LINE / WIDTH
- Y/100mm – SOLID YELLOW LINE / WIDTH
- DY/100mm – DOUBLE YELLOW LINE / WIDTH
- BW/150mm – BROKEN WHITE LINE / WIDTH

COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL ENGINEER
PAUL J. DUCEVIC
No. 8940-E
p.e. 7/16/02

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON
INTERSECTION: S.R. 0062 (CONNELLY BOULEVARD) AND S.R. 0518 (STAMBAUGH AVENUE)

REVIEWED: _____ 07-19-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: _____ 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

SCALE: 5m 0 5m 10m 15m

Permit No. 4447 Sheet 3 of 3
Date Issued 07/25/56 Date Revised 01/30/03

PHASING DIAGRAM

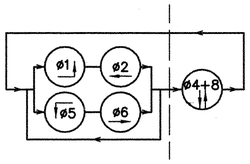
PHASE	1 + 5				1 + 6				2 + 5				2 + 6				4 + 8				Emergency Flashing
Interval / Signal	1	2	3		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1	←G	→Y①	R①		R	R	R	R	←G	→Y	R		R	R	R	R	R	R	R	R	OFF
2,3	R	R	R		R	R	R	R	G	G	Y①	R①	G	G	Y①	R①	R	R	R	R	Y
4	←G	→Y②	R①		←G	→G	→Y	R	R	R	R	R	R	R	R	R	R	R	R	R	OFF
5,6	R	R	R		G	G	Y①	R①	R	R	R	R	G	G	Y①	R①	R	R	R	R	Y
7,8	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
9,10	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
11,12	DW	DW	DW		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	OFF
13,14	DW	DW	DW		DW	DW	DW	DW	W	FD	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	OFF
15,16	DW	DW	DW		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FD	DW	DW	OFF
17,18	DW	DW	DW		W	FD	FD	DW	DW	DW	DW	DW	W	FD	DW	DW	DW	DW	DW	DW	OFF
FIXED		4	2				4	2			4	2			4	2			3	3	
MINIMUM	7				7				7				10				7				
ADDED INITIAL													1.2								
MAX. INITIAL													35.2								
PASSAGE	2				2				2				5.7				2				
TO REDUCE													20.5								
BEFORE RED.													14.7								
MIN. GAP													3								
MAX. I**	17				17				17				63				29				
MAX.II**	16				16				16				53				29				
PEDESTRIAN*					⑥	⑥			⑥	⑥			9	10			13	16			
MEMORY	NL				NL				NL				MN				NL				

* UPON PEDESTRIAN ACTUATION, OTHERWISE "DON'T WALK" AT ALL TIMES.

① ←G– IF FOLLOWED BY ø 2+5
② ←G– IF FOLLOWED BY ø 1+6
③ G IF FOLLOWED BY ø 2+6
④ G IF FOLLOWED BY ø 2+5
⑤ G IF FOLLOWED BY ø 1+6
⑥ TIMING AS SHOWN IN ø 2+6, INTERVALS MAY TIME OUT IN THIS PHASE, OR BE COMPLETED IN ø 2+6

MEMORY:
MN – MINIMUM RECALL
MX – MAXIMUM RECALL
L – LOCKING
NL – NON–LOCKING

** UPON CLOSED–LOOP SYSTEM FAILURE ONLY
MAX I: ALL OTHER TIMES
MAX II: 12:00 AM TO 6:00 AM



PHASING DIAGRAM

COORDINATION PROGRAM

Plan No.	Day of Week M	T	W	T	F	S	S	Time	Cycle	Offset	ø1+5 Max. Green	ø1+6 Max. Green	ø2+5 Max. Green	ø2+6 Min. Green ⊠	ø4+8 Max. Green
1								6:00 AM – 9:00 AM	90	0	17 [1][2]	17 [1]	17 [2]	30	25
2								9:00 AM – 7:00 PM	100	0	21 [3][4]	21 [3]	21 [4]	40	21
1								7:00 PM – 10:00 PM	90	0	17 [1][2]	17 [1]	17 [2]	30	25
3								10:00 PM – 6:00 AM			AS PER PHASING DIAGRAM – MAX II				
2								6:00 AM – 10:00 PM	100	0	21 [3][4]	21 [3]	21 [4]	40	21

OFFSET IS REFERENCED TO THE BEGINNING OF PHASE 2+6, INTERVAL 3
⊠ UNUSED GREEN TIME FROM PHASES ø1+5, ø1+6, ø2+5, AND ø4+8 WILL BE PROVIDED TO ø2+6.

[1] MAX. GREEN FOR ø1 IS 17 SEC./CYCLE. THIS MAXIMUM REPRESENTS THE COMBINED TOTAL GREEN FOR ø1 RECEIVED FROM PHASES ø1+5 AND ø1+6.

[2] MAX. GREEN FOR ø5 IS 17 SEC./CYCLE. THIS MAXIMUM REPRESENTS THE COMBINED TOTAL GREEN FOR ø2 RECEIVED FROM PHASES ø1+5 AND ø2+5

[3] MAX. GREEN FOR ø1 IS 21 SEC./CYCLE. THIS MAXIMUM REPRESENTS THE COMBINED TOTAL GREEN FOR ø1 RECEIVED FROM PHASES ø1+5 AND ø1+6.

[4] MAX. GREEN FOR ø5 IS 21 SEC./CYCLE. THIS MAXIMUM REPRESENTS THE COMBINED TOTAL GREEN FOR ø2 RECEIVED FROM PHASES ø1+5 AND ø2+5

COORDINATION NOTE
THIS TRAFFIC SIGNAL IS HARDWIRE INTERCONNECTED TO THE TRAFFIC SIGNAL AT THE S.R. 0062/STAMBAUGH (S.R. 0518) INTERSECTION AND IS SUPERVISED BY A MASTER CONTROLLER LOCATED AT THAT INTERSECTION.

GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF THESE SIGNALS SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS GOVERNING THE DESIGN, LOCATION AND OPERATION OF SIGNS, SIGNALS AND PAVEMENT MARKINGS.

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE SECRETARY OF TRANSPORTATION OR HIS REPRESENTATIVE.

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER PAUL T. SUCEVIC No. 89406

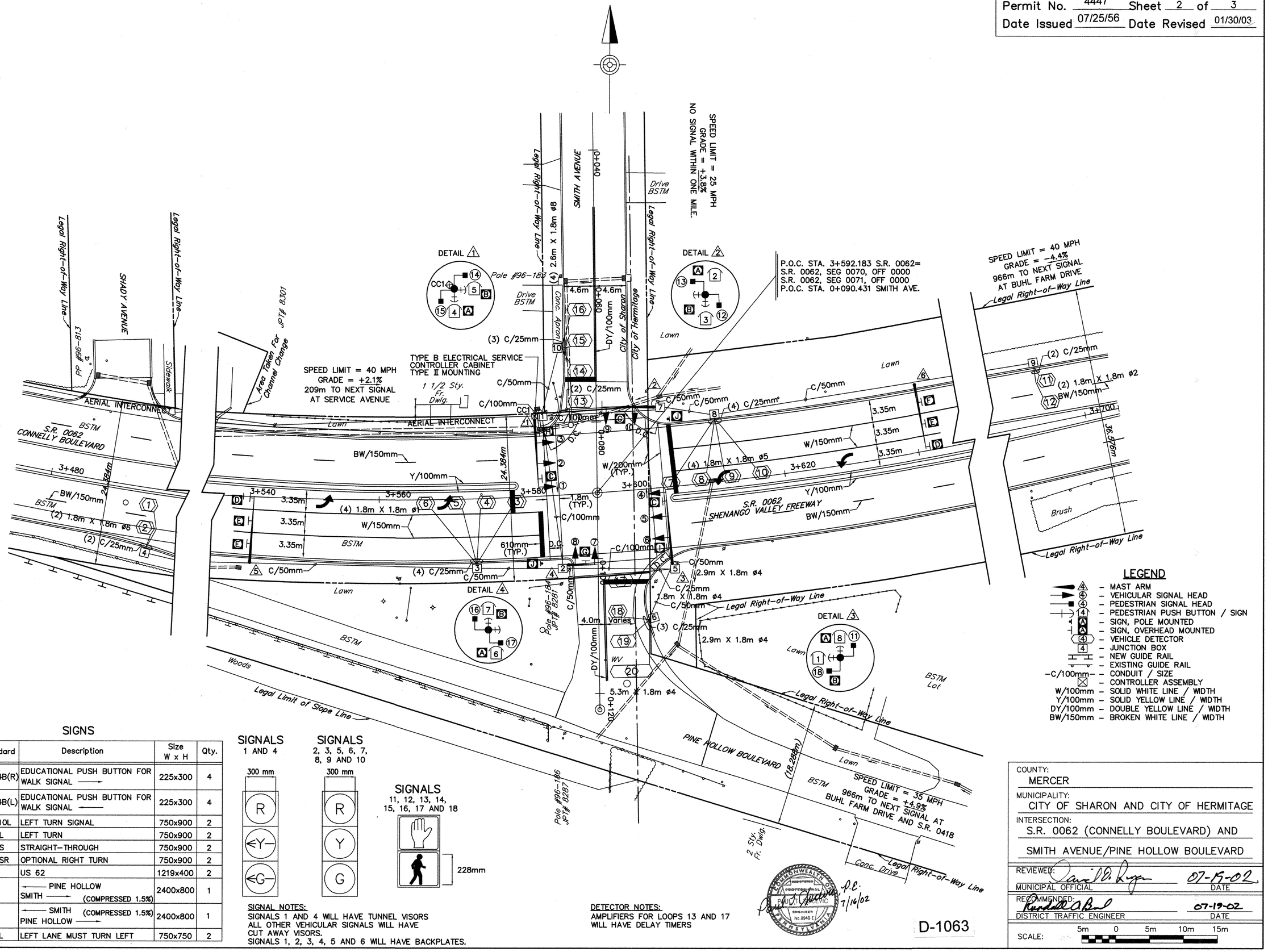
D-1063

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON AND CITY OF HERMITAGE
INTERSECTION: S.R. 0062 (CONNELLY BOULEVARD) AND SMITH AVENUE/PINE HOLLOW BOULEVARD

REVIEWED: David E. Rupp 07-19-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: Randall A. Bird 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

Permit No. 4447 Sheet 2 of 3
Date Issued 07/25/56 Date Revised 01/30/03



LEGEND

- MAST ARM
- VEHICULAR SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON / SIGN
- SIGN, POLE MOUNTED
- SIGN, OVERHEAD MOUNTED
- VEHICLE DETECTOR
- JUNCTION BOX
- NEW GUIDE RAIL
- EXISTING GUIDE RAIL
- -C/100mm- CONDUIT / SIZE
- CONTROLLER ASSEMBLY
- W/100mm SOLID WHITE LINE / WIDTH
- Y/100mm SOLID YELLOW LINE / WIDTH
- DY/100mm DOUBLE YELLOW LINE / WIDTH
- BW/150mm BROKEN WHITE LINE / WIDTH

SIGNS

Plan Symbol	Standard	Description	Size W x H	Qty.
A	R10-4B(R)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL →	225x300	4
B	R10-4B(L)	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL ←	225x300	4
C	R10-10L	LEFT TURN SIGNAL	750x900	2
D	R3-5L	LEFT TURN	750x900	2
E	R3-5S	STRAIGHT-THROUGH	750x900	2
F	R3-6SR	OPTIONAL RIGHT TURN	750x900	2
G	D3-4	US 62	1219x400	2
H	D3-5	← PINE HOLLOW SMITH → (COMPRESSED 1.5%)	2400x800	1
I	D3-5	← SMITH (COMPRESSED 1.5%) PINE HOLLOW →	2400x800	1
J	R3-7L	LEFT LANE MUST TURN LEFT	750x750	2

SIGNALS 1 AND 4

SIGNALS 2, 3, 5, 6, 7, 8, 9 AND 10

SIGNALS 11, 12, 13, 14, 15, 16, 17 AND 18

SIGNAL NOTES:
SIGNALS 1 AND 4 WILL HAVE TUNNEL VISORS
ALL OTHER VEHICULAR SIGNALS WILL HAVE
CUT AWAY VISORS.
SIGNALS 1, 2, 3, 4, 5 AND 6 WILL HAVE BACKPLATES.

DETECTOR NOTES:
AMPLIFIERS FOR LOOPS 13 AND 17
WILL HAVE DELAY TIMERS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DAVID V. CVELICH ENGINEER No. 8940-E
P.E. 7/16/02

D-1063

COUNTY: MERCER
MUNICIPALITY: CITY OF SHARON AND CITY OF HERMITAGE
INTERSECTION: S.R. 0062 (CONNELLY BOULEVARD) AND SMITH AVENUE/PINE HOLLOW BOULEVARD

REVIEWED: [signature] 07-15-02
MUNICIPAL OFFICIAL DATE

RECOMMENDED: [signature] 07-19-02
DISTRICT TRAFFIC ENGINEER DATE

SCALE: 5m 0 5m 10m 15m

Appendix E

Photographs

East Connelly Boulevard (SR 0062) and Spencer Avenue

East Connelly Boulevard Eastbound Approach

East Connelly Boulevard Westbound Approach

East Connelly Boulevard (SR 0062) and Spencer Avenue

Spencer Avenue Southbound Approach

Spencer Avenue Northbound Approach

East Connelly Boulevard (SR 0062) and Spencer Avenue

Looking Left From Spencer Avenue Southbound Approach

Looking Right From Spencer Avenue Southbound Approach

East Connelly Boulevard (SR 0062) and Service Avenue

East Connelly Boulevard Eastbound Approach

East Connelly Boulevard Westbound Approach

East Connelly Boulevard (SR 0062) and Service Avenue

Service Avenue Southbound Approach

Service Avenue Northbound Approach

East Connelly Boulevard (SR 0062) and Service Avenue

Looking Left From Service Avenue Northbound Approach

Looking Right From Service Avenue Northbound Approach

East Connelly Boulevard (SR 0062) and Service Avenue

Looking Left From Service Avenue Southbound Approach

Looking Right From Service Avenue Southbound Approach

Appendix F

Level of Service Definitions

SIGNALIZED INTERSECTIONS

LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay *and* volume-to-capacity ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group. The following paragraphs describe each LOS.

LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

Exhibit 18-4 lists the LOS thresholds established for the automobile mode at a signalized intersection.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
≤10	A	F
>10–20	B	F
>20–35	C	F
>35–55	D	F
>55–80	E	F
>80	F	F

Note: [a] For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

UNSIGNALIZED INTERSECTIONS

Level of service (LOS) for a TWSC intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns by using criteria given in Exhibit 19-1. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons: (*a*) major-street through vehicles are assumed to experience zero delay; (*b*) the disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay for all vehicles; and (*c*) the resulting low delay can mask important LOS deficiencies for minor movements. As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The LOS criteria for TWSC intersections are somewhat different from the criteria used in Chapter 18 for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals, which can reduce users' delay tolerance.

Control Delay (s/vehicle)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c > 1.0$
0–10	A	F
>10–15	B	F
>15–25	C	F
>25–35	D	F
>35–50	E	F
>50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

Appendix G

Capacity Analysis

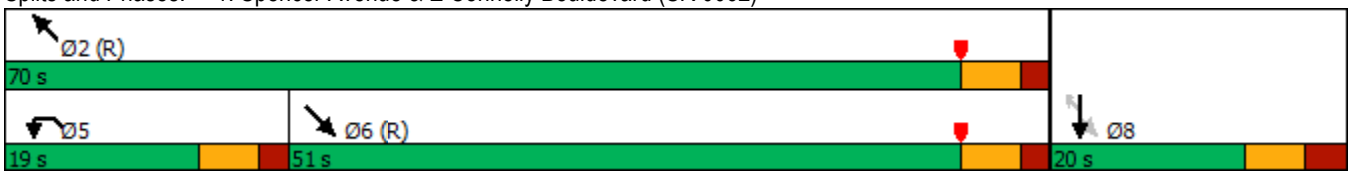
2022 Existing Conditions

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	21	29	11	0	411	4	17	284	0
Future Volume (vph)	0	0	0	21	29	11	0	411	4	17	284	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	14	14	14	11	11	11	12	12	12
Grade (%)		-2%			-3%			2%			-1%	
Storage Length (ft)	0		0	0		70	0		0	75		0
Storage Lanes	0		0	0		1	0		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor					1.00							
Frt						0.850		0.998				
Flt Protected					0.979					0.950		
Satd. Flow (prot)	0	0	0	0	2014	1749	0	3372	0	1814	3522	0
Flt Permitted					0.979					0.950		
Satd. Flow (perm)	0	0	0	0	2012	1749	0	3372	0	1814	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						109		2				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		294			399			1853			386	
Travel Time (s)		8.0			10.9			31.6			6.6	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	25%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	25	34	13	0	484	5	20	334	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	59	13	0	489	0	20	334	0
Turn Type				Perm	NA	Perm		NA		Prot	NA	
Protected Phases					8			6		5	2	
Permitted Phases				8		8						
Detector Phase				8	8	8		6		5	2	
Switch Phase												
Minimum Initial (s)				7.0	7.0	7.0		10.0		7.0	10.0	
Minimum Split (s)				20.0	20.0	20.0		32.0		13.0	32.0	
Total Split (s)				20.0	20.0	20.0		51.0		19.0	70.0	
Total Split (%)				22.2%	22.2%	22.2%		56.7%		21.1%	77.8%	
Maximum Green (s)				13.0	13.0	13.0		45.0		13.0	64.0	
Yellow Time (s)				4.0	4.0	4.0		4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0	3.0		2.0		2.0	2.0	
Lost Time Adjust (s)					0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)					7.0	7.0		6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)				2.0	2.0	2.0		5.9		2.0	5.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Gap (s)				3.0	3.0	3.0		3.0		3.0	3.0	
Time Before Reduce (s)				0.0	0.0	0.0		14.7		0.0	14.7	
Time To Reduce (s)				0.0	0.0	0.0		20.5		0.0	20.5	
Recall Mode				None	None	None		C-Min		None	C-Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					8.0	8.0		67.8		7.1	73.0	
Actuated g/C Ratio					0.09	0.09		0.75		0.08	0.81	
v/c Ratio					0.33	0.05		0.19		0.14	0.12	
Control Delay					43.3	0.4		2.2		45.3	1.4	
Queue Delay					0.0	0.0		0.0		0.0	0.0	
Total Delay					43.3	0.4		2.2		45.3	1.4	
LOS					D	A		A		D	A	
Approach Delay					35.6			2.2			3.9	
Approach LOS					D			A			A	
Queue Length 50th (ft)					32	0		12		12	13	
Queue Length 95th (ft)					64	0		27		35	13	
Internal Link Dist (ft)		214			319			1773			306	
Turn Bay Length (ft)						70				75		
Base Capacity (vph)					290	345		2540		262	2858	
Starvation Cap Reductn					0	0		0		0	0	
Spillback Cap Reductn					0	0		0		0	0	
Storage Cap Reductn					0	0		0		0	0	
Reduced v/c Ratio					0.20	0.04		0.19		0.08	0.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 68.5 (76%), Referenced to phase 2:NWT and 6:SET, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

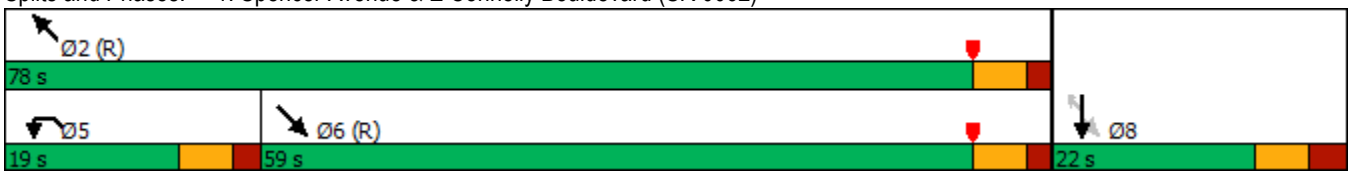


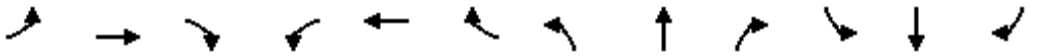
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	5	19	6	0	481	17	77	516	0
Future Volume (vph)	0	0	0	5	19	6	0	481	17	77	516	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	14	14	14	11	11	11	12	12	12
Grade (%)		-2%			-3%			2%			-1%	
Storage Length (ft)	0		0	0		70	0		0	75		0
Storage Lanes	0		0	0		1	0		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor					1.00	0.99						
Frt						0.850		0.995				
Flt Protected					0.989					0.950		
Satd. Flow (prot)	0	0	0	0	2034	1749	0	3405	0	1814	3522	0
Flt Permitted					0.989					0.950		
Satd. Flow (perm)	0	0	0	0	2034	1724	0	3405	0	1814	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						98		5				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		294			399			1853			386	
Travel Time (s)		8.0			10.9			31.6			6.6	
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	6	21	7	0	540	19	87	580	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	27	7	0	559	0	87	580	0
Turn Type				Perm	NA	Perm		NA		Prot	NA	
Protected Phases					8			6		5	2	
Permitted Phases				8		8						
Detector Phase				8	8	8		6		5	2	
Switch Phase												
Minimum Initial (s)				7.0	7.0	7.0		10.0		7.0	10.0	
Minimum Split (s)				20.0	20.0	20.0		40.0		13.0	40.0	
Total Split (s)				22.0	22.0	22.0		59.0		19.0	78.0	
Total Split (%)				22.0%	22.0%	22.0%		59.0%		19.0%	78.0%	
Maximum Green (s)				15.0	15.0	15.0		53.0		13.0	72.0	
Yellow Time (s)				4.0	4.0	4.0		4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0	3.0		2.0		2.0	2.0	
Lost Time Adjust (s)					0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)					7.0	7.0		6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)				2.0	2.0	2.0		5.9		2.0	5.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Gap (s)				3.0	3.0	3.0		3.0		3.0	3.0	
Time Before Reduce (s)				0.0	0.0	0.0		14.7		0.0	14.7	
Time To Reduce (s)				0.0	0.0	0.0		20.5		0.0	20.5	
Recall Mode				None	None	None		C-Min		None	C-Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					7.2	7.2		73.6		9.6	87.8	
Actuated g/C Ratio					0.07	0.07		0.74		0.10	0.88	
v/c Ratio					0.18	0.03		0.22		0.50	0.19	
Control Delay					46.6	0.3		4.0		59.2	1.5	
Queue Delay					0.0	0.0		0.0		0.0	0.0	
Total Delay					46.6	0.3		4.0		59.2	1.5	
LOS					D	A		A		E	A	
Approach Delay					37.1			4.0			9.0	
Approach LOS					D			A			A	
Queue Length 50th (ft)					17	0		125		59	30	
Queue Length 95th (ft)					43	0		16		108	40	
Internal Link Dist (ft)		214			319			1773			306	
Turn Bay Length (ft)						70				75		
Base Capacity (vph)					305	341		2508		235	3092	
Starvation Cap Reductn					0	0		0		0	0	
Spillback Cap Reductn					0	0		0		0	0	
Storage Cap Reductn					0	0		0		0	0	
Reduced v/c Ratio					0.09	0.02		0.22		0.37	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 3 (3%), Referenced to phase 2:NWT and 6:SET, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 7.6		Intersection LOS: A	
Intersection Capacity Utilization 41.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)



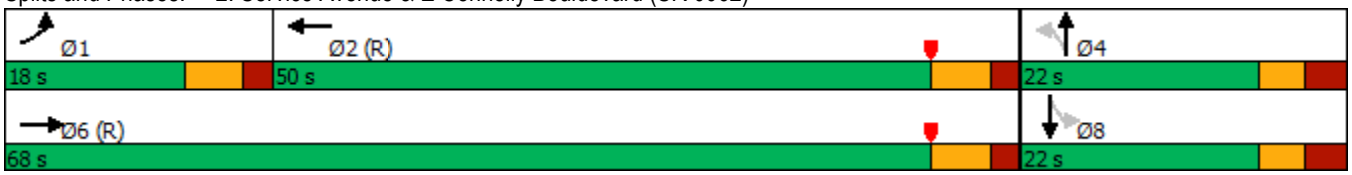


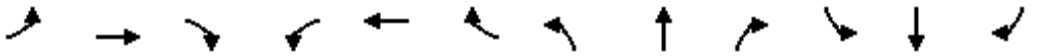
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	425	0	0	290	3	7	28	43	4	0	5
Future Volume (vph)	10	425	0	0	290	3	7	28	43	4	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	11	11	11	14	14	14	13	13	13
Grade (%)		1%			-2%			-2%			-1%	
Storage Length (ft)	100		0	0		0	50		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999			0.909			0.926	
Flt Protected	0.950						0.950				0.978	
Satd. Flow (prot)	1676	3404	0	0	3419	0	1945	1861	0	0	1787	0
Flt Permitted	0.950						0.750				0.815	
Satd. Flow (perm)	1676	3404	0	0	3419	0	1535	1861	0	0	1489	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					1			49				
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		386			232			340			278	
Travel Time (s)		6.6			4.0			9.3			7.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	11	489	0	0	333	3	8	32	49	5	0	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	489	0	0	336	0	8	81	0	0	11	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6			2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	10.0			10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	32.0			32.0		22.0	22.0		22.0	22.0	
Total Split (s)	18.0	68.0			50.0		22.0	22.0		22.0	22.0	
Total Split (%)	20.0%	75.6%			55.6%		24.4%	24.4%		24.4%	24.4%	
Maximum Green (s)	12.0	62.0			44.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0			6.0	
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	5.7			5.7		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7			14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5			20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min			C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.1	73.8			71.1		8.0	8.0			8.0	
Actuated g/C Ratio	0.08	0.82			0.79		0.09	0.09			0.09	
v/c Ratio	0.08	0.18			0.12		0.06	0.39			0.08	
Control Delay	40.8	0.9			3.6		37.6	24.1			38.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	40.8	0.9			3.6		37.6	24.1			38.1	
LOS	D	A			A		D	C			D	
Approach Delay		1.8			3.6			25.3			38.1	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	7	8			16		4	17			6	
Queue Length 95th (ft)	25	12			53		17	56			21	
Internal Link Dist (ft)		306			152			260			198	
Turn Bay Length (ft)	100						50					
Base Capacity (vph)	223	2792			2702		272	371			264	
Starvation Cap Reductn	0	0			0		0	0			0	
Spillback Cap Reductn	0	0			0		0	0			0	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.05	0.18			0.12		0.03	0.22			0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 71.5 (79%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 27.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Service Avenue & E Connelly Bouldevard (SR 0062)



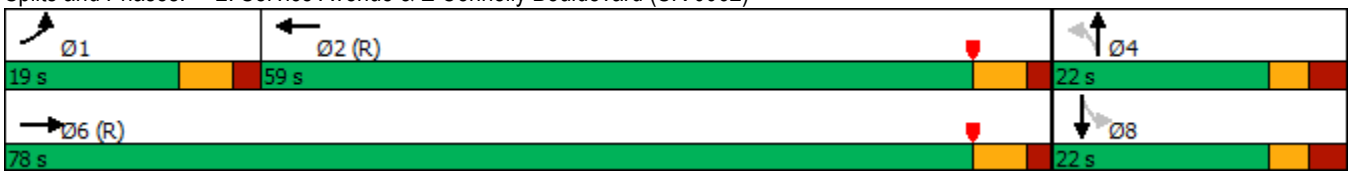


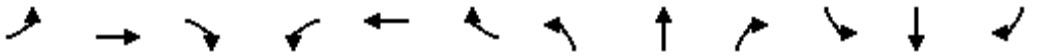
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	477	0	0	578	1	11	8	42	2	0	4
Future Volume (vph)	9	477	0	0	578	1	11	8	42	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	11	11	11	14	14	14	13	13	13
Grade (%)		1%			-2%			-2%			-1%	
Storage Length (ft)	100		0	0		0	50		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt								0.875			0.910	
Flt Protected	0.950						0.950				0.984	
Satd. Flow (prot)	1676	3438	0	0	3456	0	1784	1762	0	0	1767	0
Flt Permitted	0.950						0.754				0.867	
Satd. Flow (perm)	1676	3438	0	0	3456	0	1416	1762	0	0	1557	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)								46				
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		386			232			340			278	
Travel Time (s)		6.6			4.0			9.3			7.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	9%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	524	0	0	635	1	12	9	46	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	524	0	0	636	0	12	55	0	0	6	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6			2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	10.0			10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	41.0			41.0		22.0	22.0		22.0	22.0	
Total Split (s)	19.0	78.0			59.0		22.0	22.0		22.0	22.0	
Total Split (%)	19.0%	78.0%			59.0%		22.0%	22.0%		22.0%	22.0%	
Maximum Green (s)	13.0	72.0			53.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0			6.0	
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	5.7			5.7		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7			14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5			20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min			C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.1	84.3			81.6		7.5	7.5			7.5	
Actuated g/C Ratio	0.07	0.84			0.82		0.08	0.08			0.08	
v/c Ratio	0.08	0.18			0.23		0.11	0.32			0.05	
Control Delay	77.0	0.6			1.8		45.1	21.4			43.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	77.0	0.6			1.8		45.1	21.4			43.4	
LOS	E	A			A		D	C			D	
Approach Delay		2.0			1.8			25.6			43.4	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	7	2			23		7	5			4	
Queue Length 95th (ft)	26	2			30		25	42			16	
Internal Link Dist (ft)		306			152			260			198	
Turn Bay Length (ft)	100						50					
Base Capacity (vph)	217	2898			2820		226	320			249	
Starvation Cap Reductn	0	0			0		0	0			0	
Spillback Cap Reductn	0	0			0		0	0			0	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.05	0.18			0.23		0.05	0.17			0.02	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 14 (14%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 3.4		Intersection LOS: A	
Intersection Capacity Utilization 31.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Service Avenue & E Connelly Bouldevard (SR 0062)



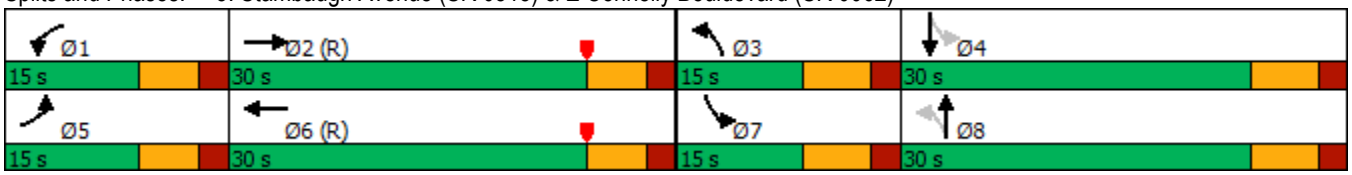


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	322	54	59	291	31	68	218	11	26	163	69
Future Volume (vph)	72	322	54	59	291	31	68	218	11	26	163	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.978			0.986			0.993			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1742	3463	0	1838	3527	0	1787	1887	0	1649	1679	0
Flt Permitted	0.950			0.950			0.345			0.485		
Satd. Flow (perm)	1742	3463	0	1838	3527	0	648	1887	0	840	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			12			3			23	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		3	3		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	6%	2%	5%	3%	3%	2%	0%	0%	1%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	89	398	67	73	359	38	84	269	14	32	201	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	465	0	73	397	0	84	283	0	32	286	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		15.0	24.5		13.5	30.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Maximum Green (s)	9.0	24.0		9.0	24.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		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	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	9.2	34.4		8.6	33.8		28.3	22.7		24.7	18.8	
Actuated g/C Ratio	0.10	0.38		0.10	0.38		0.31	0.25		0.27	0.21	
v/c Ratio	0.50	0.35		0.42	0.30		0.27	0.59		0.11	0.78	
Control Delay	48.3	23.8		48.5	18.5		19.2	34.3		16.8	45.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.3	23.8		48.5	18.5		19.2	34.3		16.8	45.2	
LOS	D	C		D	B		B	C		B	D	
Approach Delay		27.7			23.2			30.8			42.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	48	104		42	71		30	145		11	141	
Queue Length 95th (ft)	86	144		79	92		48	185		23	188	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	187	1357		188	1364		318	537		315	455	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.34		0.39	0.29		0.26	0.53		0.10	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 29.9		Intersection LOS: C	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

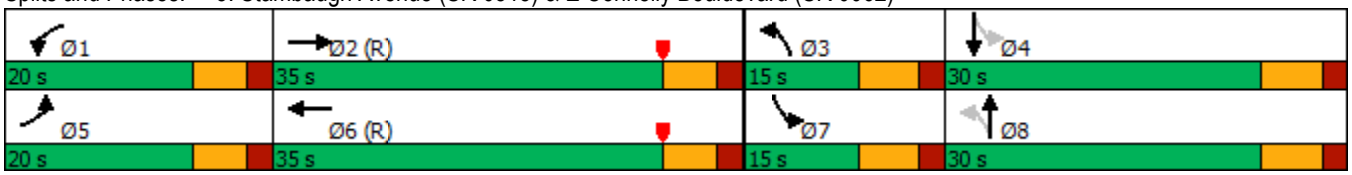


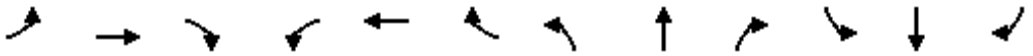
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	435	78	74	413	46	91	156	16	39	168	62
Future Volume (vph)	93	435	78	74	413	46	91	156	16	39	168	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.977			0.985			0.986			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1828	3562	0	1856	3627	0	1805	1858	0	1649	1708	0
Flt Permitted	0.950			0.950			0.363			0.643		
Satd. Flow (perm)	1828	3562	0	1856	3627	0	688	1858	0	1115	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			12			5			17	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	1%	2%	0%	2%	3%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	98	458	82	78	435	48	96	164	17	41	177	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	540	0	78	483	0	96	181	0	41	242	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	30.0		13.0	25.0		13.5	25.0		13.5	25.0	
Total Split (s)	20.0	35.0		20.0	35.0		15.0	30.0		15.0	30.0	
Total Split (%)	20.0%	35.0%		20.0%	35.0%		15.0%	30.0%		15.0%	30.0%	
Maximum Green (s)	14.0	29.0		14.0	29.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.1		2.0	6.1		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7		0.0	14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5		0.0	20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	10.1	45.5		9.1	44.5		26.6	21.1		23.3	17.4	
Actuated g/C Ratio	0.10	0.46		0.09	0.44		0.27	0.21		0.23	0.17	
v/c Ratio	0.53	0.33		0.46	0.30		0.35	0.46		0.14	0.78	
Control Delay	52.9	21.2		62.6	14.4		26.7	36.7		22.6	53.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.9	21.2		62.6	14.4		26.7	36.7		22.6	53.2	
LOS	D	C		E	B		C	D		C	D	
Approach Delay		26.1			21.1			33.2			48.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	61	119		49	73		43	101		18	138	
Queue Length 95th (ft)	108	194		102	94		73	158		38	209	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	255	1633		259	1627		282	463		315	414	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.38	0.33		0.30	0.30		0.34	0.39		0.13	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 29.3		Intersection LOS: C	
Intersection Capacity Utilization 59.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)



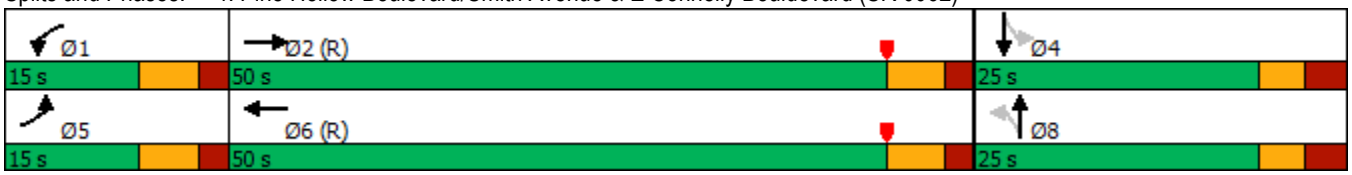


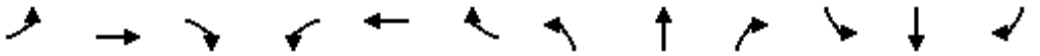
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	426	0	5	316	16	17	24	16	12	30	14
Future Volume (vph)	28	426	0	5	316	16	17	24	16	12	30	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.993			0.962			0.966	
Flt Protected	0.950			0.950				0.986			0.990	
Satd. Flow (prot)	1727	3354	0	1780	3334	0	0	1755	0	0	1897	0
Flt Permitted	0.950			0.950				0.914			0.935	
Satd. Flow (perm)	1727	3354	0	1780	3334	0	0	1627	0	0	1791	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			19			17	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	6%	6%	6%	0%	6%	8%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	33	507	0	6	376	19	20	29	19	14	36	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	507	0	6	395	0	0	68	0	0	67	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	9.0	44.0		9.0	44.0		19.0	19.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.3	71.0		7.0	65.5			8.2			8.2	
Actuated g/C Ratio	0.08	0.79		0.08	0.73			0.09			0.09	
v/c Ratio	0.24	0.19		0.04	0.16			0.41			0.38	
Control Delay	51.0	1.7		39.2	6.0			37.1			36.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	51.0	1.7		39.2	6.0			37.1			36.3	
LOS	D	A		D	A			D			D	
Approach Delay		4.7			6.5			37.1			36.3	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	18	11		3	42			27			28	
Queue Length 95th (ft)	48	19		14	66			60			60	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	172	2647		178	2429			358			391	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.19	0.19		0.03	0.16			0.19			0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 38.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



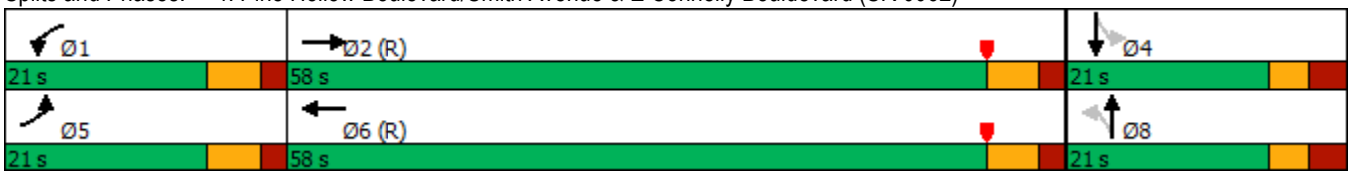


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	501	0	18	499	28	35	33	13	15	46	25
Future Volume (vph)	31	501	0	18	499	28	35	33	13	15	46	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.992			0.978			0.961	
Flt Protected	0.950			0.950				0.979			0.991	
Satd. Flow (prot)	1727	3421	0	1780	3498	0	0	1833	0	0	1951	0
Flt Permitted	0.950			0.950				0.803			0.924	
Satd. Flow (perm)	1727	3421	0	1780	3498	0	0	1503	0	0	1819	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			8			17	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	35	569	0	20	567	32	40	38	15	17	52	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	569	0	20	599	0	0	93	0	0	97	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	26.0		13.0	26.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	58.0		21.0	58.0		21.0	21.0		21.0	21.0	
Total Split (%)	21.0%	58.0%		21.0%	58.0%		21.0%	21.0%		21.0%	21.0%	
Maximum Green (s)	15.0	52.0		15.0	52.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.5	76.3		7.1	73.2			10.3			10.3	
Actuated g/C Ratio	0.08	0.76		0.07	0.73			0.10			0.10	
v/c Ratio	0.27	0.22		0.16	0.23			0.58			0.48	
Control Delay	57.6	2.1		46.7	6.9			52.7			42.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	57.6	2.1		46.7	6.9			52.7			42.1	
LOS	E	A		D	A			D			D	
Approach Delay		5.4			8.2			52.7			42.1	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	24	17		12	75			53			49	
Queue Length 95th (ft)	54	38		35	121			97			93	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	259	2608		267	2563			232			287	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.14	0.22		0.07	0.23			0.40			0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	21	29	11	0	411	4	17	284	0
Future Volume (veh/h)	0	0	0	21	29	11	0	411	4	17	284	0
Number				3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				2006	2006	2006	0	1840	1881	1910	1854	0
Adj Flow Rate, veh/h				25	34	13	0	484	5	20	334	0
Adj No. of Lanes				0	1	1	0	2	0	1	2	0
Peak Hour Factor				0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %				0	0	0	0	2	25	0	3	0
Cap, veh/h				54	73	110	0	2458	25	56	2785	0
Arrive On Green				0.06	0.06	0.06	0.00	0.69	0.69	0.03	0.79	0.00
Sat Flow, veh/h				832	1132	1698	0	3637	37	1819	3615	0
Grp Volume(v), veh/h				59	0	13	0	239	250	20	334	0
Grp Sat Flow(s),veh/h/ln				1964	0	1698	0	1748	1833	1819	1761	0
Q Serve(g_s), s				2.6	0.0	0.6	0.0	4.4	4.4	1.0	2.0	0.0
Cycle Q Clear(g_c), s				2.6	0.0	0.6	0.0	4.4	4.4	1.0	2.0	0.0
Prop In Lane				0.42		1.00	0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h				128	0	110	0	1212	1271	56	2785	0
V/C Ratio(X)				0.46	0.00	0.12	0.00	0.20	0.20	0.36	0.12	0.00
Avail Cap(c_a), veh/h				284	0	245	0	1212	1271	263	2785	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				40.6	0.0	39.7	0.0	4.9	4.9	42.8	2.2	0.0
Incr Delay (d2), s/veh				1.0	0.0	0.2	0.0	0.4	0.3	1.4	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	0.3	0.0	2.2	2.3	0.5	1.0	0.0
LnGrp Delay(d),s/veh				41.5	0.0	39.8	0.0	5.3	5.2	44.2	2.3	0.0
LnGrp LOS				D		D		A	A	D	A	
Approach Vol, veh/h					72			489			354	
Approach Delay, s/veh					41.2			5.3			4.6	
Approach LOS					D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		77.2			8.8	68.4		12.8
Change Period (Y+Rc), s		6.0			6.0	6.0		7.0
Max Green Setting (Gmax), s		64.0			13.0	45.0		13.0
Max Q Clear Time (g_c+I1), s		4.0			3.0	6.4		4.6
Green Ext Time (p_c), s		5.8			0.0	7.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.8
HCM 2010 LOS	A

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	19	6	0	481	17	77	516	0
Future Volume (veh/h)	0	0	0	5	19	6	0	481	17	77	516	0
Number				3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				2006	2006	2006	0	1863	1881	1910	1854	0
Adj Flow Rate, veh/h				6	21	7	0	540	19	87	580	0
Adj No. of Lanes				0	1	1	0	2	0	1	2	0
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				0	0	0	0	1	0	0	3	0
Cap, veh/h				19	66	73	0	2454	86	116	2914	0
Arrive On Green				0.04	0.04	0.04	0.00	0.70	0.70	0.06	0.83	0.00
Sat Flow, veh/h				441	1543	1697	0	3582	123	1819	3615	0
Grp Volume(v), veh/h				27	0	7	0	274	285	87	580	0
Grp Sat Flow(s),veh/h/ln				1984	0	1697	0	1770	1841	1819	1761	0
Q Serve(g_s), s				1.3	0.0	0.4	0.0	5.4	5.4	4.7	3.4	0.0
Cycle Q Clear(g_c), s				1.3	0.0	0.4	0.0	5.4	5.4	4.7	3.4	0.0
Prop In Lane				0.22		1.00	0.00		0.07	1.00		0.00
Lane Grp Cap(c), veh/h				85	0	73	0	1245	1295	116	2914	0
V/C Ratio(X)				0.32	0.00	0.10	0.00	0.22	0.22	0.75	0.20	0.00
Avail Cap(c_a), veh/h				298	0	255	0	1245	1295	236	2914	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.98	0.98	0.00
Uniform Delay (d), s/veh				46.4	0.0	46.0	0.0	5.2	5.2	46.0	1.8	0.0
Incr Delay (d2), s/veh				0.8	0.0	0.2	0.0	0.4	0.4	3.6	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.2	0.0	2.7	2.8	2.5	1.7	0.0
LnGrp Delay(d),s/veh				47.2	0.0	46.2	0.0	5.6	5.6	49.6	1.9	0.0
LnGrp LOS				D		D		A	A	D	A	
Approach Vol, veh/h					34			559			667	
Approach Delay, s/veh					47.0			5.6			8.2	
Approach LOS					D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		88.7			12.4	76.3		11.3
Change Period (Y+Rc), s		6.0			6.0	6.0		7.0
Max Green Setting (Gmax), s		72.0			13.0	53.0		15.0
Max Q Clear Time (g_c+I1), s		5.4			6.7	7.4		3.3
Green Ext Time (p_c), s		11.4			0.1	9.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	425	0	0	290	3	7	28	43	4	0	5
Future Volume (veh/h)	10	425	0	0	290	3	7	28	43	4	0	5
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1853	0	0	1864	1919	1996	1996	1996	1986	1986	1986
Adj Flow Rate, veh/h	11	489	0	0	333	3	8	32	49	5	0	6
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	0	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	2	0	0	3	0	0	0	0	0	0	0
Cap, veh/h	34	2801	0	0	2553	23	203	51	78	78	19	46
Arrive On Green	0.02	0.80	0.00	0.00	0.71	0.71	0.07	0.07	0.07	0.07	0.00	0.07
Sat Flow, veh/h	1800	3614	0	0	3689	32	1504	712	1091	272	264	643
Grp Volume(v), veh/h	11	489	0	0	164	172	8	0	81	11	0	0
Grp Sat Flow(s),veh/h/ln	1800	1761	0	0	1770	1858	1504	0	1803	1179	0	0
Q Serve(g_s), s	0.5	3.0	0.0	0.0	2.7	2.7	0.0	0.0	3.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.0	0.0	0.0	2.7	2.7	0.4	0.0	3.9	3.9	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.02	1.00		0.60	0.45		0.55
Lane Grp Cap(c), veh/h	34	2801	0	0	1257	1319	203	0	129	142	0	0
V/C Ratio(X)	0.33	0.17	0.00	0.00	0.13	0.13	0.04	0.00	0.63	0.08	0.00	0.00
Avail Cap(c_a), veh/h	240	2801	0	0	1257	1319	363	0	321	307	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.6	2.2	0.0	0.0	4.2	4.2	39.0	0.0	40.6	39.1	0.0	0.0
Incr Delay (d2), s/veh	5.4	0.1	0.0	0.0	0.2	0.2	0.1	0.0	5.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	0.0	0.0	1.3	1.4	0.2	0.0	2.1	0.3	0.0	0.0
LnGrp Delay(d),s/veh	49.0	2.3	0.0	0.0	4.4	4.4	39.0	0.0	45.6	39.3	0.0	0.0
LnGrp LOS	D	A			A	A	D		D	D		
Approach Vol, veh/h		500			336			89			11	
Approach Delay, s/veh		3.4			4.4			45.0			39.3	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	7.7	69.9		12.4		77.6		12.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	12.0	44.0		16.0		62.0		16.0
Max Q Clear Time (g_c+I1), s	2.5	4.7		5.9		5.0		5.9
Green Ext Time (p_c), s	0.0	4.8		0.2		8.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	477	0	0	578	1	11	8	42	2	0	4
Future Volume (veh/h)	9	477	0	0	578	1	11	8	42	2	0	4
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1872	0	0	1881	1919	1831	1963	1996	1986	1986	1986
Adj Flow Rate, veh/h	10	524	0	0	635	1	12	9	46	2	0	4
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0	0	2	0	9	0	2	0	0	0
Cap, veh/h	31	2913	0	0	2718	4	167	17	87	64	17	65
Arrive On Green	0.02	0.82	0.00	0.00	0.74	0.74	0.06	0.06	0.06	0.06	0.00	0.06
Sat Flow, veh/h	1800	3650	0	0	3756	6	1383	280	1431	258	276	1069
Grp Volume(v), veh/h	10	524	0	0	310	326	12	0	55	6	0	0
Grp Sat Flow(s),veh/h/ln	1800	1778	0	0	1787	1880	1383	0	1710	1604	0	0
Q Serve(g_s), s	0.5	3.1	0.0	0.0	5.4	5.4	0.0	0.0	3.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.1	0.0	0.0	5.4	5.4	0.7	0.0	3.1	3.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.00	1.00		0.84	0.33		0.67
Lane Grp Cap(c), veh/h	31	2913	0	0	1327	1396	167	0	104	145	0	0
V/C Ratio(X)	0.33	0.18	0.00	0.00	0.23	0.23	0.07	0.00	0.53	0.04	0.00	0.00
Avail Cap(c_a), veh/h	234	2913	0	0	1327	1396	304	0	274	304	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	48.6	1.9	0.0	0.0	4.0	4.0	44.4	0.0	45.6	44.3	0.0	0.0
Incr Delay (d2), s/veh	6.0	0.1	0.0	0.0	0.4	0.4	0.2	0.0	4.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	0.0	0.0	2.8	3.0	0.3	0.0	1.6	0.2	0.0	0.0
LnGrp Delay(d),s/veh	54.6	2.0	0.0	0.0	4.4	4.4	44.6	0.0	49.7	44.4	0.0	0.0
LnGrp LOS	D	A			A	A	D		D	D		
Approach Vol, veh/h		534			636			67			6	
Approach Delay, s/veh		3.0			4.4			48.8			44.4	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	7.7	80.2		12.1		87.9		12.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	13.0	53.0		16.0		72.0		16.0
Max Q Clear Time (g_c+I1), s	2.5	7.4		5.1		5.1		5.1
Green Ext Time (p_c), s	0.0	10.5		0.2		9.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	322	54	59	291	31	68	218	11	26	163	69
Future Volume (veh/h)	72	322	54	59	291	31	68	218	11	26	163	69
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1846	1876	1956	1947	1895	1986	1882	1902	1938	1851	1893	1928
Adj Flow Rate, veh/h	89	398	67	73	359	38	84	269	14	32	201	85
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	6	4	6	2	5	3	3	2	0	0	1	4
Cap, veh/h	122	1229	205	121	1308	138	238	380	20	235	236	100
Arrive On Green	0.07	0.40	0.40	0.07	0.40	0.40	0.07	0.21	0.21	0.04	0.19	0.19
Sat Flow, veh/h	1758	3057	511	1854	3288	346	1792	1792	93	1763	1262	534
Grp Volume(v), veh/h	89	231	234	73	196	201	84	0	283	32	0	286
Grp Sat Flow(s),veh/h/ln	1758	1782	1786	1854	1800	1834	1792	0	1885	1763	0	1795
Q Serve(g_s), s	4.5	8.0	8.1	3.4	6.6	6.7	3.3	0.0	12.5	1.3	0.0	13.9
Cycle Q Clear(g_c), s	4.5	8.0	8.1	3.4	6.6	6.7	3.3	0.0	12.5	1.3	0.0	13.9
Prop In Lane	1.00		0.29	1.00		0.19	1.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	122	716	718	121	716	730	238	0	400	235	0	335
V/C Ratio(X)	0.73	0.32	0.33	0.60	0.27	0.28	0.35	0.00	0.71	0.14	0.00	0.85
Avail Cap(c_a), veh/h	176	716	718	185	716	730	285	0	492	326	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	18.5	18.5	40.9	18.3	18.3	27.4	0.0	32.9	27.8	0.0	35.4
Incr Delay (d2), s/veh	8.4	1.2	1.2	4.8	0.9	0.9	0.9	0.0	3.5	0.3	0.0	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.1	4.2	1.9	3.4	3.5	1.7	0.0	6.9	0.6	0.0	7.8
LnGrp Delay(d),s/veh	49.5	19.7	19.7	45.7	19.2	19.3	28.3	0.0	36.4	28.1	0.0	45.9
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		554			470			367			318	
Approach Delay, s/veh		24.5			23.4			34.5			44.1	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	42.2	12.6	23.3	12.2	41.8	10.4	25.6
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	9.0	24.0	8.5	23.5	9.0	24.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	5.4	10.1	5.3	15.9	6.5	8.7	3.3	14.5
Green Ext Time (p_c), s	0.0	2.2	0.1	0.9	0.0	1.9	0.0	1.0

Intersection Summary		
HCM 2010 Ctrl Delay	30.0	
HCM 2010 LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	435	78	74	413	46	91	156	16	39	168	62
Future Volume (veh/h)	93	435	78	74	413	46	91	156	16	39	168	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1937	1931	1956	1966	1951	1986	1900	1887	1938	1851	1914	1928
Adj Flow Rate, veh/h	98	458	82	78	435	48	96	164	17	41	177	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	3	1	2	0	2	3	0	0	1	0
Cap, veh/h	126	1458	259	116	1556	171	219	290	30	254	206	76
Arrive On Green	0.07	0.47	0.47	0.06	0.46	0.46	0.07	0.17	0.17	0.05	0.15	0.15
Sat Flow, veh/h	1845	3114	554	1873	3369	370	1810	1681	174	1763	1335	490
Grp Volume(v), veh/h	98	269	271	78	238	245	96	0	181	41	0	242
Grp Sat Flow(s),veh/h/ln	1845	1835	1833	1873	1853	1885	1810	0	1855	1763	0	1825
Q Serve(g_s), s	5.2	9.1	9.2	4.1	7.9	8.0	4.4	0.0	9.0	1.9	0.0	12.9
Cycle Q Clear(g_c), s	5.2	9.1	9.2	4.1	7.9	8.0	4.4	0.0	9.0	1.9	0.0	12.9
Prop In Lane	1.00		0.30	1.00		0.20	1.00		0.09	1.00		0.27
Lane Grp Cap(c), veh/h	126	859	858	116	856	871	219	0	320	254	0	282
V/C Ratio(X)	0.78	0.31	0.32	0.67	0.28	0.28	0.44	0.00	0.57	0.16	0.00	0.86
Avail Cap(c_a), veh/h	258	859	858	262	856	871	255	0	436	320	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	16.6	16.6	45.9	16.6	16.6	33.0	0.0	38.0	32.8	0.0	41.2
Incr Delay (d2), s/veh	3.9	1.0	1.0	2.5	0.8	0.8	0.5	0.0	0.6	0.1	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.9	4.9	2.2	4.2	4.3	2.2	0.0	4.6	0.9	0.0	7.1
LnGrp Delay(d),s/veh	49.8	17.5	17.6	48.4	17.4	17.4	33.6	0.0	38.6	33.0	0.0	48.1
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		638			561			277			283	
Approach Delay, s/veh		22.5			21.7			36.8			45.9	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	52.8	13.0	22.0	12.8	52.2	11.3	23.7
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	14.0	29.0	8.5	23.5	14.0	29.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	6.1	11.2	6.4	14.9	7.2	10.0	3.9	11.0
Green Ext Time (p_c), s	0.1	6.5	0.0	0.5	0.1	6.0	0.0	0.5

Intersection Summary		
HCM 2010 Ctrl Delay		28.3
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	426	0	5	316	16	17	24	16	12	30	14
Future Volume (veh/h)	28	426	0	5	316	16	17	24	16	12	30	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1826	0	1938	1828	1938	1927	1863	1927	1936	1875	1936
Adj Flow Rate, veh/h	33	507	0	6	376	19	20	29	19	14	36	17
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	3	0	0	6	6	6	0	6	8	3	0
Cap, veh/h	78	2478	0	20	2293	116	78	65	36	66	80	33
Arrive On Green	0.04	0.71	0.00	0.01	0.68	0.68	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1791	3561	0	1846	3366	170	354	868	474	234	1063	441
Grp Volume(v), veh/h	33	507	0	6	193	202	68	0	0	67	0	0
Grp Sat Flow(s),veh/h/ln	1791	1735	0	1846	1737	1798	1696	0	0	1738	0	0
Q Serve(g_s), s	1.6	4.4	0.0	0.3	3.6	3.6	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	4.4	0.0	0.3	3.6	3.6	3.3	0.0	0.0	3.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.09	0.29		0.28	0.21		0.25
Lane Grp Cap(c), veh/h	78	2478	0	20	1183	1225	179	0	0	179	0	0
V/C Ratio(X)	0.42	0.20	0.00	0.30	0.16	0.16	0.38	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	179	2478	0	185	1183	1225	397	0	0	406	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.9	4.3	0.0	44.2	5.1	5.2	40.0	0.0	0.0	40.0	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.2	0.0	3.1	0.3	0.3	0.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.2	0.0	0.2	1.8	1.9	1.6	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	43.3	4.5	0.0	47.2	5.4	5.4	40.5	0.0	0.0	40.5	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		540			401			68			67	
Approach Delay, s/veh		6.9			6.1			40.5			40.5	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	70.3		12.8	9.9	67.3		12.8
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	44.0		19.0	9.0	44.0		19.0
Max Q Clear Time (g_c+I1), s	2.3	6.4		5.2	3.6	5.6		5.3
Green Ext Time (p_c), s	0.0	8.2		0.1	0.0	5.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	501	0	18	499	28	35	33	13	15	46	25
Future Volume (veh/h)	31	501	0	18	499	28	35	33	13	15	46	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1862	0	1938	1920	1938	1927	1927	1927	1936	1936	1936
Adj Flow Rate, veh/h	35	569	0	20	567	32	40	38	15	17	52	28
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	78	2542	0	55	2475	139	99	58	20	58	78	38
Arrive On Green	0.04	0.72	0.00	0.03	0.70	0.70	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1791	3632	0	1846	3511	198	659	814	283	224	1085	531
Grp Volume(v), veh/h	35	569	0	20	294	305	93	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	1791	1769	0	1846	1824	1885	1756	0	0	1839	0	0
Q Serve(g_s), s	1.9	5.4	0.0	1.1	5.7	5.7	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	1.9	5.4	0.0	1.1	5.7	5.7	5.0	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.10	0.43		0.16	0.18		0.29
Lane Grp Cap(c), veh/h	78	2542	0	55	1285	1329	177	0	0	174	0	0
V/C Ratio(X)	0.45	0.22	0.00	0.36	0.23	0.23	0.52	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	269	2542	0	277	1285	1329	302	0	0	310	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.7	4.7	0.0	47.6	5.2	5.2	45.4	0.0	0.0	45.5	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.2	0.0	1.5	0.4	0.4	0.9	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	0.0	0.6	3.0	3.1	2.5	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	48.2	4.9	0.0	49.1	5.6	5.6	46.3	0.0	0.0	46.5	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		604			619			93			97	
Approach Delay, s/veh		7.4			7.0			46.3			46.5	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	77.9		13.2	10.4	76.5		13.2
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	15.0	52.0		15.0	15.0	52.0		15.0
Max Q Clear Time (g_c+I1), s	3.1	7.4		7.0	3.9	7.7		7.0
Green Ext Time (p_c), s	0.0	9.9		0.2	0.0	9.7		0.1

Intersection Summary		
HCM 2010 Ctrl Delay		12.5
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	24	0	57	35	0
Future Vol, veh/h	0	24	0	57	35	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, %	2	-	-	5	-5	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	0	29	0	68	42	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	110	42	-	0	-	0
Stage 1	42	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	881	1032	0	-	-	0
Stage 1	981	-	0	-	-	0
Stage 2	953	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	881	1032	-	-	-	-
Mov Cap-2 Maneuver	881	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1032	-
HCM Lane V/C Ratio	-	0.028	-
HCM Control Delay (s)	-	8.6	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	81	64	0
Future Vol, veh/h	0	31	0	81	64	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, %	2	-	-	5	-5	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	35	0	92	73	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	165	73	-	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	815	991	0	-	-	0
Stage 1	947	-	0	-	-	0
Stage 2	927	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	815	991	-	-	-	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	927	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	991	-
HCM Lane V/C Ratio	-	0.036	-
HCM Control Delay (s)	-	8.8	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	54	0	0	40	0	355	0	0	351	0
Future Vol, veh/h	0	0	54	0	0	40	0	355	0	0	351	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	0	0	0	0	4	0	0	5	0
Mvmt Flow	0	0	64	0	0	48	0	423	0	0	418	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	212	-	-	209	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	779	0	0	812	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	779	-	-	812	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10	9.7	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	779	812	-	-
HCM Lane V/C Ratio	-	0.083	0.059	-	-
HCM Control Delay (s)	-	10	9.7	-	-
HCM Lane LOS	-	B	A	-	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	49	0	0	24	0	496	1	0	484	0
Future Vol, veh/h	0	0	49	0	0	24	0	496	1	0	484	0
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	0	0	1	0	0	2	0
Mvmt Flow	0	0	53	0	0	26	0	539	1	0	526	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	272	-	-	263	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	709	0	0	753	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	708	-	-	753	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10.5	10	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	708	753	-	-
HCM Lane V/C Ratio	-	0.075	0.035	-	-
HCM Control Delay (s)	-	10.5	10	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0.2	0.1	-	-

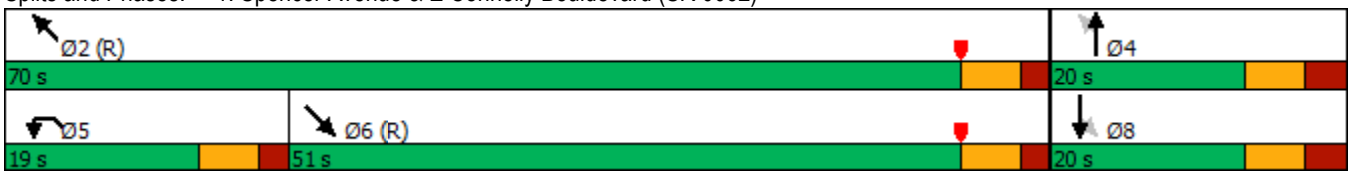
Alternative 1

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	28	43	21	29	11	0	411	4	17	272	0
Future Volume (vph)	7	28	43	21	29	11	0	411	4	17	272	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	14	14	14	11	11	11	12	12	12
Grade (%)		-2%			-3%			2%			-1%	
Storage Length (ft)	0		0	0		0	0		0	75		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99			1.00							
Frt		0.925			0.976			0.998				
Flt Protected		0.996			0.983					0.950		
Satd. Flow (prot)	0	1930	0	0	1974	0	0	3372	0	1814	3522	0
Flt Permitted		0.961			0.899					0.950		
Satd. Flow (perm)	0	1862	0	0	1804	0	0	3372	0	1814	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			10			2				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		294			399			1853			386	
Travel Time (s)		8.0			10.9			31.6			6.6	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	25%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	33	51	25	34	13	0	484	5	20	320	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	72	0	0	489	0	20	320	0
Turn Type	Perm	NA		Perm	NA			NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4	4		8	8							
Detector Phase	4	4		8	8			6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		7.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0			32.0		13.0	32.0	
Total Split (s)	20.0	20.0		20.0	20.0			51.0		19.0	70.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%			56.7%		21.1%	77.8%	
Maximum Green (s)	13.0	13.0		13.0	13.0			45.0		13.0	64.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0			2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0			6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0			5.9		2.0	5.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Gap (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0			14.7		0.0	14.7	
Time To Reduce (s)	0.0	0.0		0.0	0.0			20.5		0.0	20.5	
Recall Mode	None	None		None	None			C-Min		None	C-Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		8.5			8.5			67.2		7.1	72.5	
Actuated g/C Ratio		0.09			0.09			0.75		0.08	0.81	
v/c Ratio		0.41			0.40			0.19		0.14	0.11	
Control Delay		25.3			39.9			1.4		44.1	2.4	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		25.3			39.9			1.4		44.1	2.4	
LOS		C			D			A		D	A	
Approach Delay		25.3			39.9			1.4			4.8	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		22			34			6		11	17	
Queue Length 95th (ft)		60			68			16		32	24	
Internal Link Dist (ft)		214			319			1773			306	
Turn Bay Length (ft)										75		
Base Capacity (vph)		312			269			2519		262	2836	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.29			0.27			0.19		0.08	0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 2 (2%), Referenced to phase 2:NWT and 6:SET, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 7.6		Intersection LOS: A	
Intersection Capacity Utilization 33.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

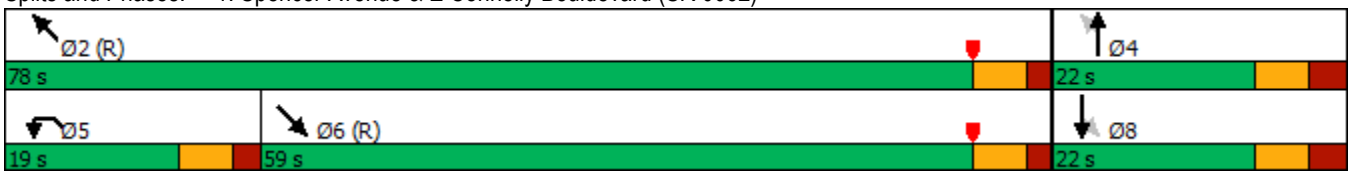


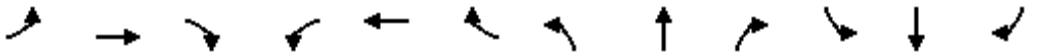
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	11	8	42	5	19	6	0	481	17	77	501	0
Future Volume (vph)	11	8	42	5	19	6	0	481	17	77	501	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	14	14	14	11	11	11	12	12	12
Grade (%)		-2%			-3%			2%			-1%	
Storage Length (ft)	0		0	0		0	0		0	75		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99			1.00							
Frt		0.907			0.972			0.995				
Flt Protected		0.991			0.991					0.950		
Satd. Flow (prot)	0	1879	0	0	1976	0	0	3405	0	1814	3522	0
Flt Permitted		0.930			0.941					0.950		
Satd. Flow (perm)	0	1763	0	0	1875	0	0	3405	0	1814	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			7			5				
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		294			399			1853			386	
Travel Time (s)		8.0			10.9			31.6			6.6	
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	12	9	47	6	21	7	0	540	19	87	563	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	34	0	0	559	0	87	563	0
Turn Type	Perm	NA		Perm	NA			NA		Prot	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8								
Detector Phase	4	4		8	8			6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		7.0	10.0	
Minimum Split (s)	22.0	22.0		20.0	20.0			40.0		13.0	40.0	
Total Split (s)	22.0	22.0		22.0	22.0			59.0		19.0	78.0	
Total Split (%)	22.0%	22.0%		22.0%	22.0%			59.0%		19.0%	78.0%	
Maximum Green (s)	15.0	15.0		15.0	15.0			53.0		13.0	72.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0			2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0			6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0			5.9		2.0	5.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Gap (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0			14.7		0.0	14.7	
Time To Reduce (s)	0.0	0.0		0.0	0.0			20.5		0.0	20.5	
Recall Mode	None	None		None	None			C-Min		None	C-Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		7.5			7.5			70.6		9.6	83.5	
Actuated g/C Ratio		0.08			0.08			0.71		0.10	0.84	
v/c Ratio		0.39			0.23			0.23		0.50	0.19	
Control Delay		26.0			40.5			5.8		54.9	1.9	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		26.0			40.5			5.8		54.9	1.9	
LOS		C			D			A		D	A	
Approach Delay		26.0			40.5			5.8			9.0	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		13			17			125		55	30	
Queue Length 95th (ft)		53			46			94		101	38	
Internal Link Dist (ft)		214			319			1773			306	
Turn Bay Length (ft)										75		
Base Capacity (vph)		304			287			2404		235	2942	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.22			0.12			0.23		0.37	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 3 (3%), Referenced to phase 2:NWT and 6:SET, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 41.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)



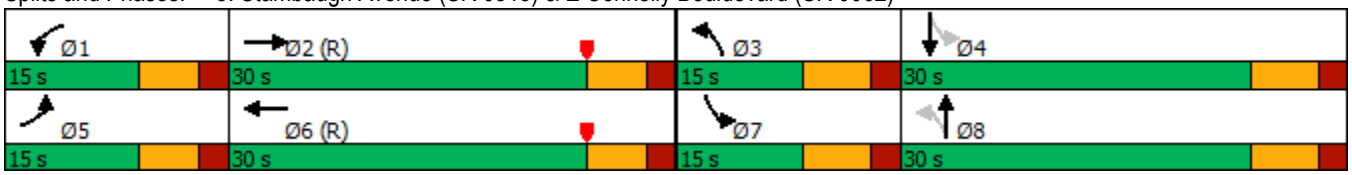


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	322	54	59	291	31	68	218	11	26	163	69
Future Volume (vph)	72	322	54	59	291	31	68	218	11	26	163	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.978			0.986			0.993			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1742	3463	0	1838	3527	0	1787	1887	0	1649	1679	0
Flt Permitted	0.950			0.950			0.345			0.485		
Satd. Flow (perm)	1742	3463	0	1838	3527	0	648	1887	0	840	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			12			3			23	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		3	3		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	6%	2%	5%	3%	3%	2%	0%	0%	1%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	89	398	67	73	359	38	84	269	14	32	201	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	465	0	73	397	0	84	283	0	32	286	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		15.0	24.5		13.5	30.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Maximum Green (s)	9.0	24.0		9.0	24.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		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	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	9.2	34.4		8.6	33.8		28.3	22.7		24.7	18.8	
Actuated g/C Ratio	0.10	0.38		0.10	0.38		0.31	0.25		0.27	0.21	
v/c Ratio	0.50	0.35		0.42	0.30		0.27	0.59		0.11	0.78	
Control Delay	48.3	23.8		49.8	19.5		19.2	34.3		16.8	45.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.3	23.8		49.8	19.5		19.2	34.3		16.8	45.2	
LOS	D	C		D	B		B	C		B	D	
Approach Delay		27.7			24.2			30.8			42.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	48	104		41	70		30	145		11	141	
Queue Length 95th (ft)	86	144		79	92		48	185		23	188	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	187	1357		188	1364		318	537		315	455	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.34		0.39	0.29		0.26	0.53		0.10	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 30.1		Intersection LOS: C	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

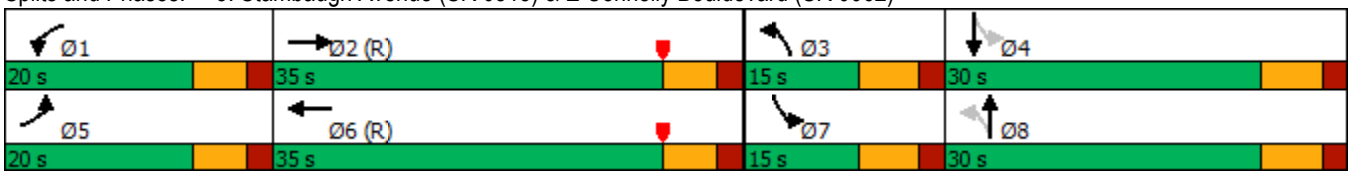


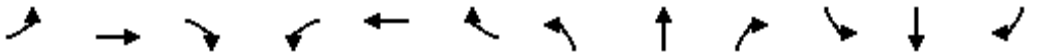
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	435	78	74	413	46	91	156	16	39	168	62
Future Volume (vph)	93	435	78	74	413	46	91	156	16	39	168	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.977			0.985			0.986			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1828	3562	0	1856	3627	0	1805	1858	0	1649	1708	0
Flt Permitted	0.950			0.950			0.363			0.643		
Satd. Flow (perm)	1828	3562	0	1856	3627	0	688	1858	0	1115	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			12			5			17	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	1%	2%	0%	2%	3%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	98	458	82	78	435	48	96	164	17	41	177	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	540	0	78	483	0	96	181	0	41	242	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	30.0		13.0	25.0		13.5	25.0		13.5	25.0	
Total Split (s)	20.0	35.0		20.0	35.0		15.0	30.0		15.0	30.0	
Total Split (%)	20.0%	35.0%		20.0%	35.0%		15.0%	30.0%		15.0%	30.0%	
Maximum Green (s)	14.0	29.0		14.0	29.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.1		2.0	6.1		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7		0.0	14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5		0.0	20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	10.1	45.5		9.1	44.5		26.6	21.1		23.3	17.4	
Actuated g/C Ratio	0.10	0.46		0.09	0.44		0.27	0.21		0.23	0.17	
v/c Ratio	0.53	0.33		0.46	0.30		0.35	0.46		0.14	0.78	
Control Delay	52.9	21.2		59.5	15.8		26.7	36.7		22.6	53.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.9	21.2		59.5	15.8		26.7	36.7		22.6	53.2	
LOS	D	C		E	B		C	D		C	D	
Approach Delay		26.1			21.8			33.2			48.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	61	119		52	73		43	101		18	138	
Queue Length 95th (ft)	108	194		102	102		73	158		38	209	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	255	1633		259	1627		282	463		315	414	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.38	0.33		0.30	0.30		0.34	0.39		0.13	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 29.5		Intersection LOS: C	
Intersection Capacity Utilization 59.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)



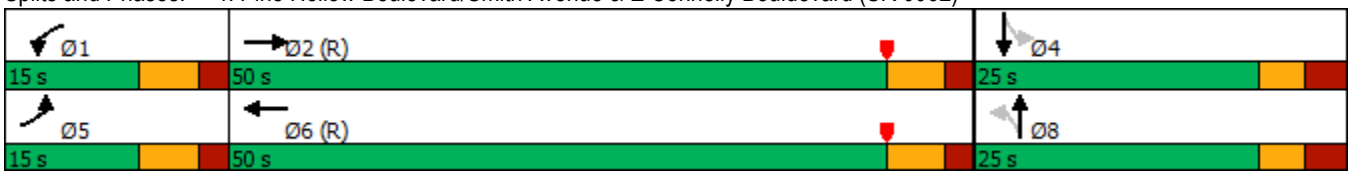


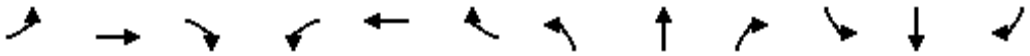
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	422	0	5	316	16	17	24	16	16	30	14
Future Volume (vph)	28	422	0	5	316	16	17	24	16	16	30	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.993			0.962			0.968	
Flt Protected	0.950			0.950				0.986			0.987	
Satd. Flow (prot)	1727	3354	0	1780	3334	0	0	1755	0	0	1889	0
Flt Permitted	0.950			0.950				0.918			0.922	
Satd. Flow (perm)	1727	3354	0	1780	3334	0	0	1634	0	0	1764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			19			16	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	6%	6%	6%	0%	6%	8%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	33	502	0	6	376	19	20	29	19	19	36	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	502	0	6	395	0	0	68	0	0	72	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	9.0	44.0		9.0	44.0		19.0	19.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.3	71.0		7.0	65.5			8.2			8.2	
Actuated g/C Ratio	0.08	0.79		0.08	0.73			0.09			0.09	
v/c Ratio	0.24	0.19		0.04	0.16			0.41			0.41	
Control Delay	48.6	1.4		39.2	6.0			36.9			38.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	48.6	1.4		39.2	6.0			36.9			38.2	
LOS	D	A		D	A			D			D	
Approach Delay		4.3			6.5			36.9			38.2	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	20	8		3	42			27			31	
Queue Length 95th (ft)	44	35		14	66			60			64	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	172	2646		178	2428			359			385	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.19	0.19		0.03	0.16			0.19			0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 38.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



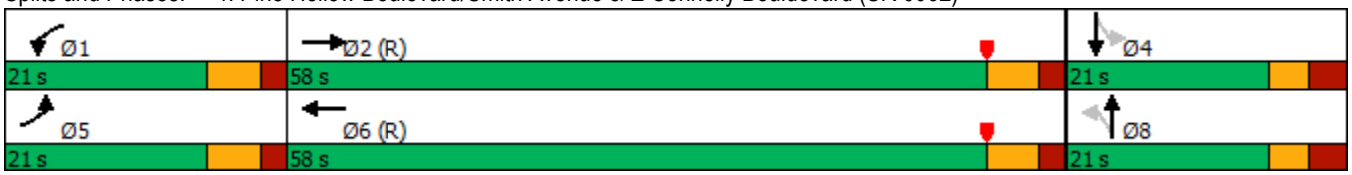


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	499	0	18	499	28	35	33	13	17	46	25
Future Volume (vph)	31	499	0	18	499	28	35	33	13	17	46	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.992			0.978			0.962	
Flt Protected	0.950			0.950				0.979			0.990	
Satd. Flow (prot)	1727	3421	0	1780	3498	0	0	1833	0	0	1951	0
Flt Permitted	0.950			0.950				0.797			0.917	
Satd. Flow (perm)	1727	3421	0	1780	3498	0	0	1492	0	0	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			8			17	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	35	567	0	20	567	32	40	38	15	19	52	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	567	0	20	599	0	0	93	0	0	99	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	26.0		13.0	26.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	58.0		21.0	58.0		21.0	21.0		21.0	21.0	
Total Split (%)	21.0%	58.0%		21.0%	58.0%		21.0%	21.0%		21.0%	21.0%	
Maximum Green (s)	15.0	52.0		15.0	52.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.5	76.2		7.1	73.2			10.3			10.3	
Actuated g/C Ratio	0.08	0.76		0.07	0.73			0.10			0.10	
v/c Ratio	0.27	0.22		0.16	0.23			0.58			0.49	
Control Delay	55.9	2.2		46.7	6.9			52.9			42.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	55.9	2.2		46.7	6.9			52.9			42.7	
LOS	E	A		D	A			D			D	
Approach Delay		5.4			8.2			52.9			42.7	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	23	17		12	75			53			50	
Queue Length 95th (ft)	53	40		35	121			97			94	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	259	2608		267	2562			230			285	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.14	0.22		0.07	0.23			0.40			0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	7	28	43	21	29	11	0	411	4	17	272	0
Future Volume (veh/h)	7	28	43	21	29	11	0	411	4	17	272	0
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1996	1996	1996	2006	2006	2006	0	1840	1881	1910	1854	0
Adj Flow Rate, veh/h	8	33	51	25	34	13	0	484	5	20	320	0
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	2	25	0	3	0
Cap, veh/h	50	54	76	91	80	26	0	2417	25	56	2744	0
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.00	0.68	0.68	0.03	0.78	0.00
Sat Flow, veh/h	86	711	992	489	1042	337	0	3637	37	1819	3615	0
Grp Volume(v), veh/h	92	0	0	72	0	0	0	239	250	20	320	0
Grp Sat Flow(s),veh/h/ln	1789	0	0	1868	0	0	0	1748	1833	1819	1761	0
Q Serve(g_s), s	1.3	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.5	1.0	2.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	0.0	3.2	0.0	0.0	0.0	4.5	4.5	1.0	2.0	0.0
Prop In Lane	0.09		0.55	0.35		0.18	0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	180	0	0	197	0	0	0	1192	1250	56	2744	0
V/C Ratio(X)	0.51	0.00	0.00	0.37	0.00	0.00	0.00	0.20	0.20	0.36	0.12	0.00
Avail Cap(c_a), veh/h	300	0	0	312	0	0	0	1192	1250	263	2744	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.4	0.0	0.0	39.9	0.0	0.0	0.0	5.3	5.3	42.8	2.4	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.4	1.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	1.7	0.0	0.0	0.0	2.3	2.4	0.5	1.0	0.0
LnGrp Delay(d),s/veh	41.3	0.0	0.0	40.3	0.0	0.0	0.0	5.7	5.6	44.2	2.5	0.0
LnGrp LOS	D			D				A	A	D	A	
Approach Vol, veh/h		92			72			489			340	
Approach Delay, s/veh		41.3			40.3			5.6			5.0	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		76.1		13.9	8.8	67.4		13.9
Change Period (Y+Rc), s		6.0		7.0	6.0	6.0		7.0
Max Green Setting (Gmax), s		64.0		13.0	13.0	45.0		13.0
Max Q Clear Time (g_c+I1), s		4.0		6.5	3.0	6.5		5.2
Green Ext Time (p_c), s		5.5		0.1	0.0	7.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	11	8	42	5	19	6	0	481	17	77	501	0
Future Volume (veh/h)	11	8	42	5	19	6	0	481	17	77	501	0
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1996	1996	1996	2006	2006	2006	0	1863	1881	1910	1854	0
Adj Flow Rate, veh/h	12	9	47	6	21	7	0	540	19	87	563	0
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	1	0	0	3	0
Cap, veh/h	55	22	78	54	87	26	0	2374	83	116	2832	0
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.00	0.68	0.68	0.06	0.80	0.00
Sat Flow, veh/h	194	335	1183	179	1321	389	0	3582	123	1819	3615	0
Grp Volume(v), veh/h	68	0	0	34	0	0	0	274	285	87	563	0
Grp Sat Flow(s),veh/h/ln	1712	0	0	1889	0	0	0	1770	1841	1819	1761	0
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.0	5.8	5.9	4.7	3.7	0.0
Cycle Q Clear(g_c), s	3.8	0.0	0.0	1.7	0.0	0.0	0.0	5.8	5.9	4.7	3.7	0.0
Prop In Lane	0.18		0.69	0.18		0.21	0.00		0.07	1.00		0.00
Lane Grp Cap(c), veh/h	155	0	0	167	0	0	0	1204	1253	116	2832	0
V/C Ratio(X)	0.44	0.00	0.00	0.20	0.00	0.00	0.00	0.23	0.23	0.75	0.20	0.00
Avail Cap(c_a), veh/h	296	0	0	319	0	0	0	1204	1253	236	2832	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.4	0.0	0.0	44.4	0.0	0.0	0.0	6.0	6.0	46.0	2.3	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.4	0.4	3.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	0.9	0.0	0.0	0.0	3.0	3.1	2.5	1.9	0.0
LnGrp Delay(d),s/veh	46.1	0.0	0.0	44.6	0.0	0.0	0.0	6.5	6.5	49.7	2.4	0.0
LnGrp LOS	D			D				A	A	D	A	
Approach Vol, veh/h		68			34			559			650	
Approach Delay, s/veh		46.1			44.6			6.5			8.8	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		86.4		13.6	12.4	74.0		13.6
Change Period (Y+Rc), s		6.0		7.0	6.0	6.0		7.0
Max Green Setting (Gmax), s		72.0		15.0	13.0	53.0		15.0
Max Q Clear Time (g_c+I1), s		5.7		5.8	6.7	7.9		3.7
Green Ext Time (p_c), s		11.0		0.1	0.1	9.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	468	290	3	0	0
Future Vol, veh/h	10	468	290	3	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	-1	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	11	538	333	3	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	626	168
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	291	-
Critical Hdwy	4.1	-	-	-	6.6	6.8
Critical Hdwy Stg 1	-	-	-	-	5.6	-
Critical Hdwy Stg 2	-	-	-	-	5.6	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1235	-	-	-	436	857
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1235	-	-	-	432	857
Mov Cap-2 Maneuver	-	-	-	-	432	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	751	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1235	-	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	7.9	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	519	578	1	0	0
Future Vol, veh/h	9	519	578	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	-2	-	-1	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	10	570	635	1	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	636	0	-	0	941	318
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	4.1	-	-	-	6.6	6.8
Critical Hdwy Stg 1	-	-	-	-	5.6	-
Critical Hdwy Stg 2	-	-	-	-	5.6	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	957	-	-	-	280	690
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	740	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	957	-	-	-	277	690
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	740	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	957	-	-	-	-
HCM Lane V/C Ratio	0.01	-	-	-	-
HCM Control Delay (s)	8.8	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	322	54	59	291	31	68	218	11	26	163	69
Future Volume (veh/h)	72	322	54	59	291	31	68	218	11	26	163	69
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1846	1876	1956	1947	1895	1986	1882	1902	1938	1851	1893	1928
Adj Flow Rate, veh/h	89	398	67	73	359	38	84	269	14	32	201	85
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	6	4	6	2	5	3	3	2	0	0	1	4
Cap, veh/h	122	1229	205	121	1308	138	238	380	20	235	236	100
Arrive On Green	0.07	0.40	0.40	0.07	0.40	0.40	0.07	0.21	0.21	0.04	0.19	0.19
Sat Flow, veh/h	1758	3057	511	1854	3288	346	1792	1792	93	1763	1262	534
Grp Volume(v), veh/h	89	231	234	73	196	201	84	0	283	32	0	286
Grp Sat Flow(s),veh/h/ln	1758	1782	1786	1854	1800	1834	1792	0	1885	1763	0	1795
Q Serve(g_s), s	4.5	8.0	8.1	3.4	6.6	6.7	3.3	0.0	12.5	1.3	0.0	13.9
Cycle Q Clear(g_c), s	4.5	8.0	8.1	3.4	6.6	6.7	3.3	0.0	12.5	1.3	0.0	13.9
Prop In Lane	1.00		0.29	1.00		0.19	1.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	122	716	718	121	716	730	238	0	400	235	0	335
V/C Ratio(X)	0.73	0.32	0.33	0.60	0.27	0.28	0.35	0.00	0.71	0.14	0.00	0.85
Avail Cap(c_a), veh/h	176	716	718	185	716	730	285	0	492	326	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	18.5	18.5	40.9	18.3	18.3	27.4	0.0	32.9	27.8	0.0	35.4
Incr Delay (d2), s/veh	8.4	1.2	1.2	4.8	0.9	0.9	0.9	0.0	3.5	0.3	0.0	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.1	4.2	1.9	3.4	3.5	1.7	0.0	6.9	0.6	0.0	7.8
LnGrp Delay(d),s/veh	49.5	19.7	19.7	45.7	19.2	19.3	28.3	0.0	36.4	28.1	0.0	45.9
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		554			470			367			318	
Approach Delay, s/veh		24.5			23.4			34.5			44.1	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	42.2	12.6	23.3	12.2	41.8	10.4	25.6
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	9.0	24.0	8.5	23.5	9.0	24.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	5.4	10.1	5.3	15.9	6.5	8.7	3.3	14.5
Green Ext Time (p_c), s	0.0	2.2	0.1	0.9	0.0	1.9	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	435	78	74	413	46	91	156	16	39	168	62
Future Volume (veh/h)	93	435	78	74	413	46	91	156	16	39	168	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1937	1931	1956	1966	1951	1986	1900	1887	1938	1851	1914	1928
Adj Flow Rate, veh/h	98	458	82	78	435	48	96	164	17	41	177	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	3	1	2	0	2	3	0	0	1	0
Cap, veh/h	126	1458	259	116	1556	171	219	290	30	254	206	76
Arrive On Green	0.07	0.47	0.47	0.06	0.46	0.46	0.07	0.17	0.17	0.05	0.15	0.15
Sat Flow, veh/h	1845	3114	554	1873	3369	370	1810	1681	174	1763	1335	490
Grp Volume(v), veh/h	98	269	271	78	238	245	96	0	181	41	0	242
Grp Sat Flow(s),veh/h/ln	1845	1835	1833	1873	1853	1885	1810	0	1855	1763	0	1825
Q Serve(g_s), s	5.2	9.1	9.2	4.1	7.9	8.0	4.4	0.0	9.0	1.9	0.0	12.9
Cycle Q Clear(g_c), s	5.2	9.1	9.2	4.1	7.9	8.0	4.4	0.0	9.0	1.9	0.0	12.9
Prop In Lane	1.00		0.30	1.00		0.20	1.00		0.09	1.00		0.27
Lane Grp Cap(c), veh/h	126	859	858	116	856	871	219	0	320	254	0	282
V/C Ratio(X)	0.78	0.31	0.32	0.67	0.28	0.28	0.44	0.00	0.57	0.16	0.00	0.86
Avail Cap(c_a), veh/h	258	859	858	262	856	871	255	0	436	320	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	16.6	16.6	45.9	16.6	16.6	33.0	0.0	38.0	32.8	0.0	41.2
Incr Delay (d2), s/veh	3.9	1.0	1.0	2.5	0.8	0.8	0.5	0.0	0.6	0.1	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.9	4.9	2.2	4.2	4.3	2.2	0.0	4.6	0.9	0.0	7.1
LnGrp Delay(d),s/veh	49.8	17.5	17.6	48.4	17.4	17.4	33.6	0.0	38.6	33.0	0.0	48.1
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		638			561			277			283	
Approach Delay, s/veh		22.5			21.7			36.8			45.9	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	52.8	13.0	22.0	12.8	52.2	11.3	23.7
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	14.0	29.0	8.5	23.5	14.0	29.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	6.1	11.2	6.4	14.9	7.2	10.0	3.9	11.0
Green Ext Time (p_c), s	0.1	6.5	0.0	0.5	0.1	6.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	422	0	5	316	16	17	24	16	16	30	14
Future Volume (veh/h)	28	422	0	5	316	16	17	24	16	16	30	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1826	0	1938	1828	1938	1927	1863	1927	1936	1869	1936
Adj Flow Rate, veh/h	33	502	0	6	376	19	20	29	19	19	36	17
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	3	0	0	6	6	6	0	6	8	3	0
Cap, veh/h	78	2477	0	20	2292	115	79	66	36	75	75	31
Arrive On Green	0.04	0.71	0.00	0.01	0.68	0.68	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1791	3561	0	1846	3366	170	356	872	476	318	998	407
Grp Volume(v), veh/h	33	502	0	6	193	202	68	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	1791	1735	0	1846	1737	1798	1704	0	0	1723	0	0
Q Serve(g_s), s	1.6	4.4	0.0	0.3	3.6	3.6	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	1.6	4.4	0.0	0.3	3.6	3.6	3.3	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.09	0.29		0.28	0.26		0.24
Lane Grp Cap(c), veh/h	78	2477	0	20	1183	1224	180	0	0	180	0	0
V/C Ratio(X)	0.42	0.20	0.00	0.30	0.16	0.16	0.38	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	179	2477	0	185	1183	1224	398	0	0	403	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.9	4.3	0.0	44.2	5.2	5.2	40.0	0.0	0.0	40.1	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.2	0.0	3.1	0.3	0.3	0.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.1	0.0	0.2	1.8	1.9	1.6	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	43.3	4.5	0.0	47.2	5.5	5.5	40.5	0.0	0.0	40.6	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		535			401			68			72	
Approach Delay, s/veh		6.9			6.1			40.5			40.6	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	70.2		12.8	9.9	67.3		12.8
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	44.0		19.0	9.0	44.0		19.0
Max Q Clear Time (g_c+I1), s	2.3	6.4		5.5	3.6	5.6		5.3
Green Ext Time (p_c), s	0.0	8.1		0.2	0.0	5.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	499	0	18	499	28	35	33	13	17	46	25
Future Volume (veh/h)	31	499	0	18	499	28	35	33	13	17	46	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1862	0	1938	1920	1938	1927	1927	1927	1936	1936	1936
Adj Flow Rate, veh/h	35	567	0	20	567	32	40	38	15	19	52	28
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	78	2538	0	55	2471	139	99	59	21	61	78	38
Arrive On Green	0.04	0.72	0.00	0.03	0.70	0.70	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1791	3632	0	1846	3511	198	653	816	282	251	1066	519
Grp Volume(v), veh/h	35	567	0	20	294	305	93	0	0	99	0	0
Grp Sat Flow(s),veh/h/ln	1791	1769	0	1846	1824	1885	1751	0	0	1836	0	0
Q Serve(g_s), s	1.9	5.4	0.0	1.1	5.7	5.7	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	1.9	5.4	0.0	1.1	5.7	5.7	5.0	0.0	0.0	5.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.10	0.43		0.16	0.19		0.28
Lane Grp Cap(c), veh/h	78	2538	0	55	1283	1326	179	0	0	177	0	0
V/C Ratio(X)	0.45	0.22	0.00	0.36	0.23	0.23	0.52	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	269	2538	0	277	1283	1326	302	0	0	310	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.7	4.8	0.0	47.6	5.2	5.2	45.3	0.0	0.0	45.4	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.2	0.0	1.5	0.4	0.4	0.9	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	0.0	0.6	3.0	3.1	2.5	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	48.2	5.0	0.0	49.1	5.7	5.6	46.2	0.0	0.0	46.4	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		602			619			93			99	
Approach Delay, s/veh		7.5			7.0			46.2			46.4	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	77.7		13.3	10.4	76.4		13.3
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	15.0	52.0		15.0	15.0	52.0		15.0
Max Q Clear Time (g_c+I1), s	3.1	7.4		7.1	3.9	7.7		7.0
Green Ext Time (p_c), s	0.0	9.8		0.2	0.0	9.7		0.1

Intersection Summary		
HCM 2010 Ctrl Delay	12.6	
HCM 2010 LOS	B	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	24	0	57	35	0
Future Vol, veh/h	0	24	0	57	35	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, %	2	-	-	5	-5	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	0	29	0	68	42	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	110	42	-	0	-	0
Stage 1	42	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	881	1032	0	-	-	0
Stage 1	981	-	0	-	-	0
Stage 2	953	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	881	1032	-	-	-	-
Mov Cap-2 Maneuver	881	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1032	-
HCM Lane V/C Ratio	-	0.028	-
HCM Control Delay (s)	-	8.6	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	81	64	0
Future Vol, veh/h	0	31	0	81	64	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, %	2	-	-	5	-5	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	35	0	92	73	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	165	73	-	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	815	991	0	-	-	0
Stage 1	947	-	0	-	-	0
Stage 2	927	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	815	991	-	-	-	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	927	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	991	-
HCM Lane V/C Ratio	-	0.036	-
HCM Control Delay (s)	-	8.8	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	54	0	0	45	0	355	0	0	346	0
Future Vol, veh/h	0	0	54	0	0	45	0	355	0	0	346	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	0	0	0	0	4	0	0	5	0
Mvmt Flow	0	0	64	0	0	54	0	423	0	0	412	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	212	-	-	206	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	779	0	0	816	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	779	-	-	816	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10	9.7	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	779	816	-	-
HCM Lane V/C Ratio	-	0.083	0.066	-	-
HCM Control Delay (s)	-	10	9.7	-	-
HCM Lane LOS	-	B	A	-	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	0.8

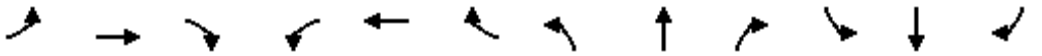
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	49	0	0	28	0	496	1	0	480	0
Future Vol, veh/h	0	0	49	0	0	28	0	496	1	0	480	0
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	0	0	1	0	0	2	0
Mvmt Flow	0	0	53	0	0	30	0	539	1	0	522	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	272	-	-	261	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	709	0	0	755	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	708	-	-	755	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10.5	10	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	708	755	-	-
HCM Lane V/C Ratio	-	0.075	0.04	-	-
HCM Control Delay (s)	-	10.5	10	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0.2	0.1	-	-

Alternative 2

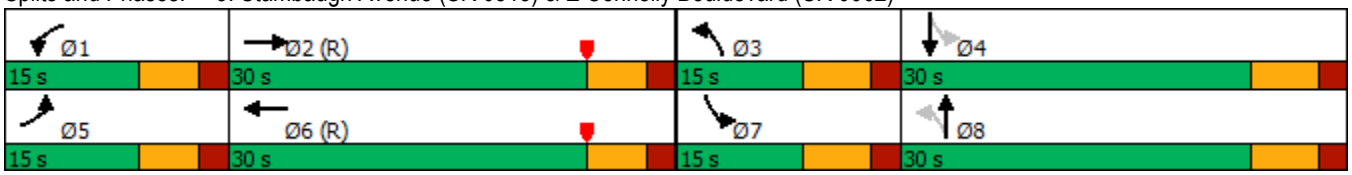


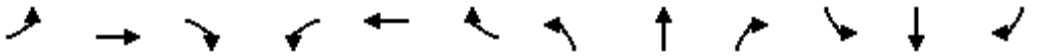
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	322	54	59	291	31	68	218	11	26	163	69
Future Volume (vph)	72	322	54	59	291	31	68	218	11	26	163	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.978			0.986			0.993			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1742	3463	0	1838	3527	0	1787	1887	0	1649	1679	0
Flt Permitted	0.950			0.950			0.345			0.485		
Satd. Flow (perm)	1742	3463	0	1838	3527	0	648	1887	0	840	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			12			3			23	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		3	3		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	6%	2%	5%	3%	3%	2%	0%	0%	1%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	89	398	67	73	359	38	84	269	14	32	201	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	465	0	73	397	0	84	283	0	32	286	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		15.0	24.5		13.5	30.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Maximum Green (s)	9.0	24.0		9.0	24.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		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	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	9.2	34.4		8.6	33.8		28.3	22.7		24.7	18.8	
Actuated g/C Ratio	0.10	0.38		0.10	0.38		0.31	0.25		0.27	0.21	
v/c Ratio	0.50	0.35		0.42	0.30		0.27	0.59		0.11	0.78	
Control Delay	48.3	23.8		50.3	20.7		19.2	34.3		16.8	45.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.3	23.8		50.3	20.7		19.2	34.3		16.8	45.2	
LOS	D	C		D	C		B	C		B	D	
Approach Delay		27.7			25.3			30.8			42.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	48	104		41	71		30	145		11	141	
Queue Length 95th (ft)	86	144		78	93		48	185		23	188	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	187	1357		188	1364		318	537		315	455	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.34		0.39	0.29		0.26	0.53		0.10	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 30.4		Intersection LOS: C	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)



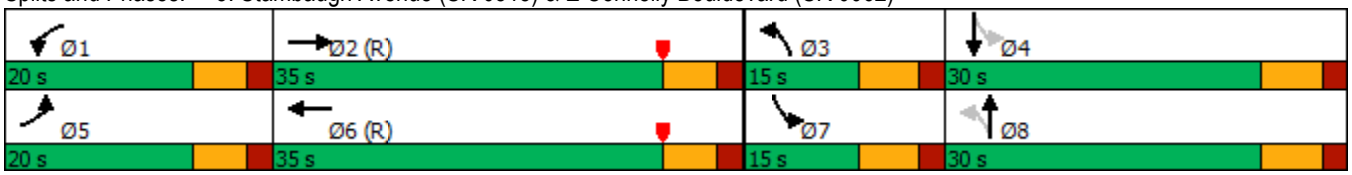


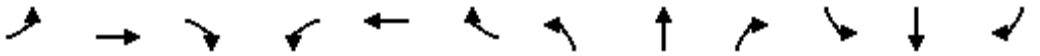
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	435	78	74	413	46	91	156	16	39	168	62
Future Volume (vph)	93	435	78	74	413	46	91	156	16	39	168	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.977			0.985			0.986			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1828	3562	0	1856	3627	0	1805	1858	0	1649	1708	0
Flt Permitted	0.950			0.950			0.363			0.643		
Satd. Flow (perm)	1828	3562	0	1856	3627	0	688	1858	0	1115	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			12			5			17	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	1%	2%	0%	2%	3%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	98	458	82	78	435	48	96	164	17	41	177	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	540	0	78	483	0	96	181	0	41	242	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	30.0		13.0	25.0		13.5	25.0		13.5	25.0	
Total Split (s)	20.0	35.0		20.0	35.0		15.0	30.0		15.0	30.0	
Total Split (%)	20.0%	35.0%		20.0%	35.0%		15.0%	30.0%		15.0%	30.0%	
Maximum Green (s)	14.0	29.0		14.0	29.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.1		2.0	6.1		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7		0.0	14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5		0.0	20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	10.1	45.5		9.1	44.5		26.6	21.1		23.3	17.4	
Actuated g/C Ratio	0.10	0.46		0.09	0.44		0.27	0.21		0.23	0.17	
v/c Ratio	0.53	0.33		0.46	0.30		0.35	0.46		0.14	0.78	
Control Delay	52.9	21.2		59.8	17.0		26.7	36.7		22.6	53.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.9	21.2		59.8	17.0		26.7	36.7		22.6	53.2	
LOS	D	C		E	B		C	D		C	D	
Approach Delay		26.1			23.0			33.2			48.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	61	119		51	75		43	101		18	138	
Queue Length 95th (ft)	108	194		102	105		73	158		38	209	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	255	1633		259	1627		282	463		315	414	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.38	0.33		0.30	0.30		0.34	0.39		0.13	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 29.9		Intersection LOS: C	
Intersection Capacity Utilization 59.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)



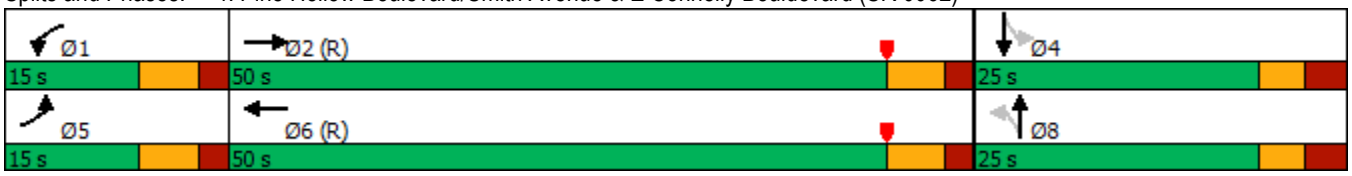


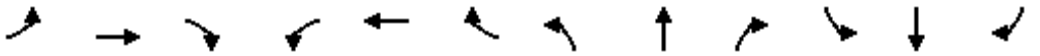
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	401	0	5	316	16	24	24	16	37	30	14
Future Volume (vph)	28	401	0	5	316	16	24	24	16	37	30	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.993			0.967			0.976	
Flt Protected	0.950			0.950				0.982			0.978	
Satd. Flow (prot)	1727	3354	0	1780	3334	0	0	1752	0	0	1867	0
Flt Permitted	0.950			0.950				0.861			0.870	
Satd. Flow (perm)	1727	3354	0	1780	3334	0	0	1536	0	0	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			17			11	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	6%	6%	6%	0%	6%	8%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	33	477	0	6	376	19	29	29	19	44	36	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	477	0	6	395	0	0	77	0	0	97	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	24.0		13.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	9.0	44.0		9.0	44.0		19.0	19.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.3	69.5		7.0	64.0			9.7			9.7	
Actuated g/C Ratio	0.08	0.77		0.08	0.71			0.11			0.11	
v/c Ratio	0.24	0.18		0.04	0.17			0.43			0.51	
Control Delay	49.2	1.9		39.2	6.9			36.7			42.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	49.2	1.9		39.2	6.9			36.7			42.6	
LOS	D	A		D	A			D			D	
Approach Delay		5.0			7.4			36.7			42.6	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	19	12		3	45			32			47	
Queue Length 95th (ft)	m47	33		14	73			66			84	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	172	2589		178	2371			337			359	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.19	0.18		0.03	0.17			0.23			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 38.2%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



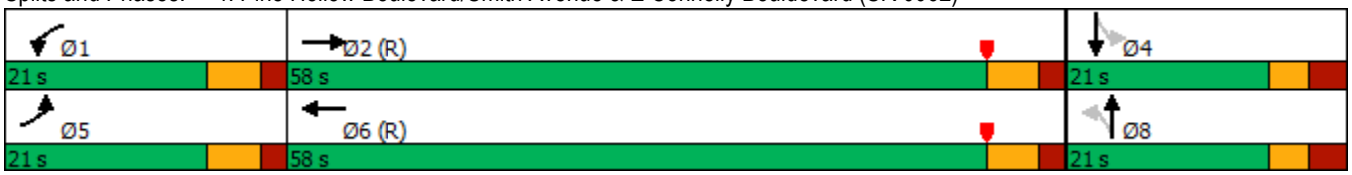


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	494	0	18	499	28	46	33	13	22	46	25
Future Volume (vph)	31	494	0	18	499	28	46	33	13	22	46	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.992			0.981			0.964	
Flt Protected	0.950			0.950				0.976			0.988	
Satd. Flow (prot)	1727	3421	0	1780	3498	0	0	1833	0	0	1951	0
Flt Permitted	0.950			0.950				0.772			0.890	
Satd. Flow (perm)	1727	3421	0	1780	3498	0	0	1450	0	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			7			15	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	35	561	0	20	567	32	52	38	15	25	52	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	561	0	20	599	0	0	105	0	0	105	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	26.0		13.0	26.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	58.0		21.0	58.0		21.0	21.0		21.0	21.0	
Total Split (%)	21.0%	58.0%		21.0%	58.0%		21.0%	21.0%		21.0%	21.0%	
Maximum Green (s)	15.0	52.0		15.0	52.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.5	71.5		7.1	68.4			11.2			11.2	
Actuated g/C Ratio	0.08	0.72		0.07	0.68			0.11			0.11	
v/c Ratio	0.27	0.23		0.16	0.25			0.62			0.50	
Control Delay	61.1	3.0		46.7	7.7			54.8			43.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	61.1	3.0		46.7	7.7			54.8			43.0	
LOS	E	A		D	A			D			D	
Approach Delay		6.4			9.0			54.8			43.0	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	23	19		12	77			61			55	
Queue Length 95th (ft)	55	43		35	126			107			99	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	259	2445		267	2396			226			280	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.14	0.23		0.07	0.25			0.46			0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



Intersection	
Int Delay, s/veh	0.9

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	28	0	0	0	0	411	4	46	279	1
Future Vol, veh/h	0	0	28	0	0	0	0	411	4	46	279	1
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-3	-	-	2	-	-	-1	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	2	25	0	3	0
Mvmt Flow	0	0	33	0	0	0	0	484	5	54	328	1

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	-	-	246	-	0	0	489	0	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.7	-	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	771	0	-	-	1085	-	-
Stage 1	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	-	0	770	-	-	-	1085	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	9.9	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	NWR	SET	SER
Capacity (veh/h)	770	1085	-	-	-	-
HCM Lane V/C Ratio	0.043	0.05	-	-	-	-
HCM Control Delay (s)	9.9	8.5	-	-	-	-
HCM Lane LOS	A	A	-	-	-	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	8	0	0	0	0	481	17	96	512	0
Future Vol, veh/h	0	0	8	0	0	0	0	481	17	96	512	0
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-3	-	-	2	-	-	-1	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	3	0
Mvmt Flow	0	0	9	0	0	0	0	540	19	108	575	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	-	-	281	-	0	0	559	0	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.7	-	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	733	0	-	-	1022	-	-
Stage 1	0	0	-	0	-	-	-	-	-
Stage 2	0	0	-	0	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	-	0	732	-	-	-	1022	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	NB	SE	NW
HCM Control Delay, s	10	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	NWR	SET	SER
Capacity (veh/h)	732	1022	-	-	-	-
HCM Lane V/C Ratio	0.012	0.106	-	-	-	-
HCM Control Delay (s)	10	8.9	-	-	-	-
HCM Lane LOS	B	A	-	-	-	-
HCM 95th %tile Q(veh)	0	0.4	-	-	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	404	0	0	298	2	0	0	50	0	0	29
Future Vol, veh/h	38	404	0	0	298	2	0	0	50	0	0	29
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	100	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-2	-	-	-2	-	-	-1	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	44	464	0	0	343	2	0	0	57	0	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	345	0	-	-	-	0	-	-	232	-	-	173
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	-	-	-	6.7	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	-	-	-	3.3	-	-	3.3
Pot Cap-1 Maneuver	1225	-	0	0	-	-	0	0	786	0	0	851
Stage 1	-	-	0	0	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1225	-	-	-	-	-	-	-	786	-	-	851
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	9.9	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	786	1225	-	-	-	851
HCM Lane V/C Ratio	0.073	0.036	-	-	-	0.039
HCM Control Delay (s)	9.9	8	-	-	-	9.4
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-	0.1

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	17	472	0	0	589	1	0	0	53	0	0	19
Future Vol, veh/h	17	472	0	0	589	1	0	0	53	0	0	19
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	100	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-2	-	-	-2	-	-	-1	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	1	0	0	2	0	9	0	2	0	0	0
Mvmt Flow	19	519	0	0	647	1	0	0	58	0	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	648	0	-	-	-	0	-	-	260	-	-	324
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	-	-	-	6.74	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	-	-	-	3.32	-	-	3.3
Pot Cap-1 Maneuver	947	-	0	0	-	-	0	0	750	0	0	684
Stage 1	-	-	0	0	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	947	-	-	-	-	-	-	-	750	-	-	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.2	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	750	947	-	-	-	684
HCM Lane V/C Ratio	0.078	0.02	-	-	-	0.031
HCM Control Delay (s)	10.2	8.9	-	-	-	10.4
HCM Lane LOS	B	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	322	54	59	291	31	68	218	11	26	163	69
Future Volume (veh/h)	72	322	54	59	291	31	68	218	11	26	163	69
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1846	1876	1956	1947	1895	1986	1882	1902	1938	1851	1893	1928
Adj Flow Rate, veh/h	89	398	67	73	359	38	84	269	14	32	201	85
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	6	4	6	2	5	3	3	2	0	0	1	4
Cap, veh/h	122	1229	205	121	1308	138	238	380	20	235	236	100
Arrive On Green	0.07	0.40	0.40	0.07	0.40	0.40	0.07	0.21	0.21	0.04	0.19	0.19
Sat Flow, veh/h	1758	3057	511	1854	3288	346	1792	1792	93	1763	1262	534
Grp Volume(v), veh/h	89	231	234	73	196	201	84	0	283	32	0	286
Grp Sat Flow(s),veh/h/ln	1758	1782	1786	1854	1800	1834	1792	0	1885	1763	0	1795
Q Serve(g_s), s	4.5	8.0	8.1	3.4	6.6	6.7	3.3	0.0	12.5	1.3	0.0	13.9
Cycle Q Clear(g_c), s	4.5	8.0	8.1	3.4	6.6	6.7	3.3	0.0	12.5	1.3	0.0	13.9
Prop In Lane	1.00		0.29	1.00		0.19	1.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	122	716	718	121	716	730	238	0	400	235	0	335
V/C Ratio(X)	0.73	0.32	0.33	0.60	0.27	0.28	0.35	0.00	0.71	0.14	0.00	0.85
Avail Cap(c_a), veh/h	176	716	718	185	716	730	285	0	492	326	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	18.5	18.5	40.9	18.3	18.3	27.4	0.0	32.9	27.8	0.0	35.4
Incr Delay (d2), s/veh	8.4	1.2	1.2	4.8	0.9	0.9	0.9	0.0	3.5	0.3	0.0	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.1	4.2	1.9	3.4	3.5	1.7	0.0	6.9	0.6	0.0	7.8
LnGrp Delay(d),s/veh	49.5	19.7	19.7	45.7	19.2	19.3	28.3	0.0	36.4	28.1	0.0	45.9
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		554			470			367			318	
Approach Delay, s/veh		24.5			23.4			34.5			44.1	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	42.2	12.6	23.3	12.2	41.8	10.4	25.6
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	9.0	24.0	8.5	23.5	9.0	24.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	5.4	10.1	5.3	15.9	6.5	8.7	3.3	14.5
Green Ext Time (p_c), s	0.0	2.2	0.1	0.9	0.0	1.9	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	435	78	74	413	46	91	156	16	39	168	62
Future Volume (veh/h)	93	435	78	74	413	46	91	156	16	39	168	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1937	1931	1956	1966	1951	1986	1900	1887	1938	1851	1914	1928
Adj Flow Rate, veh/h	98	458	82	78	435	48	96	164	17	41	177	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	3	1	2	0	2	3	0	0	1	0
Cap, veh/h	126	1458	259	116	1556	171	219	290	30	254	206	76
Arrive On Green	0.07	0.47	0.47	0.06	0.46	0.46	0.07	0.17	0.17	0.05	0.15	0.15
Sat Flow, veh/h	1845	3114	554	1873	3369	370	1810	1681	174	1763	1335	490
Grp Volume(v), veh/h	98	269	271	78	238	245	96	0	181	41	0	242
Grp Sat Flow(s),veh/h/ln	1845	1835	1833	1873	1853	1885	1810	0	1855	1763	0	1825
Q Serve(g_s), s	5.2	9.1	9.2	4.1	7.9	8.0	4.4	0.0	9.0	1.9	0.0	12.9
Cycle Q Clear(g_c), s	5.2	9.1	9.2	4.1	7.9	8.0	4.4	0.0	9.0	1.9	0.0	12.9
Prop In Lane	1.00		0.30	1.00		0.20	1.00		0.09	1.00		0.27
Lane Grp Cap(c), veh/h	126	859	858	116	856	871	219	0	320	254	0	282
V/C Ratio(X)	0.78	0.31	0.32	0.67	0.28	0.28	0.44	0.00	0.57	0.16	0.00	0.86
Avail Cap(c_a), veh/h	258	859	858	262	856	871	255	0	436	320	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	16.6	16.6	45.9	16.6	16.6	33.0	0.0	38.0	32.8	0.0	41.2
Incr Delay (d2), s/veh	3.9	1.0	1.0	2.5	0.8	0.8	0.5	0.0	0.6	0.1	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.9	4.9	2.2	4.2	4.3	2.2	0.0	4.6	0.9	0.0	7.1
LnGrp Delay(d),s/veh	49.8	17.5	17.6	48.4	17.4	17.4	33.6	0.0	38.6	33.0	0.0	48.1
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		638			561			277			283	
Approach Delay, s/veh		22.5			21.7			36.8			45.9	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	52.8	13.0	22.0	12.8	52.2	11.3	23.7
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	14.0	29.0	8.5	23.5	14.0	29.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	6.1	11.2	6.4	14.9	7.2	10.0	3.9	11.0
Green Ext Time (p_c), s	0.1	6.5	0.0	0.5	0.1	6.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	401	0	5	316	16	24	24	16	37	30	14
Future Volume (veh/h)	28	401	0	5	316	16	24	24	16	37	30	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1826	0	1938	1828	1938	1927	1857	1927	1936	1849	1936
Adj Flow Rate, veh/h	33	477	0	6	376	19	29	29	19	44	36	17
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	3	0	0	6	6	6	0	6	8	3	0
Cap, veh/h	78	2467	0	20	2283	115	95	62	33	110	56	23
Arrive On Green	0.04	0.71	0.00	0.01	0.68	0.68	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1791	3561	0	1846	3366	170	512	795	428	666	718	294
Grp Volume(v), veh/h	33	477	0	6	193	202	77	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	1791	1735	0	1846	1737	1798	1735	0	0	1678	0	0
Q Serve(g_s), s	1.6	4.1	0.0	0.3	3.6	3.7	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.6	4.1	0.0	0.3	3.6	3.7	3.7	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.09	0.38		0.25	0.45		0.18
Lane Grp Cap(c), veh/h	78	2467	0	20	1178	1220	191	0	0	189	0	0
V/C Ratio(X)	0.42	0.19	0.00	0.30	0.16	0.17	0.40	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	179	2467	0	185	1178	1220	398	0	0	394	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.9	4.4	0.0	44.2	5.2	5.2	40.0	0.0	0.0	40.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.2	0.0	3.1	0.3	0.3	0.5	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.0	0.0	0.2	1.8	1.9	1.9	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	43.3	4.5	0.0	47.2	5.5	5.5	40.5	0.0	0.0	41.2	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		510			401			77			97	
Approach Delay, s/veh		7.0			6.2			40.5			41.2	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	70.0		13.0	9.9	67.0		13.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	44.0		19.0	9.0	44.0		19.0
Max Q Clear Time (g_c+I1), s	2.3	6.1		6.9	3.6	5.7		5.7
Green Ext Time (p_c), s	0.0	7.7		0.2	0.0	5.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	494	0	18	499	28	46	33	13	22	46	25
Future Volume (veh/h)	31	494	0	18	499	28	46	33	13	22	46	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1862	0	1938	1920	1938	1927	1927	1927	1936	1936	1936
Adj Flow Rate, veh/h	35	561	0	20	567	32	52	38	15	25	52	28
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	78	2511	0	55	2443	138	114	56	19	71	83	40
Arrive On Green	0.04	0.71	0.00	0.03	0.70	0.70	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1791	3632	0	1846	3511	198	747	691	240	325	1024	491
Grp Volume(v), veh/h	35	561	0	20	294	305	105	0	0	105	0	0
Grp Sat Flow(s),veh/h/ln	1791	1769	0	1846	1824	1885	1678	0	0	1840	0	0
Q Serve(g_s), s	1.9	5.5	0.0	1.1	5.8	5.9	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	5.5	0.0	1.1	5.8	5.9	6.0	0.0	0.0	5.4	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.10	0.50		0.14	0.24		0.27
Lane Grp Cap(c), veh/h	78	2511	0	55	1269	1312	189	0	0	193	0	0
V/C Ratio(X)	0.45	0.22	0.00	0.36	0.23	0.23	0.56	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	269	2511	0	277	1269	1312	298	0	0	311	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.7	5.0	0.0	47.6	5.5	5.5	45.0	0.0	0.0	44.8	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.2	0.0	1.5	0.4	0.4	0.9	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	0.0	0.6	3.1	3.2	2.9	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	48.2	5.2	0.0	49.1	5.9	5.9	45.9	0.0	0.0	45.7	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		596			619			105			105	
Approach Delay, s/veh		7.7			7.3			45.9			45.7	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	77.0		14.1	10.4	75.6		14.1
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	15.0	52.0		15.0	15.0	52.0		15.0
Max Q Clear Time (g_c+I1), s	3.1	7.5		7.4	3.9	7.9		8.0
Green Ext Time (p_c), s	0.0	9.7		0.2	0.0	9.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	24	0	57	35	0
Future Vol, veh/h	7	24	0	57	35	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, %	2	-	-	5	-5	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	8	29	0	68	42	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	110	42	-	0	-	0
Stage 1	42	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	881	1032	0	-	-	0
Stage 1	981	-	0	-	-	0
Stage 2	953	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	881	1032	-	-	-	-
Mov Cap-2 Maneuver	881	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	994	-
HCM Lane V/C Ratio	-	0.037	-
HCM Control Delay (s)	-	8.8	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	31	0	81	64	0
Future Vol, veh/h	11	31	0	81	64	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, %	2	-	-	5	-5	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	35	0	92	73	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	165	73	-	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	815	991	0	-	-	0
Stage 1	947	-	0	-	-	0
Stage 2	927	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	815	991	-	-	-	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	927	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	938	-
HCM Lane V/C Ratio	-	0.051	-
HCM Control Delay (s)	-	9	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.2	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	54	0	0	56	0	355	0	0	335	0
Future Vol, veh/h	0	0	54	0	0	56	0	355	0	0	335	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	0	0	0	0	4	0	0	5	0
Mvmt Flow	0	0	64	0	0	67	0	423	0	0	399	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	212	-	-	200	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	779	0	0	823	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	779	-	-	823	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10	9.8	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	779	823	-	-
HCM Lane V/C Ratio	-	0.083	0.081	-	-
HCM Control Delay (s)	-	10	9.8	-	-
HCM Lane LOS	-	B	A	-	-
HCM 95th %tile Q(veh)	-	0.3	0.3	-	-

Intersection	
Int Delay, s/veh	0.8

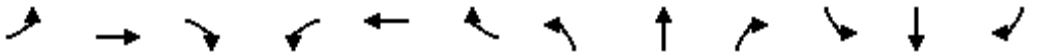
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	49	0	0	34	0	496	1	0	474	0
Future Vol, veh/h	0	0	49	0	0	34	0	496	1	0	474	0
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	0	0	1	0	0	2	0
Mvmt Flow	0	0	53	0	0	37	0	539	1	0	515	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	272	-	-	258	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	709	0	0	758	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	708	-	-	758	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10.5	10	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	708	758	-	-
HCM Lane V/C Ratio	-	0.075	0.049	-	-
HCM Control Delay (s)	-	10.5	10	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0.2	0.2	-	-

Alternative 3

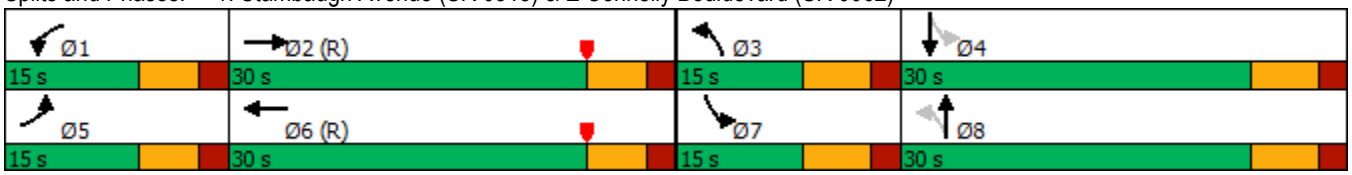


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	318	58	59	284	31	75	218	11	26	163	69
Future Volume (vph)	72	318	58	59	284	31	75	218	11	26	163	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.977			0.985			0.993			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1742	3459	0	1838	3523	0	1787	1887	0	1649	1679	0
Flt Permitted	0.950			0.950			0.335			0.469		
Satd. Flow (perm)	1742	3459	0	1838	3523	0	629	1887	0	813	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			12			3			23	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		3	3		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	6%	2%	5%	3%	3%	2%	0%	0%	1%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	89	393	72	73	351	38	93	269	14	32	201	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	465	0	73	389	0	93	283	0	32	286	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		6.5	7.0		6.5	7.0	
Minimum Split (s)	13.0	30.0		13.0	23.0		15.0	25.0		15.0	25.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Maximum Green (s)	9.0	24.0		9.0	24.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.1		2.0	8.0		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7		0.0	14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5		0.0	20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	8.6	36.4		8.1	35.8		26.7	21.7		23.4	18.1	
Actuated g/C Ratio	0.10	0.40		0.09	0.40		0.30	0.24		0.26	0.20	
v/c Ratio	0.53	0.33		0.45	0.28		0.33	0.62		0.12	0.80	
Control Delay	50.7	22.1		54.6	17.7		21.5	36.0		17.9	48.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.7	22.1		54.6	17.7		21.5	36.0		17.9	48.2	
LOS	D	C		D	B		C	D		B	D	
Approach Delay		26.7			23.5			32.4			45.1	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	49	98		43	57		35	147		12	143	
Queue Length 95th (ft)	86	139		80	77		54	188		24	188	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	180	1411		185	1409		297	523		303	455	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.33		0.39	0.28		0.31	0.54		0.11	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 30.5		Intersection LOS: C	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

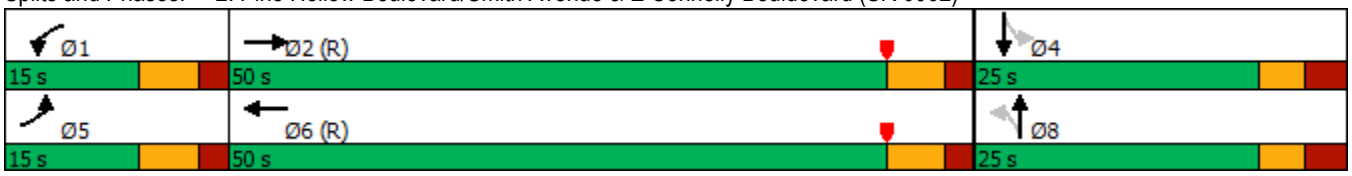


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	358	0	22	296	19	17	52	59	37	59	14
Future Volume (vph)	38	358	0	22	296	19	17	52	59	37	59	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.991			0.938			0.982	
Flt Protected	0.950			0.950				0.993			0.983	
Satd. Flow (prot)	1727	3354	0	1780	3328	0	0	1722	0	0	1896	0
Flt Permitted	0.950			0.950				0.927			0.738	
Satd. Flow (perm)	1727	3354	0	1780	3328	0	0	1607	0	0	1423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			43			8	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	6%	6%	6%	0%	6%	8%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	45	426	0	26	352	23	20	62	70	44	70	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	426	0	26	375	0	0	152	0	0	131	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	26.0		13.0	26.0		21.0	21.0		21.0	21.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	9.0	44.0		9.0	44.0		19.0	19.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.7	61.3		7.2	58.2			11.3			11.3	
Actuated g/C Ratio	0.09	0.68		0.08	0.65			0.13			0.13	
v/c Ratio	0.31	0.19		0.18	0.17			0.64			0.70	
Control Delay	51.9	3.1		41.9	8.2			38.1			55.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	51.9	3.1		41.9	8.2			38.1			55.0	
LOS	D	A		D	A			D			D	
Approach Delay		7.7			10.4			38.1			55.0	
Approach LOS		A			B			D			D	
Queue Length 50th (ft)	27	13		14	45			59			68	
Queue Length 95th (ft)	m59	26		36	76			104			111	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	174	2285		178	2155			373			306	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.26	0.19		0.15	0.17			0.41			0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

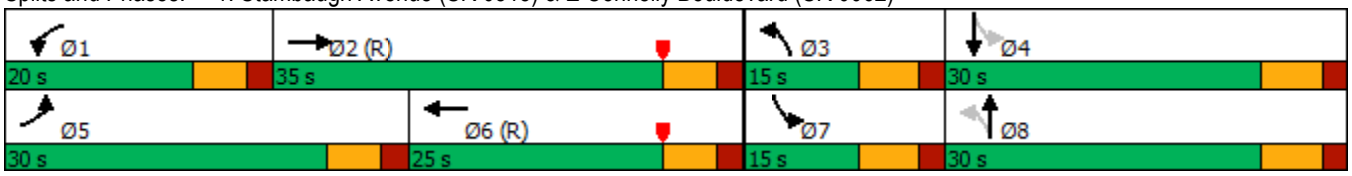


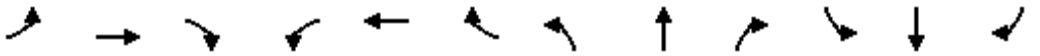
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	418	95	74	402	46	102	156	16	39	168	62
Future Volume (vph)	93	418	95	74	402	46	102	156	16	39	168	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	13	13	13	12	12	12	9	10	10
Grade (%)		2%			-1%			-4%			-3%	
Storage Length (ft)	125		0	125		0	125		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00	1.00		1.00	1.00	
Frt		0.972			0.985			0.986			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1828	3541	0	1856	3628	0	1805	1858	0	1649	1708	0
Flt Permitted	0.950			0.950			0.366			0.643		
Satd. Flow (perm)	1828	3541	0	1856	3628	0	694	1858	0	1115	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			11			5			17	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		868			567			275			356	
Travel Time (s)		14.8			9.7			5.4			6.9	
Confl. Peds. (#/hr)							3		1	1		3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	1%	2%	0%	2%	3%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	98	440	100	78	423	48	107	164	17	41	177	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	540	0	78	471	0	107	181	0	41	242	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	30.0		13.0	25.0		13.5	25.0		13.5	25.0	
Total Split (s)	30.0	35.0		20.0	25.0		15.0	30.0		15.0	30.0	
Total Split (%)	30.0%	35.0%		20.0%	25.0%		15.0%	30.0%		15.0%	30.0%	
Maximum Green (s)	24.0	29.0		14.0	19.0		8.5	23.5		8.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
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	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.1		2.0	6.1		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	14.7		0.0	14.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	20.5		0.0	20.5		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	10.1	43.1		9.1	42.1		28.7	23.6		24.7	17.4	
Actuated g/C Ratio	0.10	0.43		0.09	0.42		0.29	0.24		0.25	0.17	
v/c Ratio	0.53	0.35		0.46	0.31		0.37	0.41		0.13	0.78	
Control Delay	52.7	21.3		61.7	16.7		27.0	35.1		22.8	53.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.7	21.3		61.7	16.7		27.0	35.1		22.8	53.2	
LOS	D	C		E	B		C	D		C	D	
Approach Delay		26.1			23.1			32.1			48.8	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	61	117		54	60		49	101		18	138	
Queue Length 95th (ft)	108	190		m101	97		81	160		38	209	
Internal Link Dist (ft)		788			487			195			276	
Turn Bay Length (ft)	125			125			125			175		
Base Capacity (vph)	438	1542		259	1532		293	463		334	414	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.35		0.30	0.31		0.37	0.39		0.12	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 29.8		Intersection LOS: C	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)



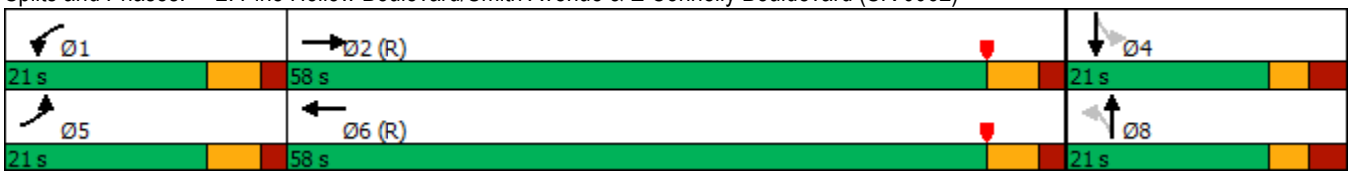


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	452	0	95	421	29	35	41	55	22	65	25
Future Volume (vph)	40	452	0	95	421	29	35	41	55	22	65	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	13	13	13	15	15	15
Grade (%)		2%			-4%			5%			4%	
Storage Length (ft)	200		0	175		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.990			0.943			0.970	
Flt Protected	0.950			0.950				0.987			0.990	
Satd. Flow (prot)	1727	3421	0	1780	3491	0	0	1782	0	0	1967	0
Flt Permitted	0.950			0.950				0.821			0.842	
Satd. Flow (perm)	1727	3421	0	1780	3491	0	0	1482	0	0	1673	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			31			12	
Link Speed (mph)		40			40			35			25	
Link Distance (ft)		447			1071			97			809	
Travel Time (s)		7.6			18.3			1.9			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	45	514	0	108	478	33	40	47	63	25	74	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	514	0	108	511	0	0	150	0	0	127	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.0	26.0		13.0	26.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	58.0		21.0	58.0		21.0	21.0		21.0	21.0	
Total Split (%)	21.0%	58.0%		21.0%	58.0%		21.0%	21.0%		21.0%	21.0%	
Maximum Green (s)	15.0	52.0		15.0	52.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.7		2.0	5.7		2.0	2.0		2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	14.7		0.0	0.0		14.7	14.7	
Time To Reduce (s)	0.0	0.0		0.0	20.5		0.0	0.0		20.5	20.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.8	58.9		10.6	66.8			12.5			12.5	
Actuated g/C Ratio	0.08	0.59		0.11	0.67			0.12			0.12	
v/c Ratio	0.33	0.26		0.57	0.22			0.71			0.58	
Control Delay	63.2	4.4		54.0	8.3			50.3			46.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	63.2	4.4		54.0	8.3			50.3			46.9	
LOS	E	A		D	A			D			D	
Approach Delay		9.1			16.3			50.3			46.9	
Approach LOS		A			B			D			D	
Queue Length 50th (ft)	30	31		67	67			74			70	
Queue Length 95th (ft)	67	33		114	115			128			118	
Internal Link Dist (ft)		367			991			17			729	
Turn Bay Length (ft)	200			175								
Base Capacity (vph)	259	2036		267	2336			258			273	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.17	0.25		0.40	0.22			0.58			0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 19.7		Intersection LOS: B	
Intersection Capacity Utilization 44.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	318	58	59	284	31	75	218	11	26	163	69
Future Volume (veh/h)	72	318	58	59	284	31	75	218	11	26	163	69
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1846	1875	1956	1947	1895	1986	1882	1902	1938	1851	1893	1928
Adj Flow Rate, veh/h	89	393	72	73	351	38	93	269	14	32	201	85
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	6	4	6	2	5	3	3	2	0	0	1	4
Cap, veh/h	122	1229	223	121	1324	142	229	375	20	225	232	98
Arrive On Green	0.07	0.41	0.41	0.07	0.40	0.40	0.07	0.21	0.21	0.04	0.18	0.18
Sat Flow, veh/h	1758	3013	547	1854	3280	353	1792	1792	93	1763	1262	534
Grp Volume(v), veh/h	89	231	234	73	192	197	93	0	283	32	0	286
Grp Sat Flow(s),veh/h/ln	1758	1782	1779	1854	1800	1833	1792	0	1885	1763	0	1795
Q Serve(g_s), s	4.5	7.9	8.1	3.4	6.4	6.5	3.7	0.0	12.6	1.3	0.0	13.9
Cycle Q Clear(g_c), s	4.5	7.9	8.1	3.4	6.4	6.5	3.7	0.0	12.6	1.3	0.0	13.9
Prop In Lane	1.00		0.31	1.00		0.19	1.00		0.05	1.00		0.30
Lane Grp Cap(c), veh/h	122	727	726	121	727	740	229	0	394	225	0	330
V/C Ratio(X)	0.73	0.32	0.32	0.60	0.26	0.27	0.41	0.00	0.72	0.14	0.00	0.87
Avail Cap(c_a), veh/h	176	727	726	185	727	740	281	0	492	322	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	18.1	18.2	40.9	17.9	17.9	27.9	0.0	33.1	28.2	0.0	35.7
Incr Delay (d2), s/veh	3.6	1.1	1.2	1.8	0.9	0.9	0.4	0.0	2.5	0.1	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.1	4.2	1.8	3.3	3.5	1.8	0.0	6.8	0.6	0.0	7.7
LnGrp Delay(d),s/veh	44.6	19.3	19.3	42.7	18.8	18.8	28.4	0.0	35.6	28.3	0.0	44.4
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		554			462			376			318	
Approach Delay, s/veh		23.4			22.6			33.8			42.8	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	42.7	12.4	23.1	12.2	42.3	10.1	25.3
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	9.0	24.0	8.5	23.5	9.0	24.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	5.4	10.1	5.7	15.9	6.5	8.5	3.3	14.6
Green Ext Time (p_c), s	0.0	4.8	0.0	0.6	0.0	5.8	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	418	95	74	402	46	102	156	16	39	168	62
Future Volume (veh/h)	93	418	95	74	402	46	102	156	16	39	168	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1937	1930	1956	1966	1951	1986	1900	1887	1938	1851	1914	1928
Adj Flow Rate, veh/h	98	440	100	78	423	48	107	164	17	41	177	65
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	3	1	2	0	2	3	0	0	1	0
Cap, veh/h	126	1388	313	116	1546	175	222	292	30	256	206	76
Arrive On Green	0.07	0.47	0.47	0.06	0.46	0.46	0.07	0.17	0.17	0.05	0.15	0.15
Sat Flow, veh/h	1845	2974	671	1873	3358	379	1810	1681	174	1763	1335	490
Grp Volume(v), veh/h	98	270	270	78	232	239	107	0	181	41	0	242
Grp Sat Flow(s),veh/h/ln	1845	1833	1811	1873	1853	1884	1810	0	1855	1763	0	1825
Q Serve(g_s), s	5.2	9.2	9.3	4.1	7.7	7.8	4.9	0.0	8.9	1.9	0.0	12.9
Cycle Q Clear(g_c), s	5.2	9.2	9.3	4.1	7.7	7.8	4.9	0.0	8.9	1.9	0.0	12.9
Prop In Lane	1.00		0.37	1.00		0.20	1.00		0.09	1.00		0.27
Lane Grp Cap(c), veh/h	126	856	846	116	853	867	222	0	322	256	0	282
V/C Ratio(X)	0.77	0.32	0.32	0.67	0.27	0.28	0.48	0.00	0.56	0.16	0.00	0.86
Avail Cap(c_a), veh/h	443	856	846	262	853	867	255	0	436	322	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.8	16.7	16.7	45.9	16.7	16.7	33.2	0.0	37.8	32.8	0.0	41.2
Incr Delay (d2), s/veh	3.8	1.0	1.0	2.5	0.8	0.8	0.6	0.0	0.6	0.1	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.9	4.9	2.2	4.1	4.2	2.5	0.0	4.6	0.9	0.0	7.1
LnGrp Delay(d),s/veh	49.6	17.6	17.7	48.4	17.4	17.5	33.8	0.0	38.4	32.9	0.0	48.1
LnGrp LOS	D	B	B	D	B	B	C		D	C		D
Approach Vol, veh/h		638			549			288			283	
Approach Delay, s/veh		22.6			21.9			36.7			45.9	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	52.7	13.1	22.0	12.9	52.0	11.3	23.9
Change Period (Y+Rc), s	6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5
Max Green Setting (Gmax), s	14.0	29.0	8.5	23.5	24.0	19.0	8.5	23.5
Max Q Clear Time (g_c+I1), s	6.1	11.3	6.9	14.9	7.2	9.8	3.9	10.9
Green Ext Time (p_c), s	0.1	6.5	0.0	0.5	0.1	3.6	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	358	0	22	296	19	17	52	59	37	59	14
Future Volume (veh/h)	38	358	0	22	296	19	17	52	59	37	59	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1826	0	1938	1828	1938	1927	1861	1927	1936	1857	1936
Adj Flow Rate, veh/h	45	426	0	26	352	23	20	62	70	44	70	17
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	3	0	0	6	6	6	0	6	8	3	0
Cap, veh/h	94	2271	0	69	2117	138	61	86	87	100	107	23
Arrive On Green	0.05	0.65	0.00	0.04	0.64	0.64	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1791	3561	0	1846	3312	215	146	793	801	427	989	211
Grp Volume(v), veh/h	45	426	0	26	184	191	152	0	0	131	0	0
Grp Sat Flow(s),veh/h/ln	1791	1735	0	1846	1737	1790	1740	0	0	1627	0	0
Q Serve(g_s), s	2.2	4.4	0.0	1.2	3.8	3.9	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	4.4	0.0	1.2	3.8	3.9	7.5	0.0	0.0	6.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.12	0.13		0.46	0.34		0.13
Lane Grp Cap(c), veh/h	94	2271	0	69	1110	1144	234	0	0	230	0	0
V/C Ratio(X)	0.48	0.19	0.00	0.38	0.17	0.17	0.65	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	179	2271	0	185	1110	1144	402	0	0	391	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.4	6.1	0.0	42.3	6.6	6.6	39.2	0.0	0.0	38.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.2	0.0	1.3	0.3	0.3	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.1	0.0	0.7	1.9	2.0	3.7	0.0	0.0	3.2	0.0	0.0
LnGrp Delay(d),s/veh	42.8	6.3	0.0	43.6	6.9	6.9	40.3	0.0	0.0	39.6	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		471			401			152			131	
Approach Delay, s/veh		9.8			9.3			40.3			39.6	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.3	64.9		15.7	10.7	63.5		15.7
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.3	44.0		19.0	9.0	44.0		19.0
Max Q Clear Time (g_c+I1), s	3.2	6.4		8.9	4.2	5.9		9.5
Green Ext Time (p_c), s	0.0	6.7		0.3	0.0	5.4		0.2

Intersection Summary		
HCM 2010 Ctrl Delay		17.0
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	452	0	95	421	29	35	41	55	22	65	25
Future Volume (veh/h)	40	452	0	95	421	29	35	41	55	22	65	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1862	0	1938	1920	1938	1927	1927	1927	1936	1936	1936
Adj Flow Rate, veh/h	45	514	0	108	478	33	40	47	62	25	74	28
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	89	2272	0	137	2309	159	84	67	75	68	121	41
Arrive On Green	0.05	0.64	0.00	0.07	0.67	0.67	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1791	3632	0	1846	3464	238	368	648	724	243	1171	400
Grp Volume(v), veh/h	45	514	0	108	251	260	149	0	0	127	0	0
Grp Sat Flow(s),veh/h/ln	1791	1769	0	1846	1824	1878	1741	0	0	1814	0	0
Q Serve(g_s), s	2.4	6.1	0.0	5.8	5.3	5.4	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.4	6.1	0.0	5.8	5.3	5.4	8.2	0.0	0.0	6.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.13	0.27		0.42	0.20		0.22
Lane Grp Cap(c), veh/h	89	2272	0	137	1216	1252	226	0	0	231	0	0
V/C Ratio(X)	0.50	0.23	0.00	0.79	0.21	0.21	0.66	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	269	2272	0	277	1216	1252	301	0	0	311	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.3	7.5	0.0	45.5	6.4	6.5	43.8	0.0	0.0	43.1	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.2	0.0	3.7	0.4	0.4	1.2	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.0	0.0	3.1	2.8	2.9	4.1	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	47.9	7.7	0.0	49.2	6.8	6.8	45.0	0.0	0.0	43.9	0.0	0.0
LnGrp LOS	D	A		D	A	A	D			D		
Approach Vol, veh/h		559			619			149			127	
Approach Delay, s/veh		11.0			14.2			45.0			43.9	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.4	70.2		16.3	11.0	72.7		16.3
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	15.0	52.0		15.0	15.0	52.0		15.0
Max Q Clear Time (g_c+I1), s	7.8	8.1		8.6	4.4	7.4		10.2
Green Ext Time (p_c), s	0.1	8.7		0.2	0.0	8.0		0.1

Intersection Summary		
HCM 2010 Ctrl Delay		18.7
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	24	0	128	64	0
Future Vol, veh/h	0	24	0	128	64	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, %	2	-	-	5	-5	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	0	29	0	152	76	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	228	76	-	0	-	0
Stage 1	76	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	745	987	0	-	-	0
Stage 1	944	-	0	-	-	0
Stage 2	866	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	745	987	-	-	-	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	987	-
HCM Lane V/C Ratio	-	0.029	-
HCM Control Delay (s)	-	8.8	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	131	83	0
Future Vol, veh/h	0	31	0	131	83	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, %	2	-	-	5	-5	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	35	0	149	94	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	243	94	-	0	-	0
Stage 1	94	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	730	963	0	-	-	0
Stage 1	925	-	0	-	-	0
Stage 2	869	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	730	963	-	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	963	-
HCM Lane V/C Ratio	-	0.037	-
HCM Control Delay (s)	-	8.9	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	54	0	0	56	0	351	0	0	328	0
Future Vol, veh/h	0	0	54	0	0	56	0	351	0	0	328	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	0	0	0	0	4	0	0	5	0
Mvmt Flow	0	0	64	0	0	67	0	418	0	0	390	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	209	-	-	195	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	783	0	0	829	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	783	-	-	829	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10	9.7	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	783	829	-	-
HCM Lane V/C Ratio	-	0.082	0.08	-	-
HCM Control Delay (s)	-	10	9.7	-	-
HCM Lane LOS	-	B	A	-	-
HCM 95th %tile Q(veh)	-	0.3	0.3	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	0	0	49	0	0	34	0	479	1	0	463	0
Future Vol, veh/h	0	0	49	0	0	34	0	479	1	0	463	0
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	3	-	-	-2	-	-	2	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	0	0	1	0	0	2	0
Mvmt Flow	0	0	53	0	0	37	0	521	1	0	503	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	-	-	263	-	-	252	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.24	-	-	6.7	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	720	0	0	764	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	719	-	-	764	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s	10.4	10	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWT	EBLn1	WBLn1	SET	SER
Capacity (veh/h)	-	719	764	-	-
HCM Lane V/C Ratio	-	0.074	0.048	-	-
HCM Control Delay (s)	-	10.4	10	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0.2	0.2	-	-

Appendix H

Queuing Analysis

2022 Existing Conditions

Intersection: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

Movement	SB	SB	SE	SE	NW	NW	NW
Directions Served	LT	R	T	TR	L	T	T
Maximum Queue (ft)	67	21	11	19	48	59	41
Average Queue (ft)	17	6	1	1	10	9	5
95th Queue (ft)	49	21	6	9	32	33	24
Link Distance (ft)	298		1696	1696		289	289
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		70			75		
Storage Blk Time (%)	0				0	0	
Queuing Penalty (veh)	0				0	0	

Intersection: 2: Service Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	T	T	TR	L	TR	LTR
Maximum Queue (ft)	22	36	38	64	37	22	106	35
Average Queue (ft)	2	4	3	16	4	4	36	8
95th Queue (ft)	11	18	21	47	18	17	79	27
Link Distance (ft)		289	289	148	148		278	210
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100					50		
Storage Blk Time (%)						0	8	
Queuing Penalty (veh)						0	1	

Intersection: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	102	158	128	103	102	125	116	220	63	234
Average Queue (ft)	45	83	47	35	44	50	35	106	16	115
95th Queue (ft)	89	142	103	78	91	102	83	194	44	198
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)								1		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	0	2		0	0		0	6		3
Queuing Penalty (veh)	0	1		0	0		0	4		1

Intersection: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	54	52	67	34	104	61	81	116
Average Queue (ft)	20	11	14	5	38	14	38	43
95th Queue (ft)	49	37	46	23	86	44	72	89
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							29	
Queuing Penalty (veh)							16	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	28	29
Average Queue (ft)	15	1
95th Queue (ft)	37	13
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	29	47
Average Queue (ft)	3	18
95th Queue (ft)	16	40
Link Distance (ft)	318	53
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

Movement	SB	SB	SE	SE	NW	NW	NW
Directions Served	LT	R	T	TR	L	T	T
Maximum Queue (ft)	38	21	62	70	104	102	45
Average Queue (ft)	6	4	7	9	40	13	4
95th Queue (ft)	23	16	35	40	85	54	24
Link Distance (ft)	298		1696	1696		289	289
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		70			75		
Storage Blk Time (%)	0				3	0	
Queuing Penalty (veh)	0				7	0	

Intersection: 2: Service Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	T	T	TR	L	TR	LTR
Maximum Queue (ft)	24	52	64	80	69	34	68	30
Average Queue (ft)	3	5	6	15	7	7	27	3
95th Queue (ft)	14	26	35	51	34	24	53	18
Link Distance (ft)		289	289	148	148		278	210
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100					50		
Storage Blk Time (%)		0				0	2	
Queuing Penalty (veh)		0				0	0	

Intersection: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	139	202	176	103	138	156	133	189	147	273
Average Queue (ft)	62	102	73	44	54	65	53	95	32	136
95th Queue (ft)	119	165	147	88	109	125	105	162	85	228
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)								0		0
Queuing Penalty (veh)								0		0
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	1	3		0	1		0	4		5
Queuing Penalty (veh)	3	3		0	0		1	4		2

Intersection: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	89	63	62	68	142	102	83	133
Average Queue (ft)	26	16	18	16	62	29	53	56
95th Queue (ft)	65	46	47	48	122	74	90	108
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							49	
Queuing Penalty (veh)							40	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 5: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	33	44
Average Queue (ft)	18	5
95th Queue (ft)	40	25
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB	SE	SE	NW
Directions Served	R	R	T	TR	T
Maximum Queue (ft)	35	36	2	15	5
Average Queue (ft)	3	12	0	0	0
95th Queue (ft)	15	31	1	8	4
Link Distance (ft)	318	53	429	429	1696
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Alternative 1

Intersection: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

Movement	NB	SB	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	T	TR	L	T	T
Maximum Queue (ft)	103	96	45	58	37	29	18
Average Queue (ft)	35	33	5	6	3	3	1
95th Queue (ft)	73	72	25	32	16	16	8
Link Distance (ft)	210	310	1716	1716		265	265
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					75		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: E Connelly Bouldevard (SR 0062) & Service Avenue

Movement	EB
Directions Served	L
Maximum Queue (ft)	34
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	138	183	159	103	98	119	199	231	103	249
Average Queue (ft)	57	86	50	36	41	51	46	118	21	119
95th Queue (ft)	113	153	116	79	81	100	117	211	64	207
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)							0	1		0
Queuing Penalty (veh)							0	0		0
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	1	2		1	0			9		2
Queuing Penalty (veh)	1	1		1	0			6		1

Intersection: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	60	74	72	34	100	66	96	99
Average Queue (ft)	21	11	13	6	38	14	38	42
95th Queue (ft)	51	44	49	24	84	45	77	85
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							28	
Queuing Penalty (veh)							16	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	33	25
Average Queue (ft)	15	1
95th Queue (ft)	38	19
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	24	50
Average Queue (ft)	3	20
95th Queue (ft)	13	39
Link Distance (ft)	318	53
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

Movement	NB	SB	SE	SE	NW	NW	NW
Directions Served	LTR	LTR	T	TR	L	T	T
Maximum Queue (ft)	75	74	98	115	99	76	18
Average Queue (ft)	30	21	10	14	29	7	2
95th Queue (ft)	62	52	49	62	75	36	10
Link Distance (ft)	210	310	1716	1716		265	265
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					75		
Storage Blk Time (%)					2	0	
Queuing Penalty (veh)					5	0	

Intersection: 2: E Connelly Bouldevard (SR 0062) & Service Avenue

Movement	EB
Directions Served	L
Maximum Queue (ft)	31
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	148	194	164	99	148	169	159	202	97	256
Average Queue (ft)	61	99	73	46	54	66	54	96	24	134
95th Queue (ft)	113	171	144	89	110	130	117	171	66	228
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)							0	0		0
Queuing Penalty (veh)							0	0		0
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	1	4		0	0		0	5		4
Queuing Penalty (veh)	2	4		0	0		0	4		2

Intersection: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	62	58	59	65	158	114	83	134
Average Queue (ft)	24	16	17	17	70	28	48	59
95th Queue (ft)	56	45	47	46	137	73	86	113
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							42	
Queuing Penalty (veh)							34	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 5: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	32	53
Average Queue (ft)	17	5
95th Queue (ft)	39	28
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB	SE
Directions Served	R	R	TR
Maximum Queue (ft)	24	36	12
Average Queue (ft)	3	13	0
95th Queue (ft)	14	32	9
Link Distance (ft)	318	53	429
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Alternative 2

Intersection: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

Movement	NB	NW
Directions Served	R	L
Maximum Queue (ft)	27	14
Average Queue (ft)	14	1
95th Queue (ft)	32	8
Link Distance (ft)	210	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		75
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Service Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	NB	SB
Directions Served	L	R	R
Maximum Queue (ft)	11	52	26
Average Queue (ft)	2	22	16
95th Queue (ft)	9	45	36
Link Distance (ft)		279	210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	105	174	146	84	111	118	154	219	94	261
Average Queue (ft)	44	80	45	33	43	52	43	112	18	117
95th Queue (ft)	90	145	104	69	90	101	99	199	60	207
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)							0	1		0
Queuing Penalty (veh)							0	0		0
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	0	1			0		0	8		3
Queuing Penalty (veh)	0	1			0		0	5		1

Intersection: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	68	48	57	28	106	60	90	125
Average Queue (ft)	22	12	18	4	46	15	39	63
95th Queue (ft)	54	39	47	20	95	47	81	114
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							35	
Queuing Penalty (veh)							22	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	45	36
Average Queue (ft)	17	2
95th Queue (ft)	43	16
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	26	47
Average Queue (ft)	3	21
95th Queue (ft)	13	41
Link Distance (ft)	318	53
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Spencer Avenue & E Connelly Bouldevard (SR 0062)

Movement	NB	SE	SE	NW
Directions Served	R	T	TR	L
Maximum Queue (ft)	22	2	1	26
Average Queue (ft)	6	0	0	4
95th Queue (ft)	21	2	1	17
Link Distance (ft)	210	1748	1748	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				75
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Service Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	NB	SB
Directions Served	L	R	R
Maximum Queue (ft)	15	57	31
Average Queue (ft)	2	24	11
95th Queue (ft)	9	48	32
Link Distance (ft)		279	210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	134	203	156	96	139	153	141	199	102	272
Average Queue (ft)	61	103	68	46	58	69	55	96	28	137
95th Queue (ft)	114	175	135	87	112	128	108	175	72	234
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)							0	0		0
Queuing Penalty (veh)							0	0		0
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	1	5		0	1		0	5		6
Queuing Penalty (veh)	1	4		0	1		0	5		2

Intersection: 4: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	66	77	74	51	150	126	83	113
Average Queue (ft)	25	20	23	14	69	33	53	59
95th Queue (ft)	57	54	57	40	132	83	91	101
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							43	
Queuing Penalty (veh)							39	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 5: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	71	44
Average Queue (ft)	24	6
95th Queue (ft)	53	28
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB	SE	SE	NW
Directions Served	R	R	T	TR	T
Maximum Queue (ft)	27	48	2	5	11
Average Queue (ft)	3	17	0	0	0
95th Queue (ft)	14	35	1	3	6
Link Distance (ft)	318	53	429	429	1748
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Alternative 3

Intersection: 1: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	117	196	154	99	119	122	160	220	60	213
Average Queue (ft)	50	85	51	38	40	52	49	110	19	113
95th Queue (ft)	99	160	118	78	88	103	114	194	49	196
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)							0	1		
Queuing Penalty (veh)							0	0		
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	0	3		0	0		0	7		2
Queuing Penalty (veh)	1	2		0	0		0	5		1

Intersection: 2: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	77	76	74	55	125	66	100	162
Average Queue (ft)	26	19	22	16	49	19	60	70
95th Queue (ft)	59	53	57	43	98	54	98	128
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							40	
Queuing Penalty (veh)							51	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 3: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	28	87
Average Queue (ft)	17	12
95th Queue (ft)	39	52
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	30	49
Average Queue (ft)	3	20
95th Queue (ft)	16	41
Link Distance (ft)	318	45
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: E Connelly Bouldevard (SR 0062)

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 60

Intersection: 1: Stambaugh Avenue (SR 0518) & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	164	210	178	115	123	142	154	207	142	289
Average Queue (ft)	62	100	76	49	51	62	56	101	27	143
95th Queue (ft)	121	174	150	96	102	122	116	180	89	248
Link Distance (ft)		830	830		429	429		216		305
Upstream Blk Time (%)							0	0		0
Queuing Penalty (veh)							0	0		0
Storage Bay Dist (ft)	125			125			125		175	
Storage Blk Time (%)	1	3		0	0		0	5		6
Queuing Penalty (veh)	2	3		1	0		1	6		2

Intersection: 2: Pine Hollow Boulevard/Smith Avenue & E Connelly Bouldevard (SR 0062)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	76	136	123	143	144	129	83	144
Average Queue (ft)	31	28	27	66	57	34	64	66
95th Queue (ft)	66	79	73	121	108	84	94	120
Link Distance (ft)		271	271		1036	1036	23	762
Upstream Blk Time (%)							49	
Queuing Penalty (veh)							64	
Storage Bay Dist (ft)	200			175				
Storage Blk Time (%)		0			0			
Queuing Penalty (veh)		0			0			

Intersection: 3: Pine Hollow Boulevard & E Connelly Bouldevard (SR 0062)

Movement	EB	NB
Directions Served	LR	T
Maximum Queue (ft)	32	86
Average Queue (ft)	19	12
95th Queue (ft)	40	55
Link Distance (ft)	284	591
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: E Connelly Bouldevard (SR 0062) & Prindle Street/Griswold Street

Movement	EB	WB	SE	NW
Directions Served	R	R	TR	T
Maximum Queue (ft)	24	43	9	6
Average Queue (ft)	2	13	0	0
95th Queue (ft)	12	32	5	4
Link Distance (ft)	318	45	429	2374
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: E Connelly Bouldevard (SR 0062)

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 79

Appendix I

Traffic Signal Warrant Evaluation

SR 0062 & Spencer Avenue

Traffic Signal Warrant Analysis Workbook

4/5/2022

STUDY AND ANALYSIS INFORMATION

Municipality:	City of Sharon	**Analysis Date:**	3/31/2022
County:	Mercer County	**Conducted By:**	REG
PennDOT Engineering District:	1	**Agency/Company Name:**	TA

Analysis Information

Data Collection Date:	3/24/2022
Day of the Week:	Thursday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	East Connelly Blvd (SR 0062)
Major Street Approach #1 Direction:	E-Bound
Major Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	2	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	46	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Spencer Ave
Minor Street Approach #1 Direction:	S-Bound
Minor Street Approach #2 Direction:	

Number of Lanes for Moving Traffic on Each Minor Street Approach:	2	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No
Warrant 4, Pedestrian Volume	No	N/A
Warrant 5, School Crossing	No	N/A
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	No	N/A
Warrant 8, Roadway Network	No	N/A
Warrant 9, Intersection Near a Grade Crossing	No	N/A
Warrant PA-1, ADT Volume Warrant	No	N/A
Warrant PA-2, Midblock and Trail Crossings	No	N/A

Traffic Signal Warrant Analysis Workbook

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (S-Bound)	Minor Street Approach #2 ()
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM	7	6	13	1	
12:15 AM	12:29 AM	10	9	19	0	
12:30 AM	12:44 AM	3	8	11	0	
12:45 AM	12:59 AM	2	6	8	0	
1:00 AM	1:14 AM	4	6	10	0	
1:15 AM	1:29 AM	2	3	5	0	
1:30 AM	1:44 AM	6	3	9	0	
1:45 AM	1:59 AM	4	5	9	0	
2:00 AM	2:14 AM	1	1	2	0	
2:15 AM	2:29 AM	3	7	10	0	
2:30 AM	2:44 AM	2	2	4	0	
2:45 AM	2:59 AM	2	1	3	0	
3:00 AM	3:14 AM	2	3	5	0	
3:15 AM	3:29 AM	6	2	8	0	
3:30 AM	3:44 AM	4	4	8	0	
3:45 AM	3:59 AM	3	6	9	0	
4:00 AM	4:14 AM	2	2	4	0	
4:15 AM	4:29 AM	13	6	19	0	
4:30 AM	4:44 AM	14	4	18	1	
4:45 AM	4:59 AM	9	13	22	3	
5:00 AM	5:14 AM	13	22	35	4	
5:15 AM	5:29 AM	19	35	54	2	
5:30 AM	5:44 AM	20	17	37	1	
5:45 AM	5:59 AM	17	22	39	2	
6:00 AM	6:14 AM	22	29	51	4	
6:15 AM	6:29 AM	40	37	77	2	
6:30 AM	6:44 AM	56	52	108	8	
6:45 AM	6:59 AM	60	59	119	2	
7:00 AM	7:14 AM	55	68	123	5	
7:15 AM	7:29 AM	88	81	169	10	
7:30 AM	7:44 AM	86	84	170	14	
7:45 AM	7:59 AM	128	72	200	24	
8:00 AM	8:14 AM	89	76	165	7	
8:15 AM	8:29 AM	89	73	162	11	
8:30 AM	8:44 AM	88	80	168	8	
8:45 AM	8:59 AM	94	59	153	10	
9:00 AM	9:14 AM	61	60	121	2	
9:15 AM	9:29 AM	80	68	148	6	
9:30 AM	9:44 AM	92	58	150	5	
9:45 AM	9:59 AM	88	67	155	5	
10:00 AM	10:14 AM	98	82	180	2	
10:15 AM	10:29 AM	84	78	162	4	
10:30 AM	10:44 AM	77	81	158	6	
10:45 AM	10:59 AM	112	72	184	2	
11:00 AM	11:14 AM	79	91	170	7	
11:15 AM	11:29 AM	74	102	176	4	
11:30 AM	11:44 AM	76	69	145	3	
11:45 AM	11:59 AM	109	85	194	9	

Traffic Signal Warrant Analysis Workbook

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (S-Bound)	Minor Street Approach #2 ()
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM	108	119	227	9	
12:15 PM	12:29 PM	107	105	212	5	
12:30 PM	12:44 PM	101	88	189	8	
12:45 PM	12:59 PM	134	110	244	5	
1:00 PM	1:14 PM	88	112	200	3	
1:15 PM	1:29 PM	101	105	206	12	
1:30 PM	1:44 PM	108	104	212	3	
1:45 PM	1:59 PM	111	91	202	5	
2:00 PM	2:14 PM	85	99	184	11	
2:15 PM	2:29 PM	97	107	204	9	
2:30 PM	2:44 PM	132	100	232	12	
2:45 PM	2:59 PM	134	104	238	8	
3:00 PM	3:14 PM	152	134	286	25	
3:15 PM	3:29 PM	137	133	270	15	
3:30 PM	3:44 PM	133	121	254	15	
3:45 PM	3:59 PM	128	132	260	6	
4:00 PM	4:14 PM	123	122	245	12	
4:15 PM	4:29 PM	126	120	246	16	
4:30 PM	4:44 PM	156	130	286	12	
4:45 PM	4:59 PM	106	133	239	17	
5:00 PM	5:14 PM	123	164	287	13	
5:15 PM	5:29 PM	130	153	283	10	
5:30 PM	5:44 PM	146	104	250	13	
5:45 PM	5:59 PM	86	96	182	5	
6:00 PM	6:14 PM	103	108	211	8	
6:15 PM	6:29 PM	103	103	206	2	
6:30 PM	6:44 PM	96	89	185	6	
6:45 PM	6:59 PM	70	82	152	11	
7:00 PM	7:14 PM	84	88	172	13	
7:15 PM	7:29 PM	80	69	149	7	
7:30 PM	7:44 PM	59	66	125	7	
7:45 PM	7:59 PM	73	73	146	6	
8:00 PM	8:14 PM	50	73	123	7	
8:15 PM	8:29 PM	58	55	113	4	
8:30 PM	8:44 PM	61	61	122	7	
8:45 PM	8:59 PM	47	43	90	2	
9:00 PM	9:14 PM	43	48	91	4	
9:15 PM	9:29 PM	25	46	71	2	
9:30 PM	9:44 PM	40	26	66	4	
9:45 PM	9:59 PM	38	38	76	3	
10:00 PM	10:14 PM	26	39	65	1	
10:15 PM	10:29 PM	20	19	39	1	
10:30 PM	10:44 PM	22	24	46	0	
10:45 PM	10:59 PM	22	22	44	2	
11:00 PM	11:14 PM	22	35	57	3	
11:15 PM	11:29 PM	15	30	45	1	
11:30 PM	11:44 PM	10	14	24	3	
11:45 PM	11:59 PM	5	11	16	0	
	Approach Totals:	6117	5924	12041	527	0

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	500	400	350	280	150	120	105	84
2 or More	**1**	600	480	420	336	150	120	105	84
2 or More	**2 or More**	600	480	420	336	200	160	140	112
1	**2 or More**	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	750	600	525	420	75	60	53	42
2 or More	**1**	900	720	630	504	75	60	53	42
2 or More	**2 or More**	900	720	630	504	100	80	70	56
1	**2 or More**	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: 0 **Condition A Satisfied?** No

Condition B Evaluation

Number of Unique Hours Met: 0 **Condition B Satisfied?** No

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: N/A

Number of Unique Hours Met for Condition B: N/A

Combination of Condition A and Condition B Satisfied? N/A

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	2 or More Lanes

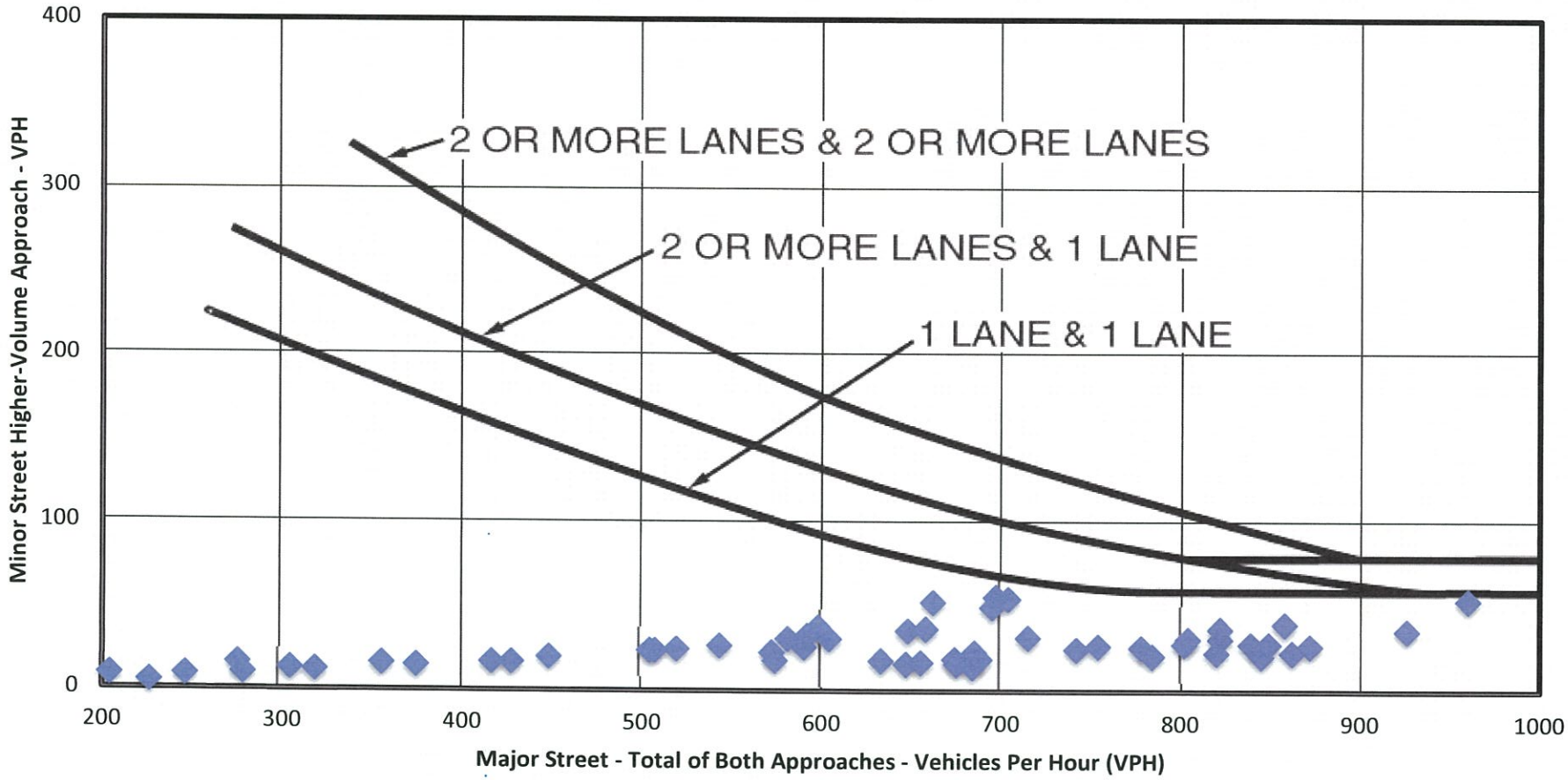
Total Number of Unique Hours Met On Figure 4C-2
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 AM	51	1	
12:15 AM	48	0	
12:30 AM	34	0	
12:45 AM	32	0	
1:00 AM	33	0	
1:15 AM	25	0	
1:30 AM	30	0	
1:45 AM	25	0	
2:00 AM	19	0	
2:15 AM	22	0	
2:30 AM	20	0	
2:45 AM	24	0	
3:00 AM	30	0	
3:15 AM	29	0	
3:30 AM	40	0	
3:45 AM	50	1	
4:00 AM	63	4	
4:15 AM	94	8	
4:30 AM	129	10	
4:45 AM	148	10	
5:00 AM	165	9	
5:15 AM	181	9	
5:30 AM	204	9	
5:45 AM	275	16	
6:00 AM	355	16	
6:15 AM	427	17	
6:30 AM	519	25	
6:45 AM	581	31	
7:00 AM	662	53	
7:15 AM	704	55	
7:30 AM	697	56	
7:45 AM	695	50	
8:00 AM	648	36	
8:15 AM	604	31	
8:30 AM	590	26	
8:45 AM	572	23	
9:00 AM	574	18	
9:15 AM	633	18	
9:30 AM	647	16	
9:45 AM	655	17	
10:00 AM	684	14	
10:15 AM	674	19	
10:30 AM	688	19	
10:45 AM	675	16	
11:00 AM	685	23	
11:15 AM	742	25	
11:30 AM	778	26	
11:45 AM	822	31	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 PM	872	27	
12:15 PM	845	21	
12:30 PM	839	28	
12:45 PM	862	23	
1:00 PM	820	23	
1:15 PM	804	31	
1:30 PM	802	28	
1:45 PM	822	37	
2:00 PM	858	40	
2:15 PM	960	54	
2:30 PM	1026	60	
2:45 PM	1048	63	
3:00 PM	1070	61	
3:15 PM	1029	48	
3:30 PM	1005	49	
3:45 PM	1037	46	
4:00 PM	1016	57	
4:15 PM	1058	58	
4:30 PM	1095	52	
4:45 PM	1059	53	
5:00 PM	1002	41	
5:15 PM	926	36	
5:30 PM	849	28	
5:45 PM	784	21	
6:00 PM	754	27	
6:15 PM	715	32	
6:30 PM	658	37	
6:45 PM	598	38	
7:00 PM	592	33	
7:15 PM	543	27	
7:30 PM	507	24	
7:45 PM	504	24	
8:00 PM	448	20	
8:15 PM	416	17	
8:30 PM	374	15	
8:45 PM	318	12	
9:00 PM	304	13	
9:15 PM	278	10	
9:30 PM	246	9	
9:45 PM	226	5	
10:00 PM	194	4	
10:15 PM	186	6	
10:30 PM	192	6	
10:45 PM	170	9	
11:00 PM	142	7	

MUTCD Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	N/A

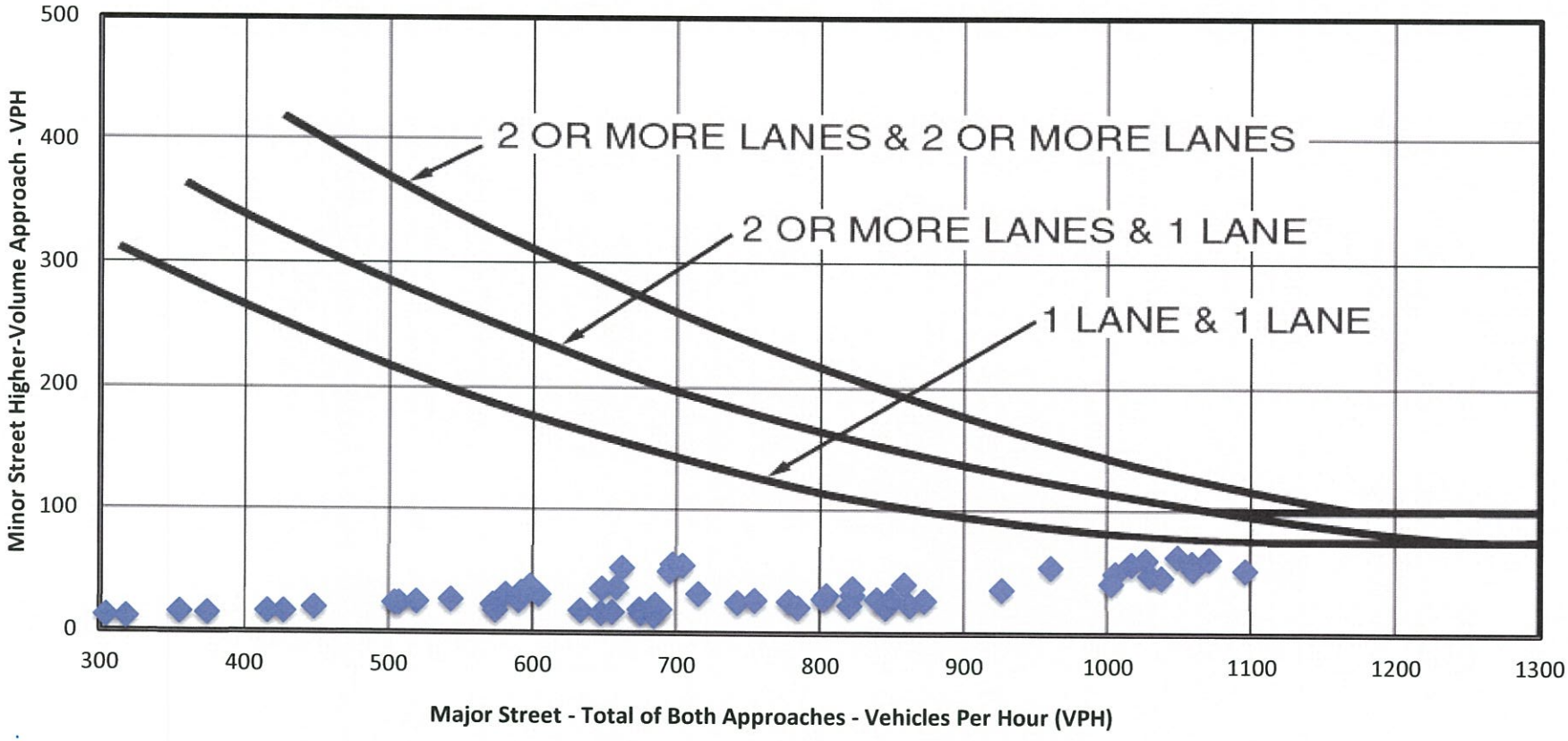
Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	N/A
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	N/A
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	N/A
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-4
0

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 AM	51	1	
12:15 AM	48	0	
12:30 AM	34	0	
12:45 AM	32	0	
1:00 AM	33	0	
1:15 AM	25	0	
1:30 AM	30	0	
1:45 AM	25	0	
2:00 AM	19	0	
2:15 AM	22	0	
2:30 AM	20	0	
2:45 AM	24	0	
3:00 AM	30	0	
3:15 AM	29	0	
3:30 AM	40	0	
3:45 AM	50	1	
4:00 AM	63	4	
4:15 AM	94	8	
4:30 AM	129	10	
4:45 AM	148	10	
5:00 AM	165	9	
5:15 AM	181	9	
5:30 AM	204	9	
5:45 AM	275	16	
6:00 AM	355	16	
6:15 AM	427	17	
6:30 AM	519	25	
6:45 AM	581	31	
7:00 AM	662	53	
7:15 AM	704	55	
7:30 AM	697	56	
7:45 AM	695	50	
8:00 AM	648	36	
8:15 AM	604	31	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
8:30 AM	590	26	
8:45 AM	572	23	
9:00 AM	574	18	
9:15 AM	633	18	
9:30 AM	647	16	
9:45 AM	655	17	
10:00 AM	684	14	
10:15 AM	674	19	
10:30 AM	688	19	
10:45 AM	675	16	
11:00 AM	685	23	
11:15 AM	742	25	
11:30 AM	778	26	
11:45 AM	822	31	
12:00 PM	872	27	
12:15 PM	845	21	
12:30 PM	839	28	
12:45 PM	862	23	
1:00 PM	820	23	
1:15 PM	804	31	
1:30 PM	802	28	
1:45 PM	822	37	
2:00 PM	858	40	
2:15 PM	960	54	
2:30 PM	1026	60	
2:45 PM	1048	63	
3:00 PM	1070	61	
3:15 PM	1029	48	
3:30 PM	1005	49	
3:45 PM	1037	46	
4:00 PM	1016	57	
4:15 PM	1058	58	
4:30 PM	1095	52	
4:45 PM	1059	53	
5:00 PM	1002	41	
5:15 PM	926	36	
5:30 PM	849	28	
5:45 PM	784	21	
6:00 PM	754	27	
6:15 PM	715	32	
6:30 PM	658	37	
6:45 PM	598	38	
7:00 PM	592	33	
7:15 PM	543	27	
7:30 PM	507	24	
7:45 PM	504	24	
8:00 PM	448	20	
8:15 PM	416	17	
8:30 PM	374	15	
8:45 PM	318	12	
9:00 PM	304	13	
9:15 PM	278	10	
9:30 PM	246	9	
9:45 PM	226	5	
10:00 PM	194	4	
10:15 PM	186	6	
10:30 PM	192	6	
10:45 PM	170	9	
11:00 PM	142	7	

MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



SR 0062 & Service Avenue

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	City of Sharon	**Analysis Date:**	3/31/2022
County:	Mercer County	**Conducted By:**	REG
PennDOT Engineering District:	1	**Agency/Company Name:**	TA

Analysis Information

Data Collection Date:	3/24/2022
Day of the Week:	Thursday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	East Connelly Blvd (SR 0062)
Major Street Approach #1 Direction:	E-Bound
Major Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	2	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	46	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Service Ave
Minor Street Approach #1 Direction:	N-Bound
Minor Street Approach #2 Direction:	S-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	2	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No
Warrant 4, Pedestrian Volume	No	N/A
Warrant 5, School Crossing	No	N/A
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	No	N/A
Warrant 8, Roadway Network	No	N/A
Warrant 9, Intersection Near a Grade Crossing	No	N/A
Warrant PA-1, ADT Volume Warrant	No	N/A
Warrant PA-2, Midblock and Trail Crossings	No	N/A

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (N-Bound)	Minor Street Approach #2 (S-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM	7	6	13	2	0
12:15 AM	12:29 AM	10	9	19	0	0
12:30 AM	12:44 AM	3	8	11	1	0
12:45 AM	12:59 AM	2	6	8	0	0
1:00 AM	1:14 AM	4	6	10	0	0
1:15 AM	1:29 AM	2	3	5	1	0
1:30 AM	1:44 AM	6	3	9	0	0
1:45 AM	1:59 AM	4	5	9	0	0
2:00 AM	2:14 AM	1	1	2	0	0
2:15 AM	2:29 AM	3	7	10	1	0
2:30 AM	2:44 AM	2	2	4	0	1
2:45 AM	2:59 AM	2	1	3	0	0
3:00 AM	3:14 AM	2	3	5	1	0
3:15 AM	3:29 AM	6	2	8	0	0
3:30 AM	3:44 AM	4	4	8	0	1
3:45 AM	3:59 AM	3	6	9	0	0
4:00 AM	4:14 AM	2	2	4	0	0
4:15 AM	4:29 AM	13	6	19	0	0
4:30 AM	4:44 AM	14	4	18	1	0
4:45 AM	4:59 AM	9	13	22	2	0
5:00 AM	5:14 AM	13	22	35	3	0
5:15 AM	5:29 AM	19	35	54	4	1
5:30 AM	5:44 AM	20	17	37	3	0
5:45 AM	5:59 AM	17	22	39	7	0
6:00 AM	6:14 AM	22	29	51	4	0
6:15 AM	6:29 AM	40	37	77	8	0
6:30 AM	6:44 AM	56	52	108	11	1
6:45 AM	6:59 AM	60	59	119	9	1
7:00 AM	7:14 AM	55	68	123	6	0
7:15 AM	7:29 AM	88	81	169	16	5
7:30 AM	7:44 AM	86	84	170	32	10
7:45 AM	7:59 AM	128	72	200	21	13
8:00 AM	8:14 AM	89	76	165	11	4
8:15 AM	8:29 AM	89	73	162	16	8
8:30 AM	8:44 AM	88	80	168	5	2
8:45 AM	8:59 AM	94	59	153	15	3
9:00 AM	9:14 AM	61	60	121	8	3
9:15 AM	9:29 AM	80	68	148	13	5
9:30 AM	9:44 AM	92	58	150	9	1
9:45 AM	9:59 AM	88	67	155	10	5
10:00 AM	10:14 AM	98	82	180	9	6
10:15 AM	10:29 AM	84	78	162	3	2
10:30 AM	10:44 AM	77	81	158	11	1
10:45 AM	10:59 AM	112	72	184	15	1
11:00 AM	11:14 AM	79	91	170	11	2
11:15 AM	11:29 AM	74	102	176	15	5
11:30 AM	11:44 AM	76	69	145	10	2
11:45 AM	11:59 AM	109	85	194	15	4

Traffic Signal Warrant Analysis Workbook

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (N-Bound)	Minor Street Approach #2 (S-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM	108	119	227	12	4
12:15 PM	12:29 PM	107	105	212	11	2
12:30 PM	12:44 PM	101	88	189	12	5
12:45 PM	12:59 PM	134	110	244	7	2
1:00 PM	1:14 PM	88	112	200	19	6
1:15 PM	1:29 PM	101	105	206	9	5
1:30 PM	1:44 PM	108	104	212	18	3
1:45 PM	1:59 PM	111	91	202	18	4
2:00 PM	2:14 PM	85	99	184	7	3
2:15 PM	2:29 PM	97	107	204	14	7
2:30 PM	2:44 PM	132	100	232	17	8
2:45 PM	2:59 PM	134	104	238	19	8
3:00 PM	3:14 PM	152	134	286	20	11
3:15 PM	3:29 PM	137	133	270	21	12
3:30 PM	3:44 PM	133	121	254	14	5
3:45 PM	3:59 PM	128	132	260	13	9
4:00 PM	4:14 PM	123	122	245	20	11
4:15 PM	4:29 PM	126	120	246	16	8
4:30 PM	4:44 PM	156	130	286	12	4
4:45 PM	4:59 PM	106	133	239	14	8
5:00 PM	5:14 PM	123	164	287	18	7
5:15 PM	5:29 PM	130	153	283	15	7
5:30 PM	5:44 PM	146	104	250	19	2
5:45 PM	5:59 PM	86	96	182	18	7
6:00 PM	6:14 PM	103	108	211	14	8
6:15 PM	6:29 PM	103	103	206	19	9
6:30 PM	6:44 PM	96	89	185	16	5
6:45 PM	6:59 PM	70	82	152	10	7
7:00 PM	7:14 PM	84	88	172	15	7
7:15 PM	7:29 PM	80	69	149	16	6
7:30 PM	7:44 PM	59	66	125	11	1
7:45 PM	7:59 PM	73	73	146	13	8
8:00 PM	8:14 PM	50	73	123	9	6
8:15 PM	8:29 PM	58	55	113	5	4
8:30 PM	8:44 PM	61	61	122	5	5
8:45 PM	8:59 PM	47	43	90	9	2
9:00 PM	9:14 PM	43	48	91	4	5
9:15 PM	9:29 PM	25	46	71	4	2
9:30 PM	9:44 PM	40	26	66	8	4
9:45 PM	9:59 PM	38	38	76	3	1
10:00 PM	10:14 PM	26	39	65	4	3
10:15 PM	10:29 PM	20	19	39	5	5
10:30 PM	10:44 PM	22	24	46	3	2
10:45 PM	10:59 PM	22	22	44	2	1
11:00 PM	11:14 PM	22	35	57	0	1
11:15 PM	11:29 PM	15	30	45	3	1
11:30 PM	11:44 PM	10	14	24	1	0
11:45 PM	11:59 PM	5	11	16	0	0
	Approach Totals:	6117	5924	12041	851	328

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	500	400	350	280	150	120	105	84
2 or More	**1**	600	480	420	336	150	120	105	84
2 or More	**2 or More**	600	480	420	336	200	160	140	112
1	**2 or More**	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	750	600	525	420	75	60	53	42
2 or More	**1**	900	720	630	504	75	60	53	42
2 or More	**2 or More**	900	720	630	504	100	80	70	56
1	**2 or More**	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: 0 **Condition A Satisfied?** No

Condition B Evaluation

Number of Unique Hours Met: 3 **Condition B Satisfied?** No

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: N/A

Number of Unique Hours Met for Condition B: N/A

Combination of Condition A and Condition B Satisfied? N/A

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	2 or More Lanes

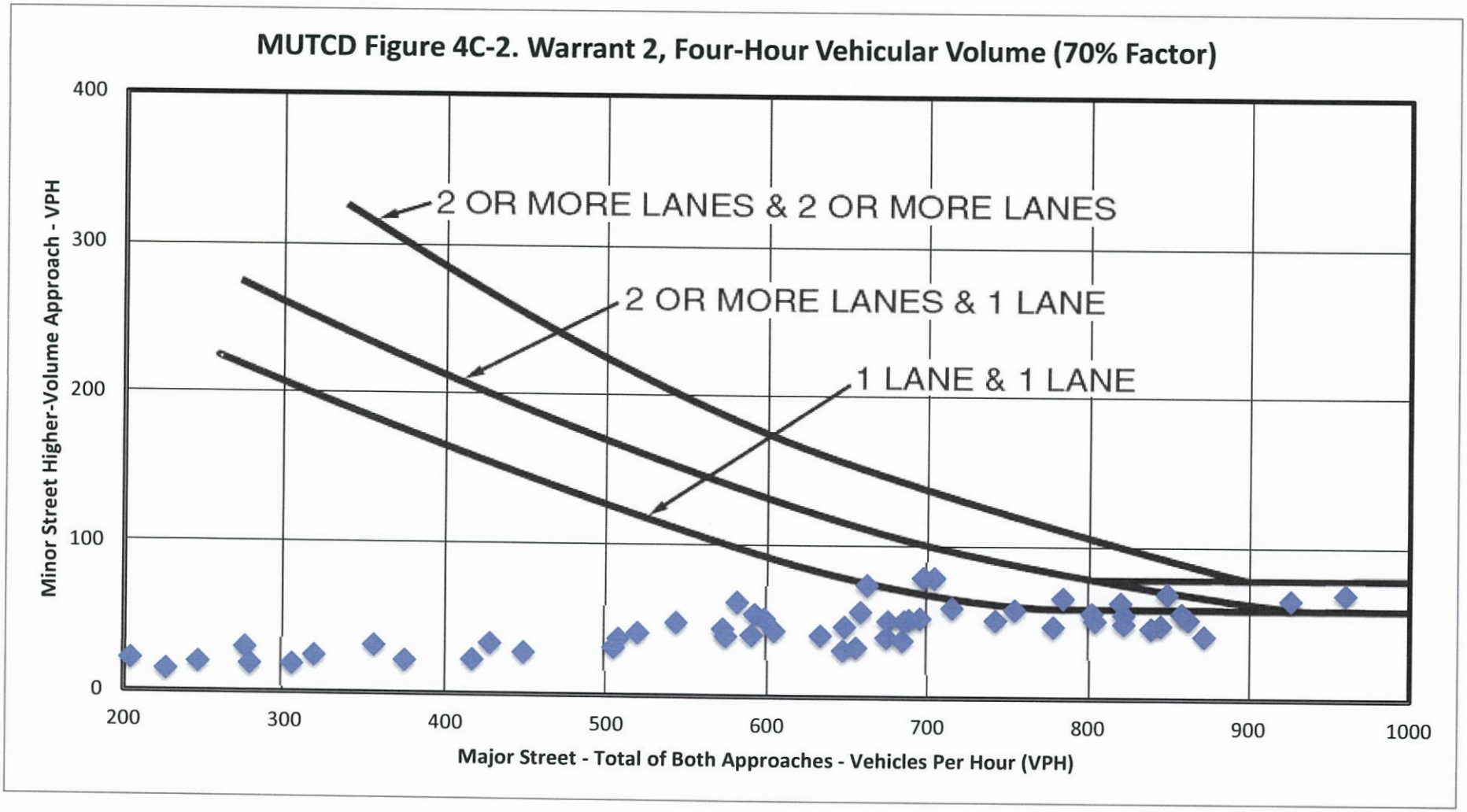
Total Number of Unique Hours Met On Figure 4C-2
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 AM	51	3	
12:15 AM	48	1	
12:30 AM	34	2	
12:45 AM	32	1	
1:00 AM	33	1	
1:15 AM	25	1	
1:30 AM	30	1	
1:45 AM	25	1	
2:00 AM	19	1	
2:15 AM	22	2	
2:30 AM	20	1	
2:45 AM	24	1	
3:00 AM	30	1	
3:15 AM	29	1	
3:30 AM	40	1	
3:45 AM	50	1	
4:00 AM	63	3	
4:15 AM	94	6	
4:30 AM	129	10	
4:45 AM	148	12	
5:00 AM	165	17	
5:15 AM	181	18	
5:30 AM	204	22	
5:45 AM	275	30	
6:00 AM	355	32	
6:15 AM	427	34	
6:30 AM	519	42	
6:45 AM	581	63	
7:00 AM	662	75	
7:15 AM	704	80	
7:30 AM	697	80	
7:45 AM	695	53	
8:00 AM	648	47	
8:15 AM	604	44	
8:30 AM	590	41	
8:45 AM	572	45	
9:00 AM	574	40	
9:15 AM	633	41	
9:30 AM	647	31	
9:45 AM	655	33	
10:00 AM	684	38	
10:15 AM	674	40	
10:30 AM	688	52	
10:45 AM	675	51	
11:00 AM	685	51	
11:15 AM	742	52	
11:30 AM	778	48	
11:45 AM	822	50	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 PM	872	42	
12:15 PM	845	49	
12:30 PM	839	47	
12:45 PM	862	53	
1:00 PM	820	64	
1:15 PM	804	52	
1:30 PM	802	57	
1:45 PM	822	56	
2:00 PM	858	57	
2:15 PM	960	70	
2:30 PM	1026	77	
2:45 PM	1048	74	
3:00 PM	1070	68	
3:15 PM	1029	68	
3:30 PM	1005	63	
3:45 PM	1037	61	
4:00 PM	1016	62	
4:15 PM	1058	60	
4:30 PM	1095	59	
4:45 PM	1059	66	
5:00 PM	1002	70	
5:15 PM	926	66	
5:30 PM	849	70	
5:45 PM	784	67	
6:00 PM	754	59	
6:15 PM	715	60	
6:30 PM	658	57	
6:45 PM	598	52	
7:00 PM	592	55	
7:15 PM	543	49	
7:30 PM	507	38	
7:45 PM	504	32	
8:00 PM	448	28	
8:15 PM	416	23	
8:30 PM	374	22	
8:45 PM	318	25	
9:00 PM	304	19	
9:15 PM	278	19	
9:30 PM	246	20	
9:45 PM	226	15	
10:00 PM	194	14	
10:15 PM	186	10	
10:30 PM	192	8	
10:45 PM	170	6	
11:00 PM	142	4	

MUTCD Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	N/A

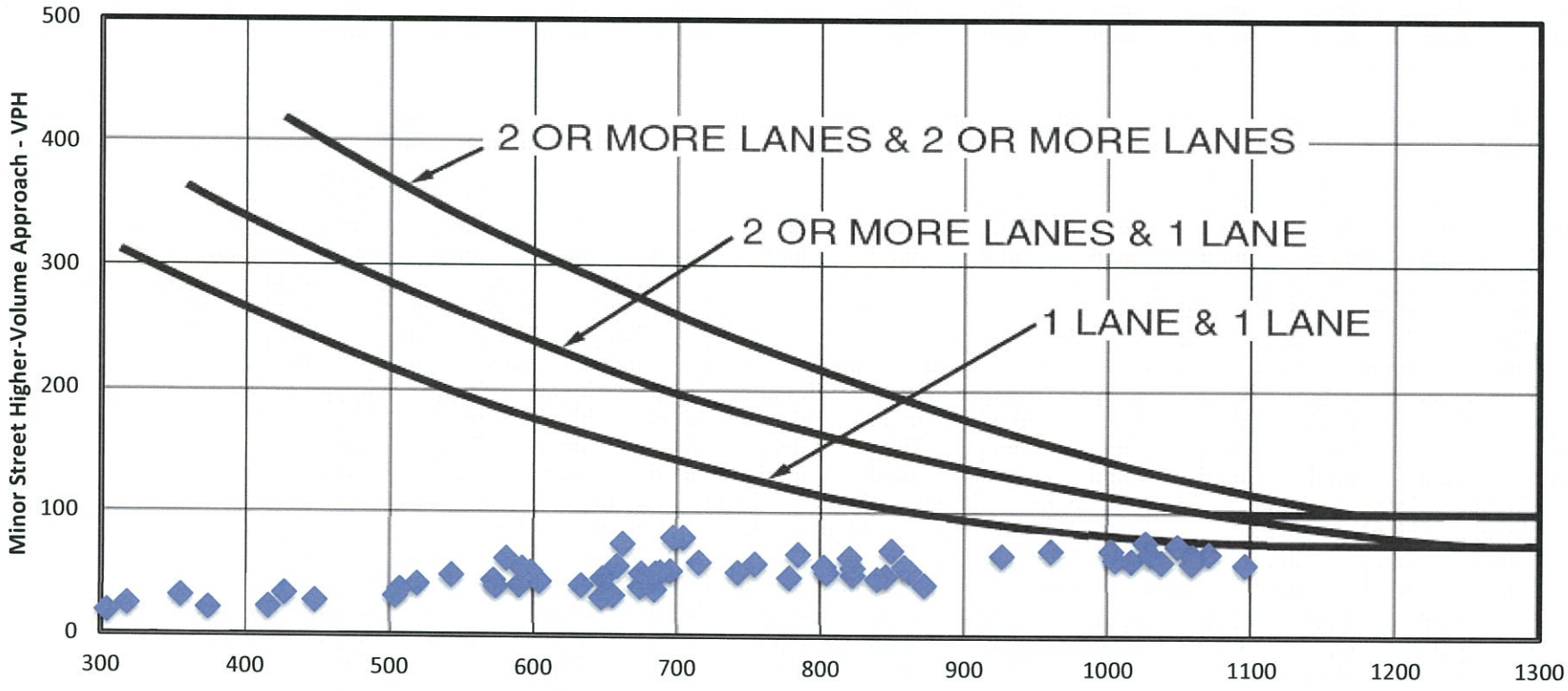
Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	N/A
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	N/A
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	N/A
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-4
0

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 AM	51	3	
12:15 AM	48	1	
12:30 AM	34	2	
12:45 AM	32	1	
1:00 AM	33	1	
1:15 AM	25	1	
1:30 AM	30	1	
1:45 AM	25	1	
2:00 AM	19	1	
2:15 AM	22	2	
2:30 AM	20	1	
2:45 AM	24	1	
3:00 AM	30	1	
3:15 AM	29	1	
3:30 AM	40	1	
3:45 AM	50	1	
4:00 AM	63	3	
4:15 AM	94	6	
4:30 AM	129	10	
4:45 AM	148	12	
5:00 AM	165	17	
5:15 AM	181	18	
5:30 AM	204	22	
5:45 AM	275	30	
6:00 AM	355	32	
6:15 AM	427	34	
6:30 AM	519	42	
6:45 AM	581	63	
7:00 AM	662	75	
7:15 AM	704	80	
7:30 AM	697	80	
7:45 AM	695	53	
8:00 AM	648	47	
8:15 AM	604	44	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
8:30 AM	590	41	
8:45 AM	572	45	
9:00 AM	574	40	
9:15 AM	633	41	
9:30 AM	647	31	
9:45 AM	655	33	
10:00 AM	684	38	
10:15 AM	674	40	
10:30 AM	688	52	
10:45 AM	675	51	
11:00 AM	685	51	
11:15 AM	742	52	
11:30 AM	778	48	
11:45 AM	822	50	
12:00 PM	872	42	
12:15 PM	845	49	
12:30 PM	839	47	
12:45 PM	862	53	
1:00 PM	820	64	
1:15 PM	804	52	
1:30 PM	802	57	
1:45 PM	822	56	
2:00 PM	858	57	
2:15 PM	960	70	
2:30 PM	1026	77	
2:45 PM	1048	74	
3:00 PM	1070	68	
3:15 PM	1029	68	
3:30 PM	1005	63	
3:45 PM	1037	61	
4:00 PM	1016	62	
4:15 PM	1058	60	
4:30 PM	1095	59	
4:45 PM	1059	66	
5:00 PM	1002	70	
5:15 PM	926	66	
5:30 PM	849	70	
5:45 PM	784	67	
6:00 PM	754	59	
6:15 PM	715	60	
6:30 PM	658	57	
6:45 PM	598	52	
7:00 PM	592	55	
7:15 PM	543	49	
7:30 PM	507	38	
7:45 PM	504	32	
8:00 PM	448	28	
8:15 PM	416	23	
8:30 PM	374	22	
8:45 PM	318	25	
9:00 PM	304	19	
9:15 PM	278	19	
9:30 PM	246	20	
9:45 PM	226	15	
10:00 PM	194	14	
10:15 PM	186	10	
10:30 PM	192	8	
10:45 PM	170	6	
11:00 PM	142	4	

MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



Alternative 1
SR 0062 & Spencer Avenue

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	City of Sharon	**Analysis Date:**	3/31/2022
County:	Mercer County	**Conducted By:**	REG
PennDOT Engineering District:	1	**Agency/Company Name:**	TA

Analysis Information

Data Collection Date:	3/24/2022
Day of the Week:	Thursday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	East Connelly Blvd (SR 0062)
Major Street Approach #1 Direction:	E-Bound
Major Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	2	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	46	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Spencer Ave - Alternative 1 (Two-way traffic)
Minor Street Approach #1 Direction:	S-Bound
Minor Street Approach #2 Direction:	N-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	**Yes**	**Yes**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**Yes**
Warrant 3, Peak Hour	**Yes**	**No**
Warrant 4, Pedestrian Volume	**No**	**N/A**
Warrant 5, School Crossing	**No**	**N/A**
Warrant 6, Coordinated Signal System	**No**	**N/A**
Warrant 7, Crash Experience	**No**	**N/A**
Warrant 8, Roadway Network	**No**	**N/A**
Warrant 9, Intersection Near a Grade Crossing	**No**	**N/A**
Warrant PA-1, ADT Volume Warrant	**No**	**N/A**
Warrant PA-2, Midblock and Trail Crossings	**No**	**N/A**

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (S-Bound)	Minor Street Approach #2 (N-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM	7	6	13	1	2
12:15 AM	12:29 AM	10	9	19	0	0
12:30 AM	12:44 AM	3	8	11	0	1
12:45 AM	12:59 AM	2	6	8	0	0
1:00 AM	1:14 AM	4	6	10	0	0
1:15 AM	1:29 AM	2	3	5	0	1
1:30 AM	1:44 AM	6	3	9	0	0
1:45 AM	1:59 AM	4	5	9	0	0
2:00 AM	2:14 AM	1	1	2	0	0
2:15 AM	2:29 AM	3	7	10	0	1
2:30 AM	2:44 AM	2	2	4	1	0
2:45 AM	2:59 AM	2	1	3	0	0
3:00 AM	3:14 AM	2	3	5	0	1
3:15 AM	3:29 AM	6	2	8	0	0
3:30 AM	3:44 AM	4	4	8	1	0
3:45 AM	3:59 AM	3	6	9	0	0
4:00 AM	4:14 AM	2	2	4	0	0
4:15 AM	4:29 AM	13	6	19	0	0
4:30 AM	4:44 AM	14	4	18	1	1
4:45 AM	4:59 AM	9	13	22	3	2
5:00 AM	5:14 AM	13	22	35	4	3
5:15 AM	5:29 AM	19	35	54	3	4
5:30 AM	5:44 AM	20	17	37	1	3
5:45 AM	5:59 AM	17	22	39	2	7
6:00 AM	6:14 AM	22	29	51	4	4
6:15 AM	6:29 AM	40	37	77	2	8
6:30 AM	6:44 AM	56	52	108	9	11
6:45 AM	6:59 AM	60	59	119	3	9
7:00 AM	7:14 AM	55	68	123	5	6
7:15 AM	7:29 AM	88	81	169	15	16
7:30 AM	7:44 AM	86	84	170	24	32
7:45 AM	7:59 AM	128	72	200	37	21
8:00 AM	8:14 AM	89	76	165	11	11
8:15 AM	8:29 AM	89	73	162	19	16
8:30 AM	8:44 AM	88	80	168	10	5
8:45 AM	8:59 AM	94	59	153	13	15
9:00 AM	9:14 AM	61	60	121	5	8
9:15 AM	9:29 AM	80	68	148	11	13
9:30 AM	9:44 AM	92	58	150	6	9
9:45 AM	9:59 AM	88	67	155	10	10
10:00 AM	10:14 AM	98	82	180	8	9
10:15 AM	10:29 AM	84	78	162	6	3
10:30 AM	10:44 AM	77	81	158	7	11
10:45 AM	10:59 AM	112	72	184	3	15
11:00 AM	11:14 AM	79	91	170	9	11
11:15 AM	11:29 AM	74	102	176	9	15
11:30 AM	11:44 AM	76	69	145	5	10
11:45 AM	11:59 AM	109	85	194	13	15

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (S-Bound)	Minor Street Approach #2 (N-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM	108	119	227	13	12
12:15 PM	12:29 PM	107	105	212	7	11
12:30 PM	12:44 PM	101	88	189	13	12
12:45 PM	12:59 PM	134	110	244	7	7
1:00 PM	1:14 PM	88	112	200	9	19
1:15 PM	1:29 PM	101	105	206	17	9
1:30 PM	1:44 PM	108	104	212	6	18
1:45 PM	1:59 PM	111	91	202	9	18
2:00 PM	2:14 PM	85	99	184	14	7
2:15 PM	2:29 PM	97	107	204	16	14
2:30 PM	2:44 PM	132	100	232	20	17
2:45 PM	2:59 PM	134	104	238	16	19
3:00 PM	3:14 PM	152	134	286	36	20
3:15 PM	3:29 PM	137	133	270	27	21
3:30 PM	3:44 PM	133	121	254	20	14
3:45 PM	3:59 PM	128	132	260	15	13
4:00 PM	4:14 PM	123	122	245	23	20
4:15 PM	4:29 PM	126	120	246	24	16
4:30 PM	4:44 PM	156	130	286	16	12
4:45 PM	4:59 PM	106	133	239	25	14
5:00 PM	5:14 PM	123	164	287	20	18
5:15 PM	5:29 PM	130	153	283	17	15
5:30 PM	5:44 PM	146	104	250	15	19
5:45 PM	5:59 PM	86	96	182	12	18
6:00 PM	6:14 PM	103	108	211	16	14
6:15 PM	6:29 PM	103	103	206	11	19
6:30 PM	6:44 PM	96	89	185	11	16
6:45 PM	6:59 PM	70	82	152	18	10
7:00 PM	7:14 PM	84	88	172	20	15
7:15 PM	7:29 PM	80	69	149	13	16
7:30 PM	7:44 PM	59	66	125	8	11
7:45 PM	7:59 PM	73	73	146	14	13
8:00 PM	8:14 PM	50	73	123	13	9
8:15 PM	8:29 PM	58	55	113	8	5
8:30 PM	8:44 PM	61	61	122	12	5
8:45 PM	8:59 PM	47	43	90	4	9
9:00 PM	9:14 PM	43	48	91	9	4
9:15 PM	9:29 PM	25	46	71	4	4
9:30 PM	9:44 PM	40	26	66	8	8
9:45 PM	9:59 PM	38	38	76	4	3
10:00 PM	10:14 PM	26	39	65	4	4
10:15 PM	10:29 PM	20	19	39	6	5
10:30 PM	10:44 PM	22	24	46	2	3
10:45 PM	10:59 PM	22	22	44	3	2
11:00 PM	11:14 PM	22	35	57	4	0
11:15 PM	11:29 PM	15	30	45	2	3
11:30 PM	11:44 PM	10	14	24	3	1
11:45 PM	11:59 PM	5	11	16	0	0
	Approach Totals:	6117	5924	12041	855	851

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	500	400	350	280	150	120	105	84
2 or More	**1**	600	480	420	336	150	120	105	84
2 or More	**2 or More**	600	480	420	336	200	160	140	112
1	**2 or More**	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	750	600	525	420	75	60	53	42
2 or More	**1**	900	720	630	504	75	60	53	42
2 or More	**2 or More**	900	720	630	504	100	80	70	56
1	**2 or More**	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: **0** **Condition A Satisfied?** **No**

Condition B Evaluation

Number of Unique Hours Met: **8** **Condition B Satisfied?** **Yes**

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: **N/A**

Number of Unique Hours Met for Condition B: **N/A**

Combination of Condition A and Condition B Satisfied? **N/A**

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

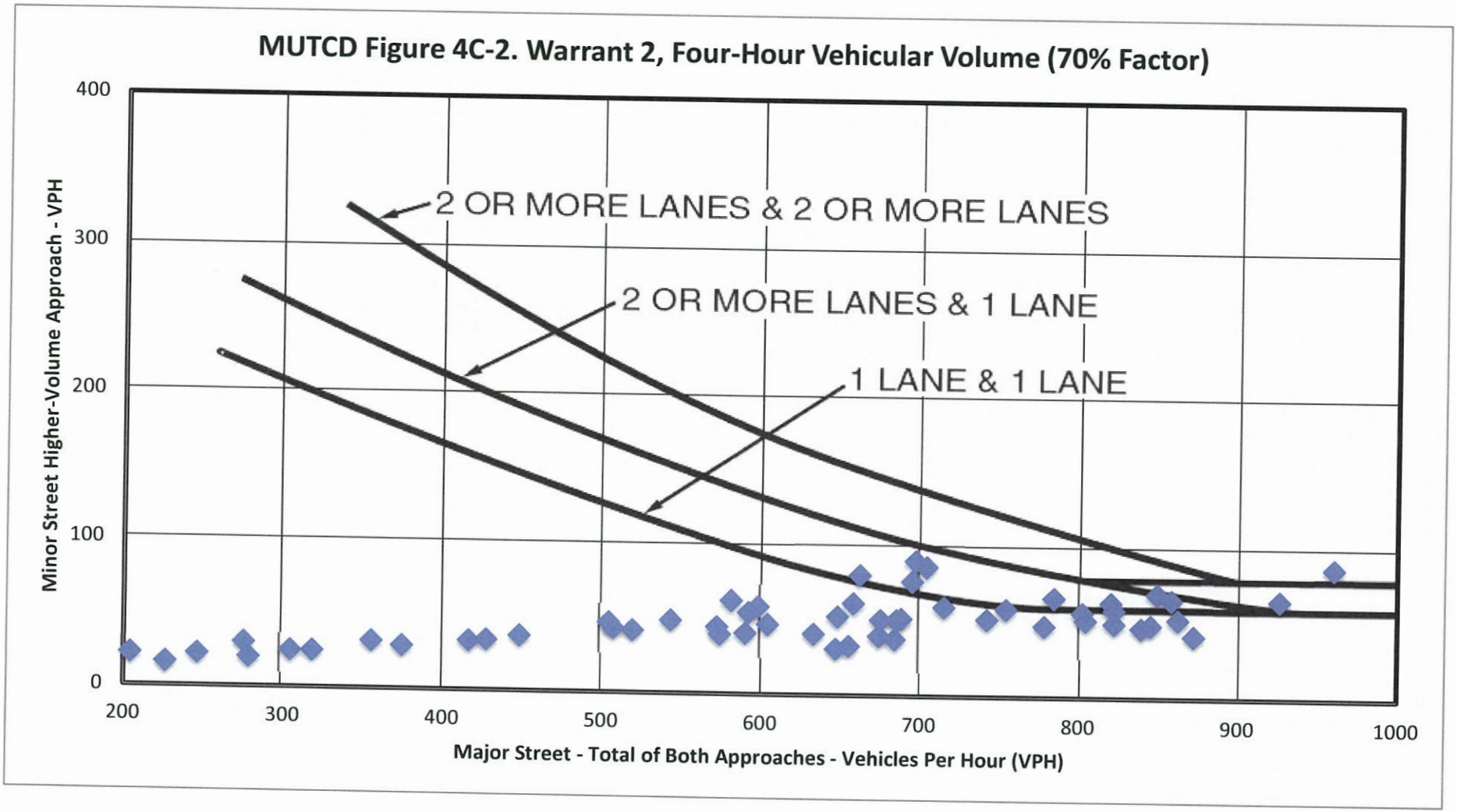
Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-2
4

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 AM	51	3	
12:15 AM	48	1	
12:30 AM	34	2	
12:45 AM	32	1	
1:00 AM	33	1	
1:15 AM	25	1	
1:30 AM	30	1	
1:45 AM	25	1	
2:00 AM	19	1	
2:15 AM	22	2	
2:30 AM	20	1	
2:45 AM	24	1	
3:00 AM	30	1	
3:15 AM	29	1	
3:30 AM	40	1	
3:45 AM	50	1	
4:00 AM	63	4	
4:15 AM	94	8	
4:30 AM	129	11	
4:45 AM	148	12	
5:00 AM	165	17	
5:15 AM	181	18	
5:30 AM	204	22	
5:45 AM	275	30	
6:00 AM	355	32	
6:15 AM	427	34	
6:30 AM	519	42	
6:45 AM	581	63	
7:00 AM	662	81	
7:15 AM	704	87	
7:30 AM	697	91	
7:45 AM	695	77	
8:00 AM	648	53	
8:15 AM	604	47	
8:30 AM	590	41	
8:45 AM	572	45	
9:00 AM	574	40	
9:15 AM	633	41	
9:30 AM	647	31	
9:45 AM	655	33	
10:00 AM	684	38	
10:15 AM	674	40	
10:30 AM	688	52	
10:45 AM	675	51	
11:00 AM	685	51	
11:15 AM	742	52	
11:30 AM	778	48	
11:45 AM	822	50	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 PM	872	42	
12:15 PM	845	49	
12:30 PM	839	47	
12:45 PM	862	53	
1:00 PM	820	64	
1:15 PM	804	52	
1:30 PM	802	57	
1:45 PM	822	59	
2:00 PM	858	66	
2:15 PM	960	88	Met
2:30 PM	1026	99	Met
2:45 PM	1048	99	Met
3:00 PM	1070	98	Met
3:15 PM	1029	85	Met
3:30 PM	1005	82	Met
3:45 PM	1037	78	Met
4:00 PM	1016	88	Met
4:15 PM	1058	85	Met
4:30 PM	1095	78	Met
4:45 PM	1059	77	Met
5:00 PM	1002	70	Met
5:15 PM	926	66	Met
5:30 PM	849	70	
5:45 PM	784	67	
6:00 PM	754	59	
6:15 PM	715	60	
6:30 PM	658	62	
6:45 PM	598	59	
7:00 PM	592	55	
7:15 PM	543	49	
7:30 PM	507	43	
7:45 PM	504	47	
8:00 PM	448	37	
8:15 PM	416	33	
8:30 PM	374	29	
8:45 PM	318	25	
9:00 PM	304	25	
9:15 PM	278	20	
9:30 PM	246	22	
9:45 PM	226	16	
10:00 PM	194	15	
10:15 PM	186	15	
10:30 PM	192	11	
10:45 PM	170	12	
11:00 PM	142	9	


MUTCD Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
Minor Street Higher-Volume Approach - VPH
400
300
200
100
0
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
200
300
400
500
600
700
800
900
1000
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)

MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	N/A

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	N/A
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	N/A
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	N/A
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-4
0

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
12:00 AM	51	3	
12:15 AM	48	1	
12:30 AM	34	2	
12:45 AM	32	1	
1:00 AM	33	1	
1:15 AM	25	1	
1:30 AM	30	1	
1:45 AM	25	1	
2:00 AM	19	1	
2:15 AM	22	2	
2:30 AM	20	1	
2:45 AM	24	1	
3:00 AM	30	1	
3:15 AM	29	1	
3:30 AM	40	1	
3:45 AM	50	1	
4:00 AM	63	4	
4:15 AM	94	8	
4:30 AM	129	11	
4:45 AM	148	12	
5:00 AM	165	17	
5:15 AM	181	18	
5:30 AM	204	22	
5:45 AM	275	30	
6:00 AM	355	32	
6:15 AM	427	34	
6:30 AM	519	42	
6:45 AM	581	63	
7:00 AM	662	81	
7:15 AM	704	87	
7:30 AM	697	91	
7:45 AM	695	77	
8:00 AM	648	53	
8:15 AM	604	47	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
8:30 AM	590	41	
8:45 AM	572	45	
9:00 AM	574	40	
9:15 AM	633	41	
9:30 AM	647	31	
9:45 AM	655	33	
10:00 AM	684	38	
10:15 AM	674	40	
10:30 AM	688	52	
10:45 AM	675	51	
11:00 AM	685	51	
11:15 AM	742	52	
11:30 AM	778	48	
11:45 AM	822	50	
12:00 PM	872	42	
12:15 PM	845	49	
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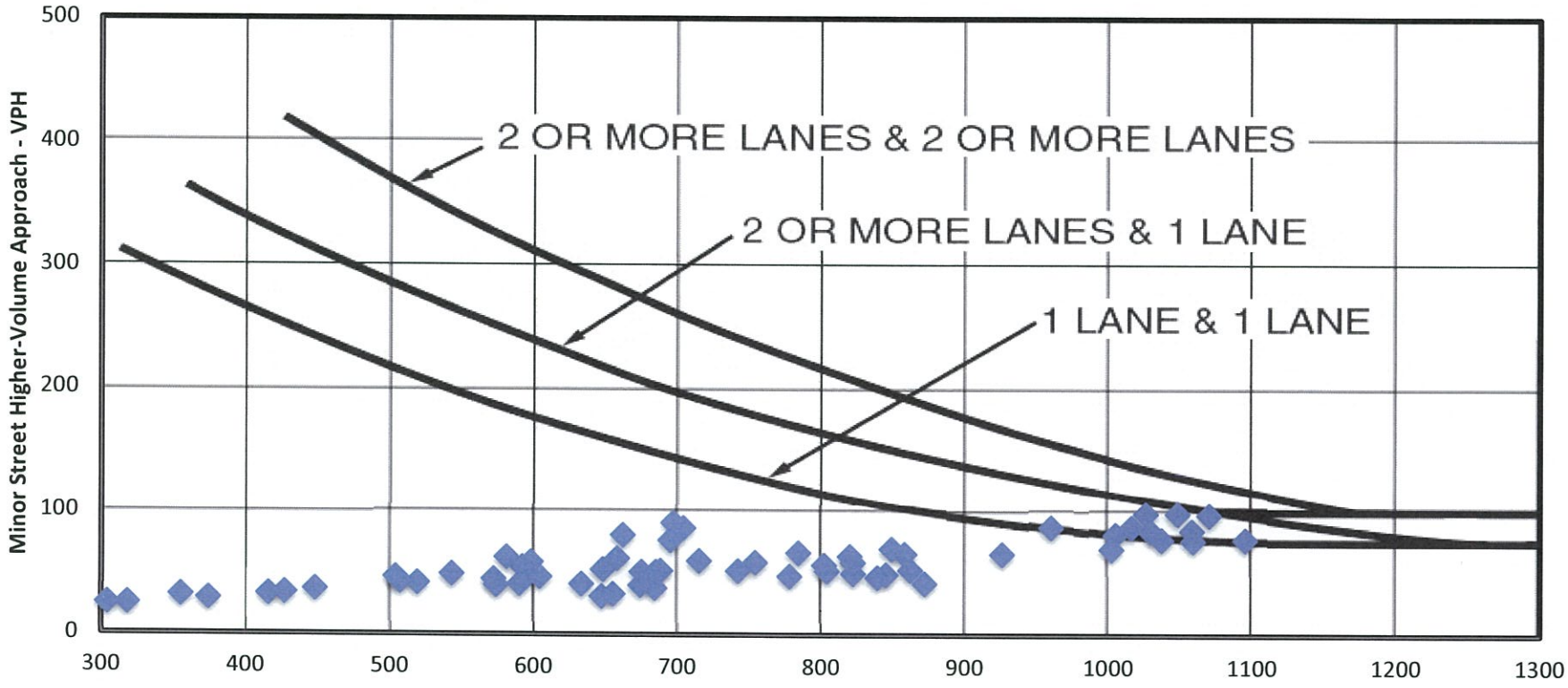
12:45 PM	862	53	
1:00 PM	820	64	
1:15 PM	804	52	
1:30 PM	802	57	
1:45 PM	822	59	
2:00 PM	858	66	
2:15 PM	960	88	
2:30 PM	1026	99	
2:45 PM	1048	99	
3:00 PM	1070	98	
3:15 PM	1029	85	
3:30 PM	1005	82	
3:45 PM	1037	78	
4:00 PM	1016	88	
4:15 PM	1058	85	
4:30 PM	1095	78	
4:45 PM	1059	77	
5:00 PM	1002	70	
5:15 PM	926	66	
5:30 PM	849	70	
5:45 PM	784	67	
6:00 PM	754	59	
6:15 PM	715	60	
6:30 PM	658	62	
6:45 PM	598	59	
7:00 PM	592	55	
7:15 PM	543	49	
7:30 PM	507	43	
7:45 PM	504	47	
8:00 PM	448	37	
8:15 PM	416	33	
8:30 PM	374	29	
8:45 PM	318	25	
9:00 PM	304	25	
9:15 PM	278	20	
9:30 PM	246	22	
9:45 PM	226	16	
10:00 PM	194	15	
10:15 PM	186	15	
10:30 PM	192	11	
10:45 PM	170	12	
11:00 PM	142	9	

MUTCD Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



Appendix J

Left Turn Signal Conflict Factor Calculations

LEFT TURN CONFLICT FACTOR CALCULATION

PROJECT : *sharo00-22041*
City of Sharon Intersection Safety Study

MAJOR STREET : *E Connelly Blvd (SR 0062)*
MINOR STREET : *Spencer Ave*
CALCULATED BY : REG
DATE : 3/31/2022

Trans ASSOCIATES

Scenario	Street	Direction	Time Period	Advancing Traffic				Opposing Traffic		Calculated Conflict Factor	Guidelines Met		
				Exclusive Turn Lane	Left Turn Volume	Cycle Length	Turns Per Cycle	Through / Right Volume	Number of Lanes		Left Turns per Cycle	Conflict Factor	
												Protected / Permitted	Protected Only
2022 Existing	E Connelly Blvd (SR 0062)	Eastbound									-	-	-
											-	-	-
											-	-	-
											-	-	-
		Westbound	7-8 AM	Yes	17	90	0.4	331	2	5,627	-	-	-
			8-9 AM	Yes	11	90	0.3	373	2	4,103	-	-	-
			4-5 PM	Yes	62	100	1.7	469	2	29,078	-	-	-
			5-6 PM	Yes	61	100	1.7	509	2	31,049	-	-	-
	Spencer Ave	Northbound									-	-	-
											-	-	-
											-	-	-
											-	-	-
		Southbound									-	-	-
											-	-	-
											-	-	-
											-	-	-

Phasing Guidelines	Lefts per cycle	Opposing Through Lanes	Exclusive Turn Lane	Required Conflict Factor	Phasing Guidelines	Lefts per cycle	Opposing Through Lanes	Exclusive Turn Lane	Required Conflict Factor
Protected / Permitted	2	1	No	35,000	Protected / Prohibited	2	1	Yes	67,500
	2	2	No	45,000		2	2	Yes	90,000
	2	1	Yes	50,000					
	2	2	Yes	65,000					

Source: Conflict factors calculated using the methodologies detailed in PennDOT Publication 149M, *Traffic Signal Design Handbook*, May 2013 Update.

LEFT TURN CONFLICT FACTOR CALCULATION

PROJECT : *sharo00-22041*
City of Sharon Intersection Safety Study

MAJOR STREET : *E Connelly Blvd (SR 0062)*
MINOR STREET : *Service Ave*
CALCULATED BY : REG
DATE : 3/31/2022

Trans ASSOCIATES

Scenario	Street	Direction	Time Period	Advancing Traffic				Opposing Traffic		Calculated Conflict Factor	Guidelines Met		
				Exclusive Turn Lane	Left Turn Volume	Cycle Length	Turns Per Cycle	Through / Right Volume	Number of Lanes		Left Turns per Cycle	Conflict Factor	
												Protected / Permitted	Protected Only
2022 Existing	E Connelly Blvd (SR 0062)	Eastbound	7-8 AM	Yes	9	90	0.2	294	2	2,646	-	-	-
			8-9 AM	Yes	6	90	0.2	276	2	1,656	-	-	-
			4-5 PM	Yes	14	100	0.4	552	2	7,728	-	-	-
			5-6 PM	Yes	7	100	0.2	492	2	3,444	-	-	-
		Westbound									-	-	-
											-	-	-
											-	-	-
											-	-	-
	Service Ave	Northbound									-	-	-
											-	-	-
											-	-	-
											-	-	-
		Southbound									-	-	-
											-	-	-
											-	-	-
											-	-	-

Phasing Guidelines	Lefts per cycle	Opposing Through Lanes	Exclusive Turn Lane	Required Conflict Factor	Phasing Guidelines	Lefts per cycle	Opposing Through Lanes	Exclusive Turn Lane	Required Conflict Factor
Protected / Permitted	2	1	No	35,000	Protected / Prohibited	2	1	Yes	67,500
	2	2	No	45,000		2	2	Yes	90,000
	2	1	Yes	50,000					
	2	2	Yes	65,000					

Source: Conflict factors calculated using the methodologies detailed in PennDOT Publication 149M, *Traffic Signal Design Handbook*, May 2013 Update.

Appendix K

Sight Distance Measurements & Calculations

SHAROSO #22041

M-950S
(03-04)
PENNDOT

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

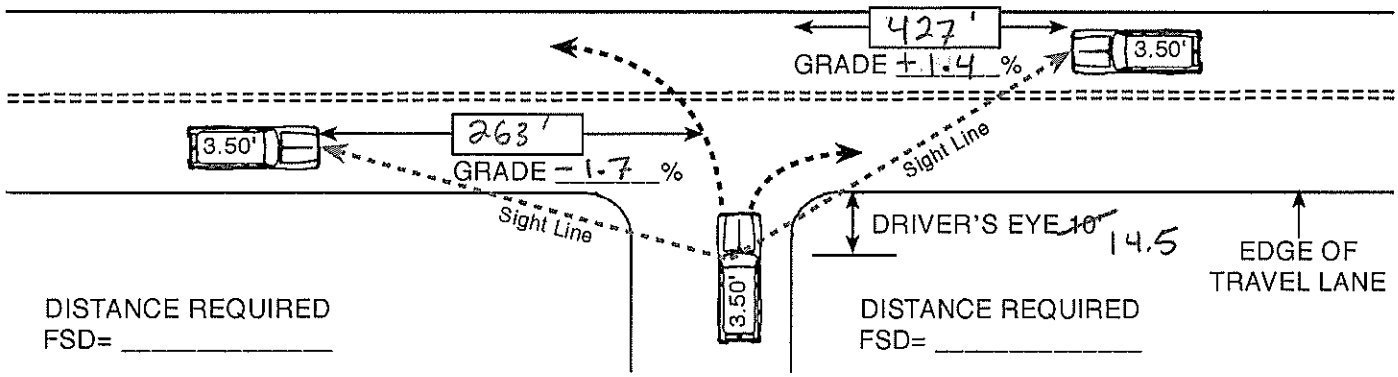
APPLICANT_____ APPLICATION NO._____

S.R._____SEG._____OFFSET_____ LEGAL SPEED LIMIT 40

MEASURED BY TRANS ASSOCIATES FS DATE 03/25/2022

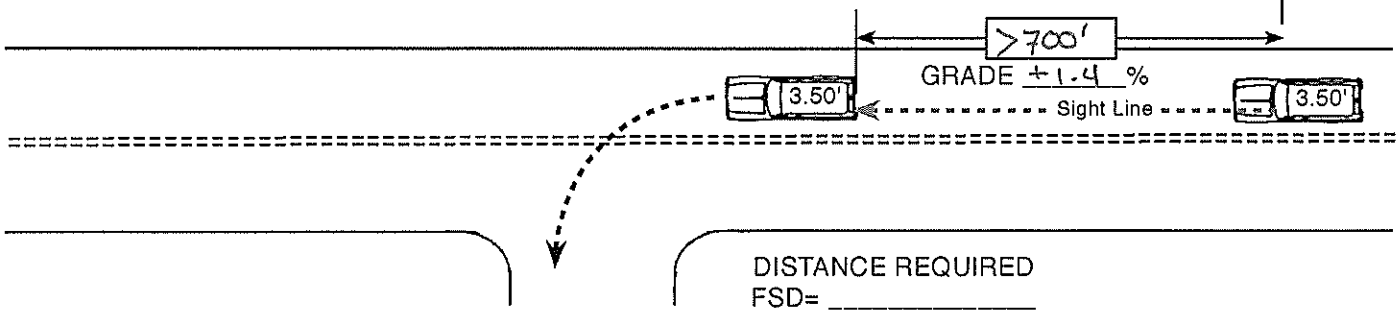
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A SERVICE AVE. SB AT CONNELLY BLVD



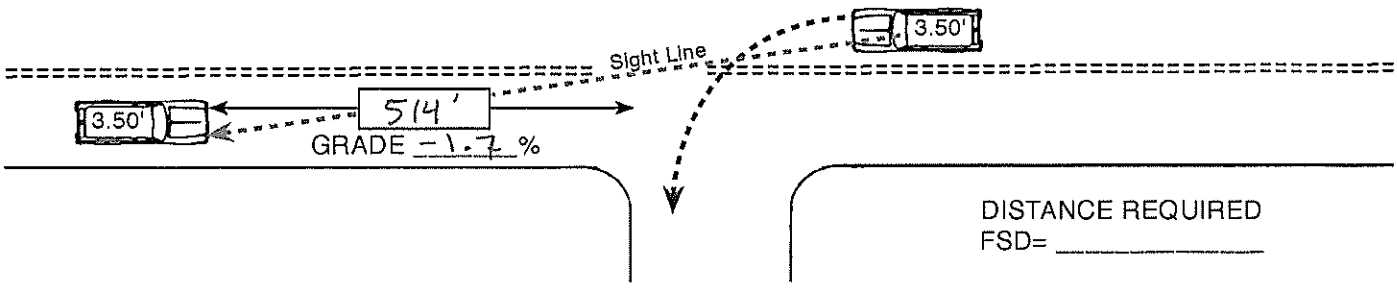
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

M-950S
(03-04)
PENNDOT

SHARO000 #22041

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

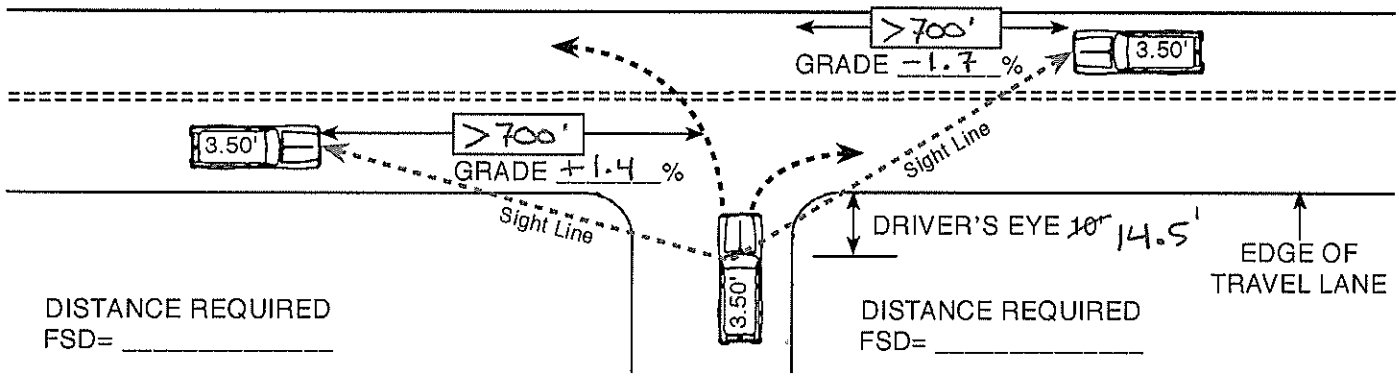
APPLICANT _____ APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 40

MEASURED BY TRANS ASSOCIATES FS DATE 03/25/2022

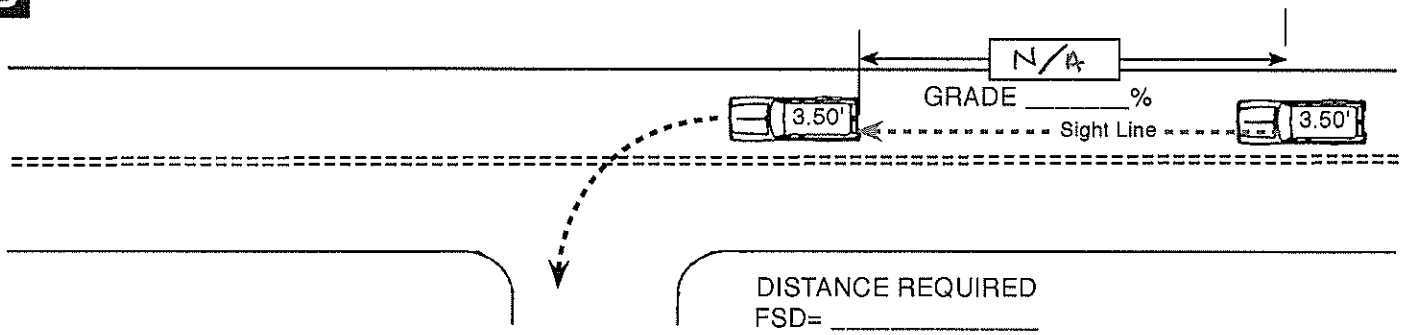
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A SERVICE AVE. NB AT CONNELLY BLVD.



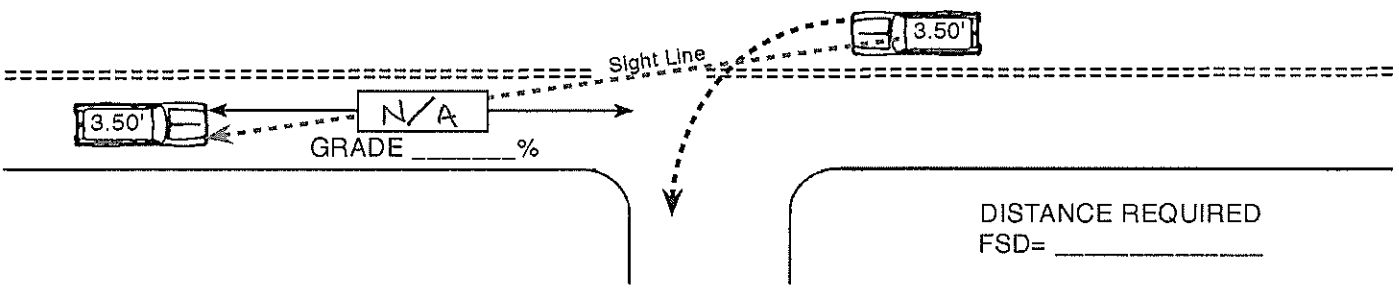
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

SHAROOQ #22041

M-950S
(03-04)
PENNDOT

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

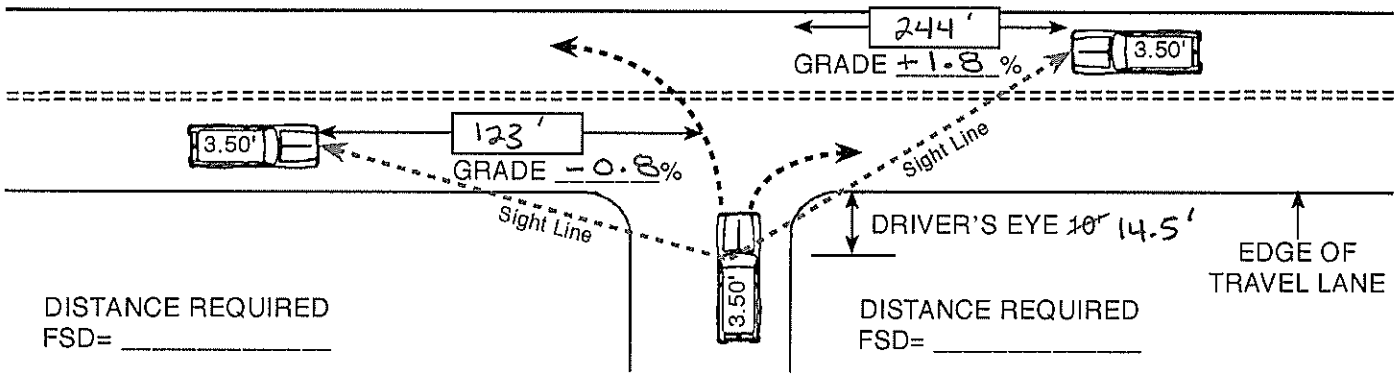
APPLICANT _____ APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 40

MEASURED BY TRANS ASSOCIATES FS DATE 03/25/2022

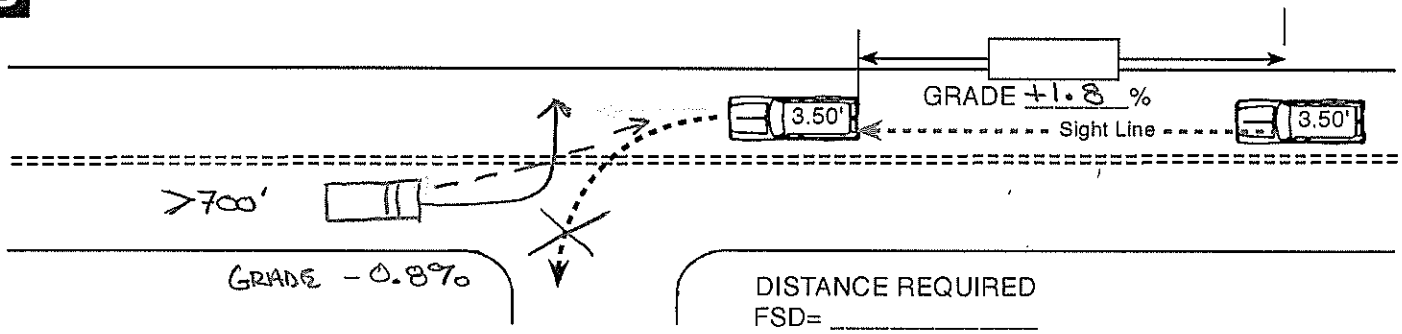
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A SPENCER AVE. SB AT CONNELLY BLVD.



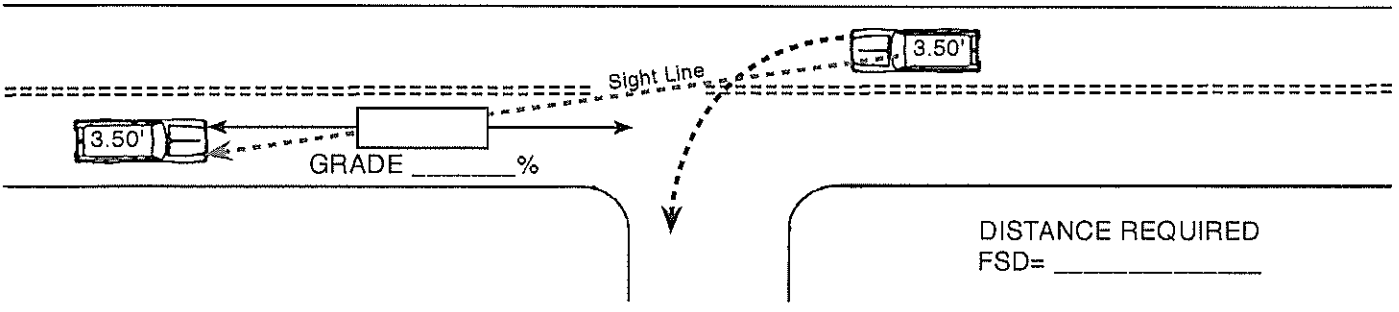
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

Sight Distance Calculations

City of Sharon Intersection Safety Study
City of Sharon, Mercer County, Pennsylvania

Stopping Sight Distance (SSD) per PennDOT Chapter 212

$SSD = 1.47(V)T + [V^2 / [30(f \pm g)]]$

Where:

V = Posted Speed
Eastbound: **40 mph** Westbound: **40 mph**

T = Perception time of driver: **2.5 seconds**

f = Coefficient of Friction for Wet Pavements:
Eastbound: **0.32** Westbound: **0.32**

East Connelly Boulevard (SR 62) @ Spencer Avenue

g = Percent Grade of Roadway Approach
Eastbound: **1.8 %** Westbound: **-0.8 %**

SSD Looking Left From SB Spencer Avenue:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + -0.008)]] = **318 feet**

SSD Looking Right From SB Spencer Avenue:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + 0.018)]] = **305 feet**

SSD Left Turning Vehicle on WB SR 62 Looking Towards Oncoming Vehicle:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + 0.018)]] = **305 feet**

East Connelly Boulevard (SR 62) @ Service Avenue

g = Percent Grade of Roadway Approach
Eastbound: **1.4 %** Westbound: **-1.7 %**

SSD Looking Left From NB Service Avenue:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + 0.014)]] = **307 feet**

SSD Looking Right From SB Service Avenue:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + -0.017)]] = **323 feet**

East Connelly Boulevard (SR 62) @ Service Avenue

g = Percent Grade of Roadway Approach

Eastbound: **1.4 %** Westbound: **-1.7 %**

SSD Looking Left From SB Spencer Avenue:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + -0.017)]] = **323 feet**

SSD Looking Right From SB Spencer Avenue:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + 0.014)]] = **307 feet**

SSD Left Turning Vehicle on EB SR 62 Looking Towards Oncoming Vehicle:

SSD = 1.47(40)2.5 + [40^2 / [30(0.32 + -0.017)]] = **323 feet**

Appendix L

Turning Templates

PLOTTED: 04/13/22

EAST CONNELLY BOULEVARD

MEMORIAL BOULEVARD

SU-30 Design Vehicle

CITY-BUS AASHTO 2018 (US)

N

SCALE: 1" = 40'

Trans ASSOCIATES

Small Firm Client Experience, Big Firm Capabilities

4955 Steubenville Pike, Twin Towers Suite 400
Pittsburgh, Pennsylvania 15205, 412-490-0630

PROJECT NO. sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

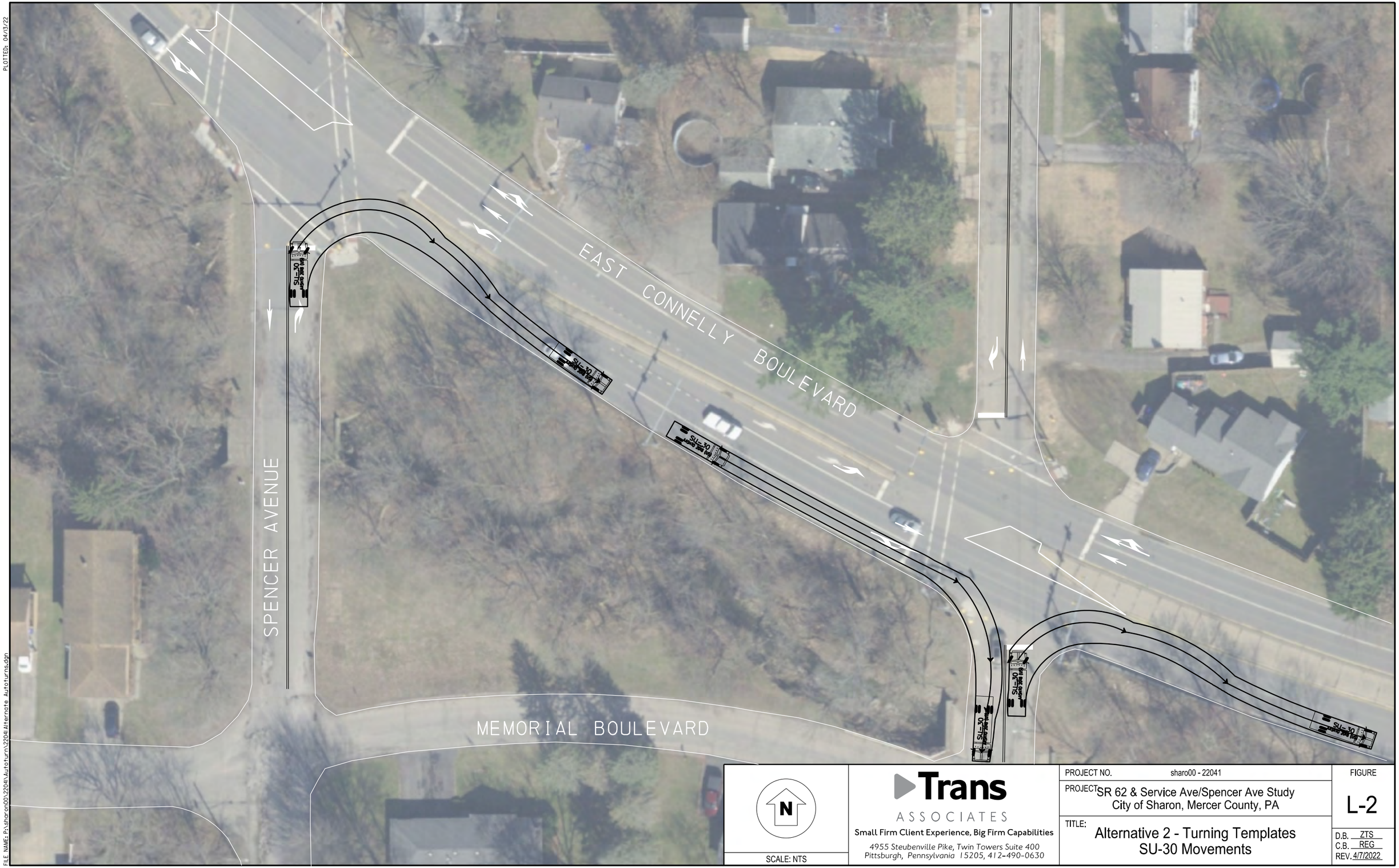
TITLE: Alternative 1 - Turning Templates
Transit Bus & SU-30 Movements

FIGURE
L-1

D.B. ZTS
C.B. REG
REV. 4/7/2022

FILE NAME: P:\sharon00\22041\Autoturn\22041Alternate Autoturns.dgn

PLOTTED: 04/13/22



N

SCALE: NTS

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PROJECT NO. sharo00 - 22041

PROJECT SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

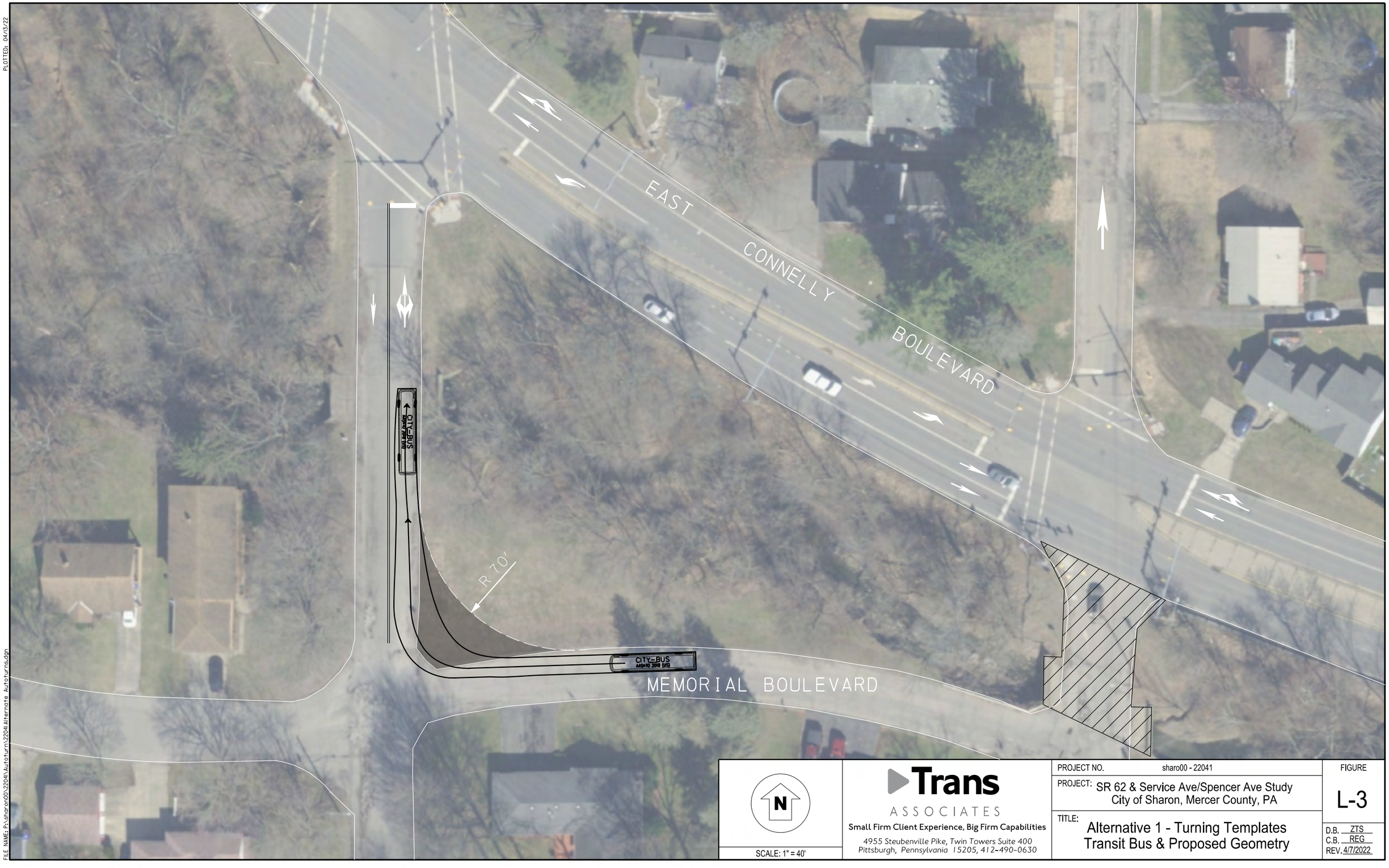
TITLE: Alternative 2 - Turning Templates
SU-30 Movements

FIGURE
L-2

D.B. ZTS
C.B. REG
REV. 4/7/2022

FILE NAME: P:\sharon00\22041\Autoturn\22041Alternate Autoturns.dgn

PLOTTED: 04/13/22



FILE NAME: P:\sharon00\22041\Autoturn\22041Alternate Autoturns.dgn

N

SCALE: 1" = 40'

Trans ASSOCIATES
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PROJECT NO. sharo00 - 22041

PROJECT: SR 62 & Service Ave/Spencer Ave Study
City of Sharon, Mercer County, PA

TITLE: Alternative 1 - Turning Templates
Transit Bus & Proposed Geometry

FIGURE
L-3

D.B. ZTS
C.B. REG
REV. 4/7/2022