TRAFFIC STUDY, PARKING DEMAND STUDY, AND TRANSPORTATION DEMAND MANAGEMENT PLAN

THE SEVENTY-SIX, MIXED-USE REDEVELOPMENT IN THE CITY OF ALBANY, NY.

PREPARED FOR: South End Development, LLC
RAE PROJECT NUMBER: 20040801
DATE: June 22, 2020

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DOCUMENT REVISION HISTORY

VERSION	DATE	AUTHOR(S)	REVISION NOTES
0	06/22/2020	IAN REYNOLDS RAGU NATHAN	1ST SUBMISSION TO CITY
1	07/28/2020	IAN REYNOLDS	2ND SUBMISSION TO CITY

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1 INTRODUCTION

1.1 Background

RA Engineering Inc. (RAE) is retained by South End Developments (SED) to complete a Traffic Impact Study (TIS), Parking Demand Study, Transportation Demand Management Plan (TDM) and Construction Traffic Management Plan, to support the Development Plan Application for the mixed-use redevelopment project (The Seventy-Six) located at 76 Second Avenue, in the City of Albany, New York.

This report will cover the studies in the following order:

- Traffic Impact Study (TIS)
- Parking Demand Study and Transportation Demand Management Plan (TDM)
- Construction Traffic Management Plan

1.2 Site Location and Existing Conditions

The project site located at 76 Second Avenue is approximately 2.4 acres in size, and is located ¼ mile from S Pearl Street and only five minutes southwest from the downtown core of Albany NY, as shown in Figure 1. As shown in Figure 2, the site is bound by Second Avenue, Krank Street, Leonard Street, and Seymour Street. The Development Plan also includes Scott Street, a municipal road that connects Leonard Street to Krank Street midway across the property that will be decommissioned and converted to a pedestrian street. The properties that have existing structures contain a mix of single-family, two-family and townhouse residential uses, as well as commercial uses. Many of the existing properties are vacant. The topography of the site slopes down from the northwest (high side) to the southeast (low side) toward the intersection of Seymour Street and Krank Street. The site's properties are currently split between Residential-Townhouse (R-T) and Mixed-Use Neighborhood Edge (MU-NE) zoning districts.

1.3 Development Plan

The proposed development plan includes four, mixed-use modular buildings (A, B, C and D) ranging from six to eight stories. The ultimate build-out condition includes 239 residential dwelling units, 18 commercial spaces located on the first floor, and a rooftop lounge for catering and small events. The buildings will be built into the topography of the site. Parking will be provided below-grade underneath the buildings and will be accessed via two access drives on Krank Street and one access drive on Leonard Street. The Development Plan is presented in Figure 3.

The project is seeking to achieve the highest levels of sustainability by pursuing Triple Net Zero (zero energy, zero water, zero waste) and passive house design, as detailed in other documents provided separately. Development will be advanced in two phases:

1. Phase 1: Construction of three (3) mixed-use modular buildings (B, C and D) ranging from six to eight stories and subsurface parking; elimination of Scott Street for conversion to a pedestrian plaza; and associated pedestrian, lighting, landscaping and utility improvements.
2. Phase 2: Construction of one (1) mixed-use modular building (A) ranging from six to seven stories with subsurface parking, and associated pedestrian, lighting, landscaping, and utility improvements. The design of Phase 2 structure is dependent on the ability to acquire 84 and 86 Second Avenue and the scale of the building will be reduced if the property owners decide not to sell.

Both phases of the project are anticipated to be complete and ready for occupancy in June 2021.

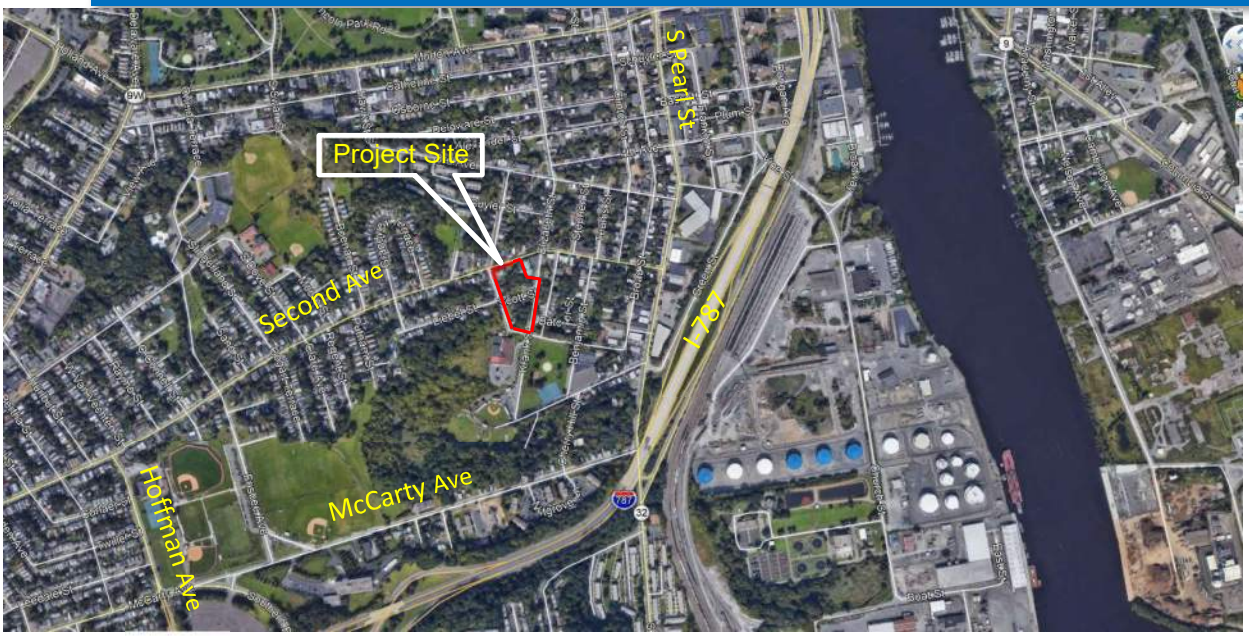


Figure 1: Project Location (Source: Google Earth)

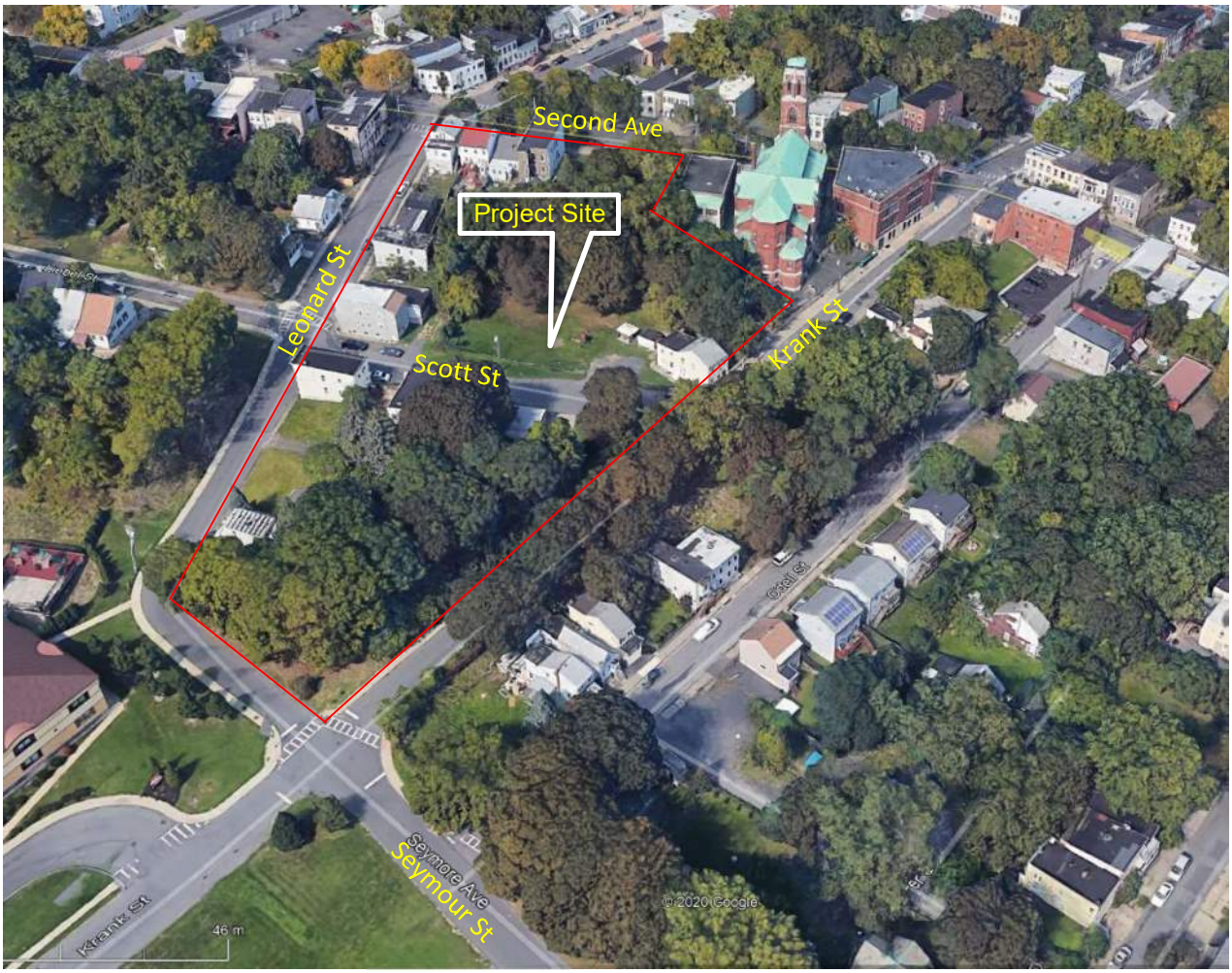


Figure 2: Project Site Birds-Eye View (Source: Google Earth)

Figure 3: Development Plan

1.4 Purpose of the Study

The purpose of the Traffic Impact Study is to assess the traffic impacts on the external transportation system to facilitate anticipated future traffic demand due to the additional traffic generated by the proposed mixed-use development. The study will focus on analyzing such impacts at the ultimate build-out condition when all four buildings (A, B, C and D) are ready for occupancy in June 2021.

The Parking Demand Study/Transportation Demand Management Plan identifies the minimum parking requirements for the proposed development, as required by the City of Albany USDO. The analysis will also address how the provided parking, in conjunction with Transportation Demand Management activities, will meet this requirement. This part of the study also identifies the types of Transportation Demand Management activities that will be implemented as part of the development to reduce single vehicle use and ease traffic congestion. It demonstrates that the resulting traffic demand will not result

in traffic congestion in the surrounding area and that the provided off-street parking will not result in on-street congestion in the surrounding area.

The Construction Traffic Impact Study identifies feasible haul routes, assesses construction traffic impacts to the external transportation system, and identifies preliminary mitigation measures that will be implemented prior to construction of this project.

1.5 Work Plan

The work plan follows the requirements outlined in the City of Albany Unified Sustainable Development Ordinance (USDO), April 2017 for Traffic Impact Studies, Parking Demand Studies and Transportation Demand Management Plans. In addition, the plan aligns with the strategies and actions identified in the City of Albany's, Albany 2030 Comprehensive Plan. Other standards and guidelines used in preparation of this study report are listed and described below.

- Trip generation calculations were completed based on the Institute of Transportation Engineers "Trip Generation Manual" 10th Edition
- Transportation Engineers "Parking Generation Manual" 5th Edition
- Transportation Research Board "Highway Capacity Manual - A Guide for Multimodal Mobility Analysis"

2 EXISTING TRANSPORTATION FACILITIES AND SERVICES

2.1 Boundary Road Network

The study area includes a boundary road network, as follows: Second Avenue, First Avenue, South Pearl Street and Frisbie Avenue. First Avenue is designated as a local road while the other three roads are Minor Urban Arterial Roads. A summary of the characteristics of the boundary road network is provided in Table 1 below.

Table 1: Boundary Road Network Summary

Roadway	Second Ave	First Ave	S Pearl St	Frisbie Ave
Direction	East-West	East-West	North-South	North-South
Segment	East of Frisbie Ave	West of S Pearl St	South of Fourth Ave	North of McCarty Ave
Classification	Minor Urban Arterial	Local Road	Minor Urban Arterial	Minor Urban Arterial
Jurisdiction	City of Albany	City of Albany	City of Albany	City of Albany
Posted Speed Limit	30 mph	30 mph	30 mph	30 mph
Total Number of Lanes	2	2	2	2
Pedestrian Facilities	Paved sidewalk on east and west side	Paved sidewalk on east and west side	Paved sidewalk on east and west side	No sidewalk, except the east side of road between Second Ave and Avenue A
Cycling Facilities	None	None	None	None

2.2 Transit Network

As shown in Figure 4, the Seventy-Six is situated along the Second Avenue corridor that is home to Bus Route 6 of the Capital District Transportation Authority (CDTA) transit network. Due to this easily accessible transit infrastructure, people living and doing business in the area are only an 8-minute bus ride away from the city's downtown core area. As shown in Figure 5, the Bus Route 7 bus stop is located ¼ Mile from the Seventy-Six at the S Pearl Street/Second Avenue intersection, and provides access to retail and other key locations south of the City. In summary, the existing CDTA bus network surrounding the Seventy-Six, provides closer and convenient transit access via the two CDTA routes (Bus Routes 6 and 7) connecting the economic engines of the City (downtown, retail, entertainment district, etc.)

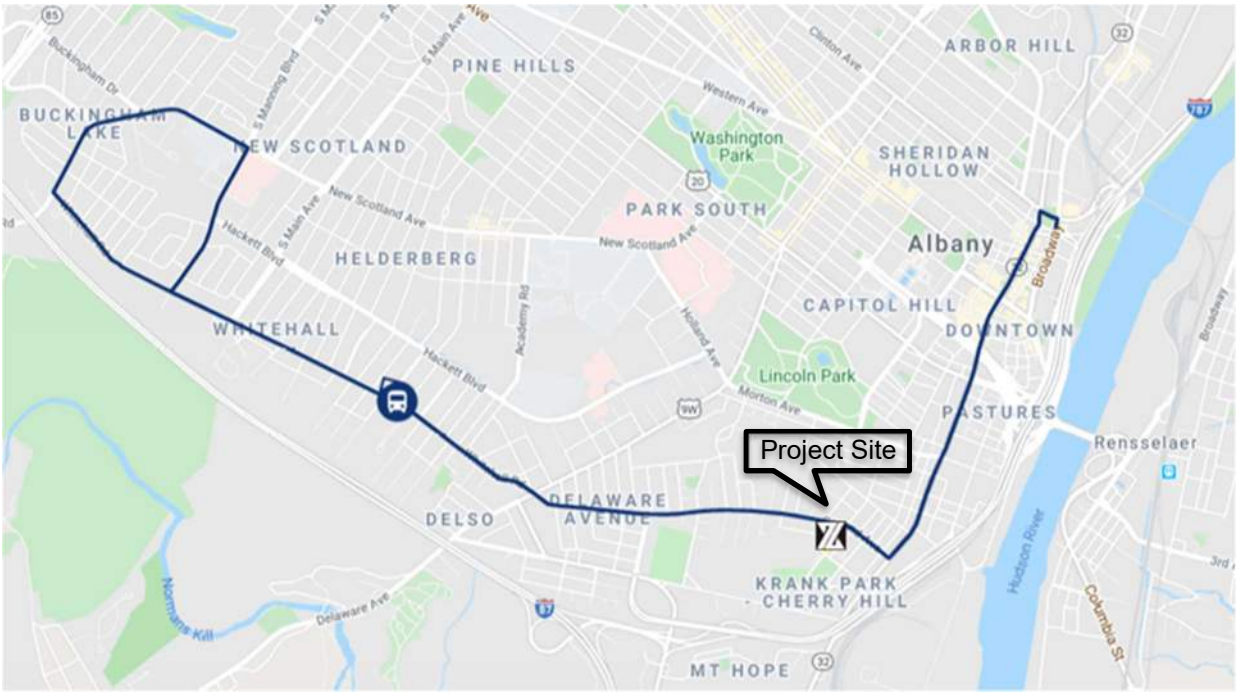


Figure 4: CDTA Transit Network Servicing the Project Site (Bus Route 6)

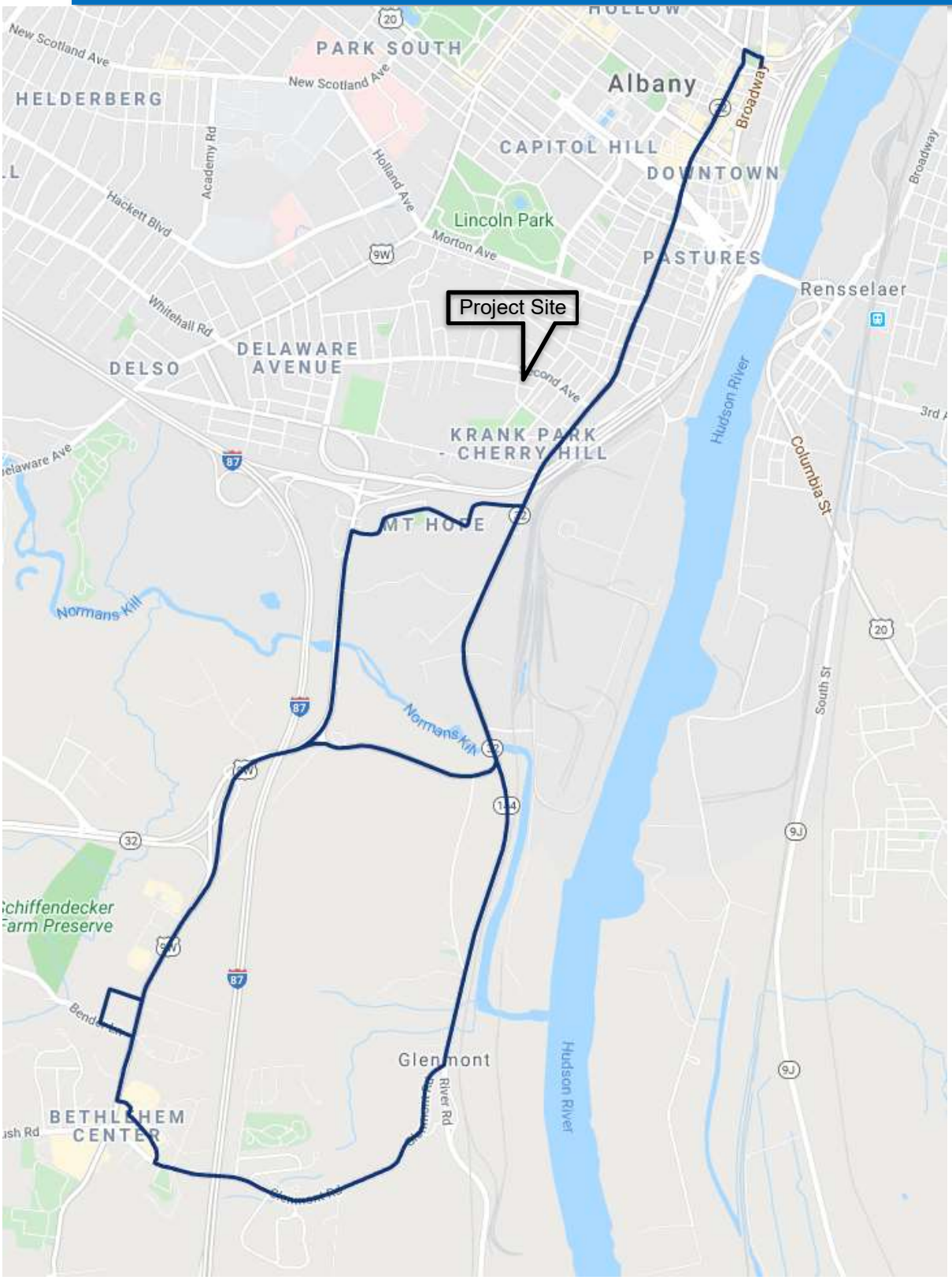


Figure 5: CDTA Transit Network Servicing the Project Site (Bus Route 7)

2.3 Bicycle Route and Pedestrian Network

As shown in Figure 6, the project site is located between two Albany Bicycle Coalition (ABC) preferred bicycle routes for commuters that work in and around the downtown core. This provides a great opportunity to expand bicycle commuting opportunities for residents, employees, and visitors of the Seventy-Six.

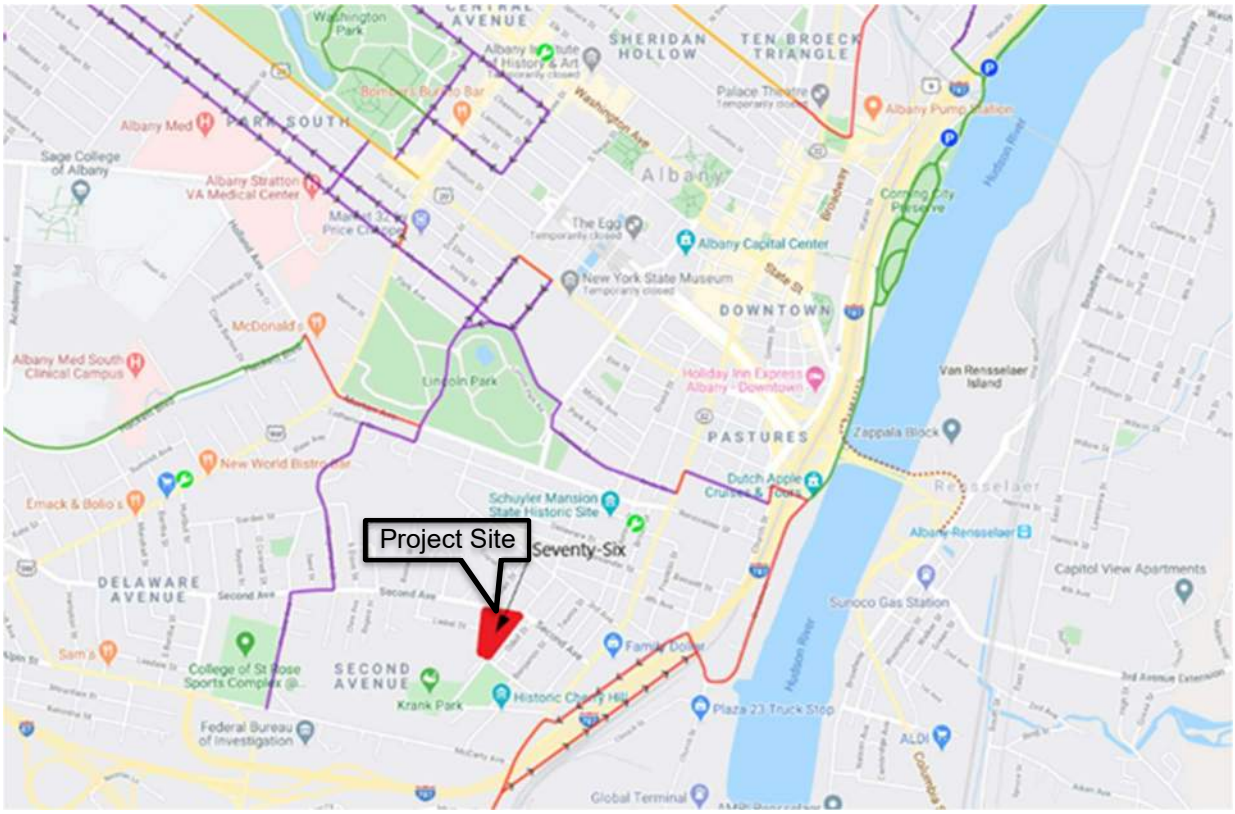


Figure 6: ABC Bicycle Route Map

As shown in Figure 7, the Seventy-Six is within Pedestrian District Tier 2 and at the boundary of Pedestrian District Tier 1 of the Capital District Transportation Committee (CDTC) Bicycle and Pedestrian Priority Network. Per CDTC, the pedestrian districts were created to highlight and address the fact that pedestrian movement is more fluid than linear, and that investments in pedestrian infrastructure should be made strategically, where there are greater densities of people living or working and in close proximity to pedestrian generating destinations. When a new Transportation Improvement Program (TIP) project evaluation system is adopted, proposed Tier 1 District projects will receive more points than proposed Tier 2 District projects. Since the Seventy-Six is at the edge of Tier 1, it is expected to receive all the attention a Tier 1 project receives and have access to the expanding pedestrian and cycling network.

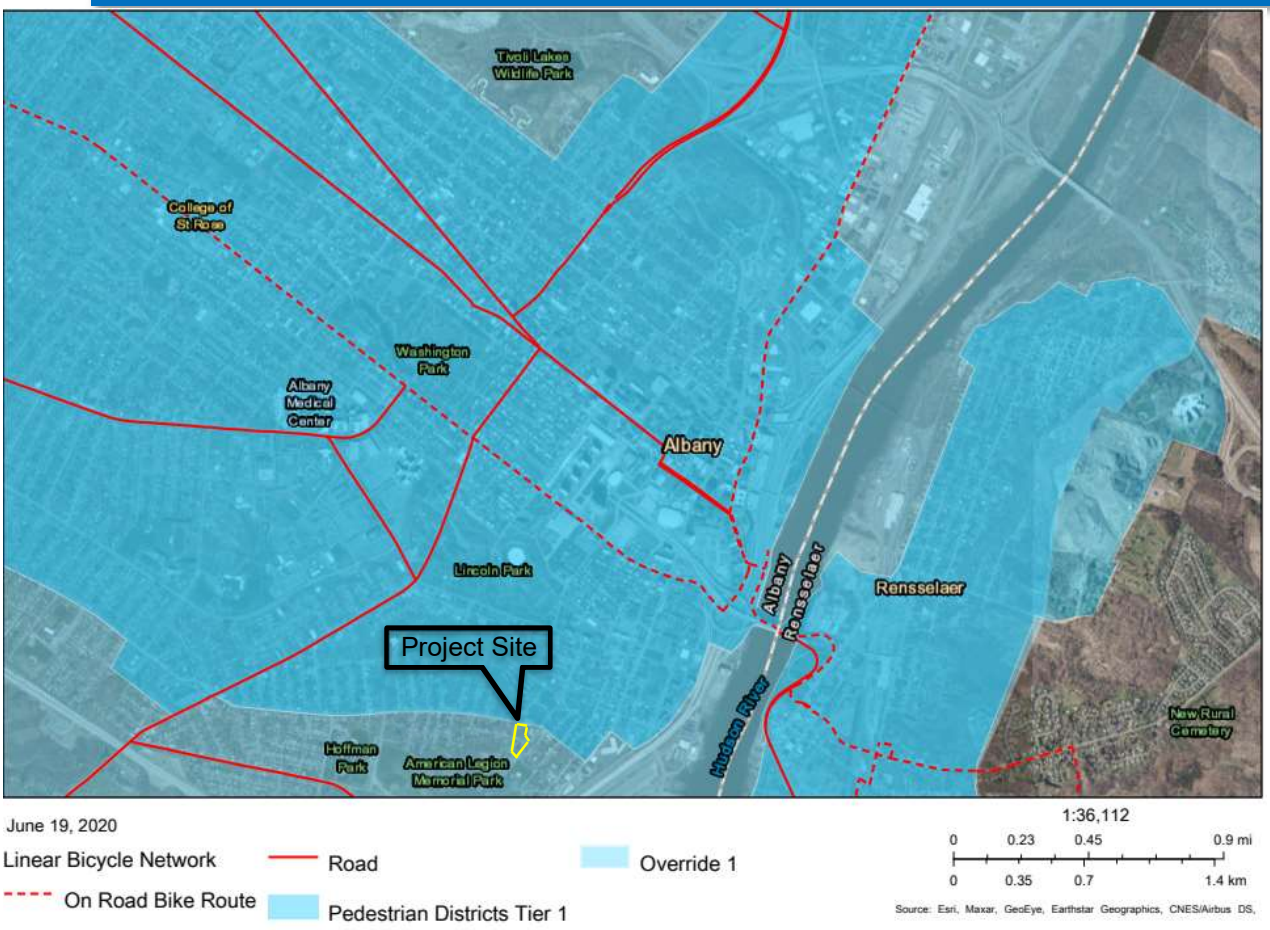


Figure 7: CDTC's Bicycle and Pedestrian Priority Network

2.4 Traffic Data

Due to unforeseen circumstances created by the COVID-19 pandemic, the ability to conduct independent Turning Movement Count (TMC) field studies at the intersections was deemed impossible. The reasoning behind this decision pertains to the record low traffic volumes that would not be an accurate representation of existing movements, to support evaluation of the development post COVID-19. The team is relying on previous data that is available from traffic studies conducted prior to 2020.

The following Agencies and Studies listed below were used to obtain data for the study area.

- NYSDOT, turning movement counts for state-maintained intersections
- NYSDOT, Short Term Daily Vehicle Counts
- CDTA, signal timing plans and turning movement counts along Second Ave via BRT Study

All other information, such as missing TMC's and street volumes, were estimated using short-term daily vehicle counts and comparing them to similar intersections where data is available.

Refer to **Appendix A** for a copy of the data used to establish existing traffic patterns in the study area.

2.5 Existing Traffic Operations

An existing condition level of service (LOS) assessment was performed for the study intersections under the current traffic / geometric conditions to identify operational / capacity deficiencies that currently exist within the study area. The assessment was completed using Synchro 11 / SimTraffic 11 based on the methodology outlined in the Institute of Traffic Engineers "Highway Capacity Manual, HCM 2010".

The LOS definitions employed in this study are attached in **Appendix B**.

Most of the intersections are signalized with the exception of four:

1. Second Ave/Leonard St;
2. Second Ave/Slingerland St (currently unsignalized, but new signal is under construction);
3. Krank St/ Seymour St; and
4. Benjamin St/ Seymour St.

The Synchro generated reports that detail the LOS calculations can be found in **Appendix C**.

Figure 8 depicts a visual representation of the existing traffic volume, followed by Table 2 through Table 8 with detailed existing LOS information.

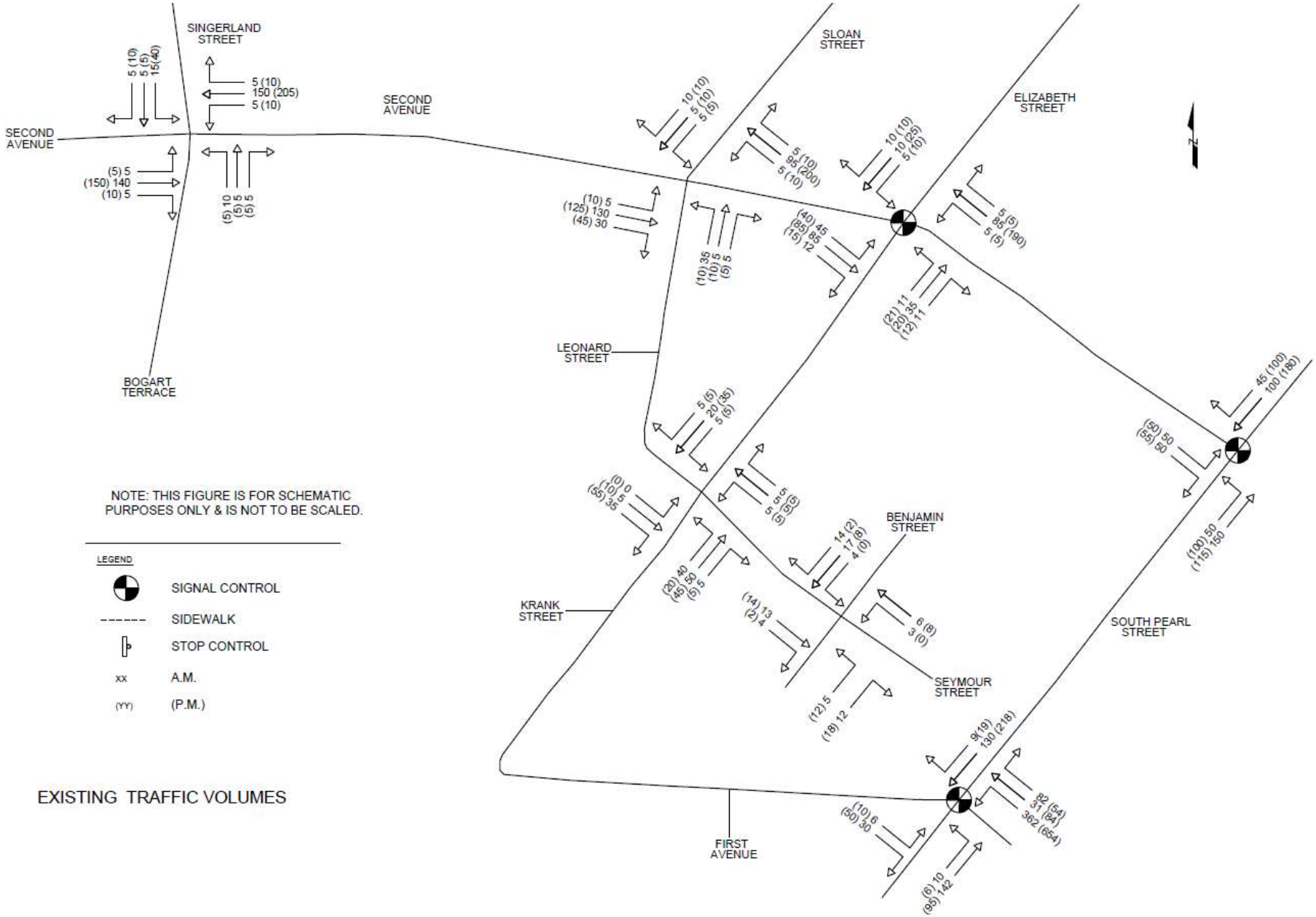


Figure 8: Existing Traffic Volume

Table 2: Detailed Existing Level of Service at S Pearl St and Second Ave

S Pearl St and Second Ave – Signalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
SE Approach	A/5.8	A/6.3
NE Approach	B/10.3	B/15.1
SW Approach	A/7.3	A/5.2
Intersection	A/8.3	A/8.5

Table 3: Detailed Existing Level of Service at Second Ave and Krank St

Second Ave and Krank St – Signalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
NE Approach	C/22.9	B/17.2
SW Approach	B/18.0	B/16.2
EB Approach	A/2.8	A/5.0
WB Approach	A/2.8	A/5.8
Intersection	A/7.6	A/7.7

Table 4: Detailed Existing Level of Service at Second Ave and Leonard St

Second Ave and Leonard St – Unsignalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
NB Approach	B/10.9	C/20.7
SB Approach	A/9.8	B/14.0
EB Approach	A/0.2	A/0.3
WB Approach	A/0.4	A/2.6

Table 5: Detailed Existing Level of Service at Second Ave and Slingerland St

Second Ave and Slingerland St – Unsignalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
NB Approach	B/10.8	B/13.7
SB Approach	B/11.0	B/12.3
EB Approach	A/0.3	A/0.2
WB Approach	A/0.2	A/0.3

Table 6: Detailed Existing Level of Service at S Pearl St and First Ave

S Pearl St and First Ave – Signalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
NE Approach	A/10.0	A/9.3
SB Approach	A/9.4	B/11.9
EB Approach	A/4.6	A/3.2
WB Through/Right	A/4.5	A/7.3
WB Left	B/14.1	D/53.5
WB Approach	B/11.8	D/44.1
Intersection	B/10.7	C/28.8

Table 7: Detailed Existing Level of Service at Seymour St and Krank St

Seymour St and Krank St – Unsignalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
NW Approach	A/7.2	A/7.6
SE Approach	A/6.9	A/8.4
NE Approach	A/7.7	A/8.5
SW Approach	A/7.2	A/8.0

Table 8: Detailed Existing Level of Service at Seymour St and Benjamin St

Seymour St and Benjamin St – Unsignalized		
Approach/ Movement	AM	PM
	2020 Existing	2020 Existing
NW Approach	A/7.2	A/7.1
SE Approach	A/7.0	A/7.1
NE Approach	A/6.1	A/6.4
SW Through	A7.1	A/7.1
SW Approach	A/7.1	A/7.1

The level of service outlined in Table 2 through Table 8 above indicate that the intersections within the study area are currently averaging a healthy LOS of “A”, “B”, and “C”, with minimal delays and reserve capacity for increases in traffic volumes.

3 FUTURE TRANSPORTATION CONDITIONS

3.1 Horizon Year

The development (Phase 1 and Phase 2) is expected to be fully built-out in June 2021. Therefore, the planning horizon year 2021 has been analyzed.

3.2 Background Growth Rate

The background growth rate was derived from historical Annual Average Daily Traffic (AADT) volumes for the segments of Second Ave, S Pearl St, Delaware Ave, Hoffman Ave, and Morton Ave that are near the Site. The most recent AADT data available for these segments are from 2016; thus, growth rate trends were derived from 2010-2016 AADT data, which has been included in **Appendix A** for reference. The background growth rate is 0.5% per year.

3.3 Adjacent Development Plans

At the time of writing this report, there have been no formal applications submitted to or approved by the City of Albany for developments in the vicinity of the study area.

3.4 Future Roadway Improvements

No capacity improvements have been planned for the boundary roads within the study horizons.

3.5 Future Transit Network

Second Avenue is undergoing future transit improvements (shown in Figure 9) with a proposed Bus Rapid Transit (BRT) route connecting Albany and Troy that is set to open in 2020. With this improvement, along with the Bus Route 6 bus service, the proposed development is well connected to the multimodal transit network, providing convenient and economical transit for the residents and business users. Improvements as part of the BRT project include traffic signal replacements and a new signal at the Second Avenue/Slingerland Street intersection.

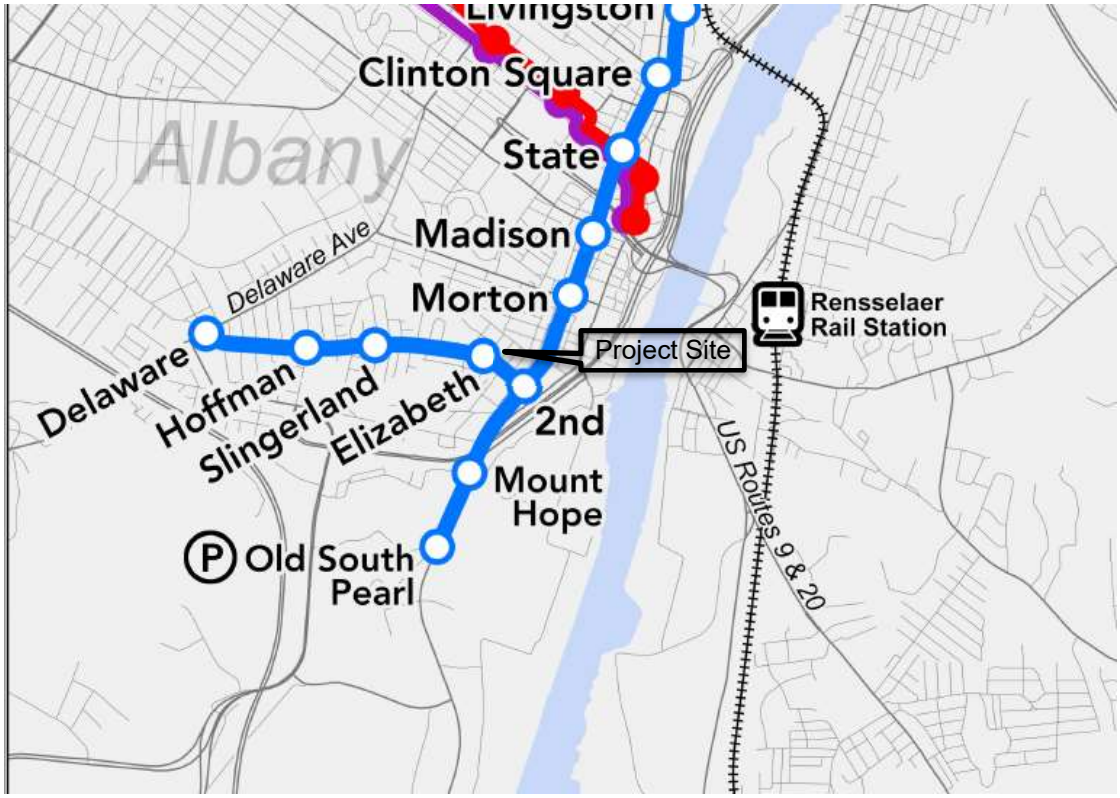


Figure 9: Proposed BRT

3.6 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that previously did not exist, as well as additional turning movements at the site entrances.

The trip generation of the proposed development was forecasted using the average rates provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Relevant excerpts from the ITE Trip Generation Manual, 10th Edition have been included in **Appendix D**.

Table 9 outlines the land use categories proposed in the development plan.

Table 9: Land Use Categories

Component	Land Use Code	Peak AM Hour Trips			Peak PM Hour Trips		
		In	Out	Total	In	Out	Total
Residential (246 units)	221	22	61	83	64	41	105
Office (17.5 KSF)	710	17	3	20	3	17	20
Commercial/Daycare (5.4 KSF)	565	31	28	59	28	32	60
General/Specialty Retail (8.0 KSF)	820	5	3	8	14	16	30
Restaurant (5.0 KSF)	932	27	23	50	30	19	49
Restaurant (2.0 KSF)	933	30	20	50	28	29	57
Supermarket (13.0 KSF)	850	30	20	50	61	59	57
Subtotal (Unadjusted)		**162**	**158**	**320**	**228**	**213**	**441**
Internal Trip Capture		**-23**	**-26**	**-49**	**-93**	**-92**	**-185**
External Trips		**139**	**132**	**271**	**135**	**121**	**256**
Urban Infill/Redevelopment Capture		**-20**	**-25**	**-45**	**-44**	**-34**	**-78**
Total New Trips		**119**	**107**	**226**	**91**	**87**	**178**

Since the project is a mixed-use redevelopment, there will be internal capture trips for an interaction between the various components. Internal trip credits to account for the interaction of the various development components were based on a review of information contained in the ITE publication *Trip Generation Handbook, 3rd edition and using the National Cooperative Highway Research Program (NCHRP) 684 Internal Trip Capture Estimation Spreadsheet*. The internal capture trip calculations are shown in **Appendix E**.

Additionally, the *Trip Generation Manual* data sets do not reflect trip generation at urban infill sites such as for the Seventy-Six. From the *Trip Generation Handbook,* redevelopment in built-out areas often results in fewer vehicle trips generated than would result in suburban and outlying locations. This may be the result of modal shifts to more walking, more transit ridership, more bicycling, and higher vehicle occupancy. Infill credits are taken after accounting for internal trips. Calculations for the infill credits are also shown in **Appendix E**.

As shown in Table 9, the trip generation analysis using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition calculates a weekday A.M. generation factor of 226 trips and a P.M. Factor of 178 trips.

3.7 Trip Distribution and Assignment

Trips generated by the development were distributed to and from the boundary road network based on local driver commuter patterns, working in and out of the south end. Other data such as intersection vehicle volumes were also filtered to determine the origin of trips travelling to the downtown core for the purpose of work in the morning peak period and the destination of trips travelling to the south end, leaving work in the evening peak period. The same inbound and outbound trip assignment was applied in the A.M. and P.M. peak hours.

The following trip distribution was established based on commuter driving patterns. The site has three access driveways into underground parking facilities, two of which are located on Krank Street to the east and the other located on Leonard Street to the west. Most parking spaces are accessible through Krank Street, where 61% of the overall parking is accommodated. This means that most of the traffic going into the development will travel along the eastside to access parking.

Figure 10 represents site trips generated by the development. Figure 11 represents the trip distribution model that was used to calculate inbound and outbound trips generated by the development. In general, it is estimated that trips will be 25% to/from the west; 60% to/from the east and north; and 15% to/from the south.

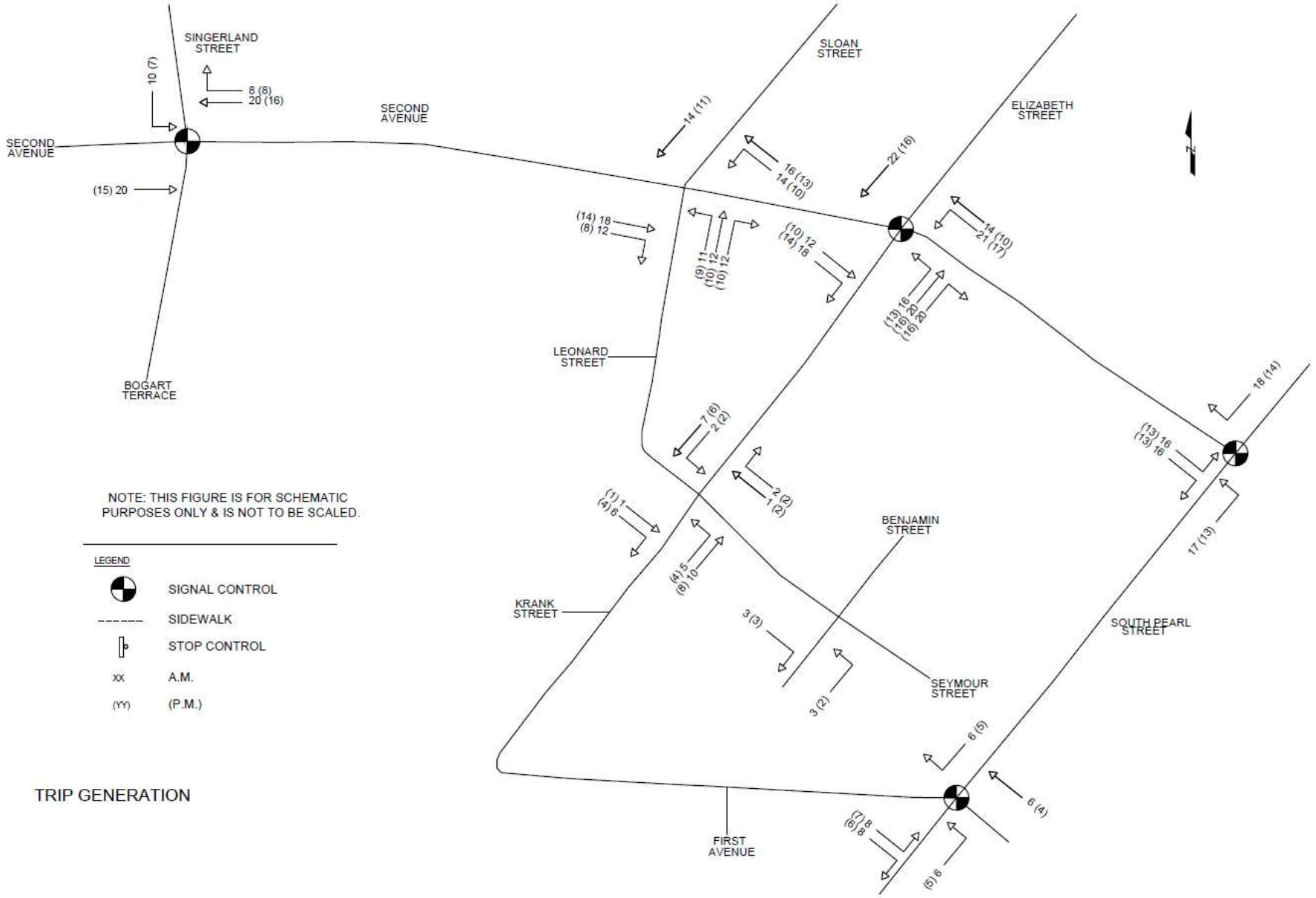


Figure 10: Site Generated Trips

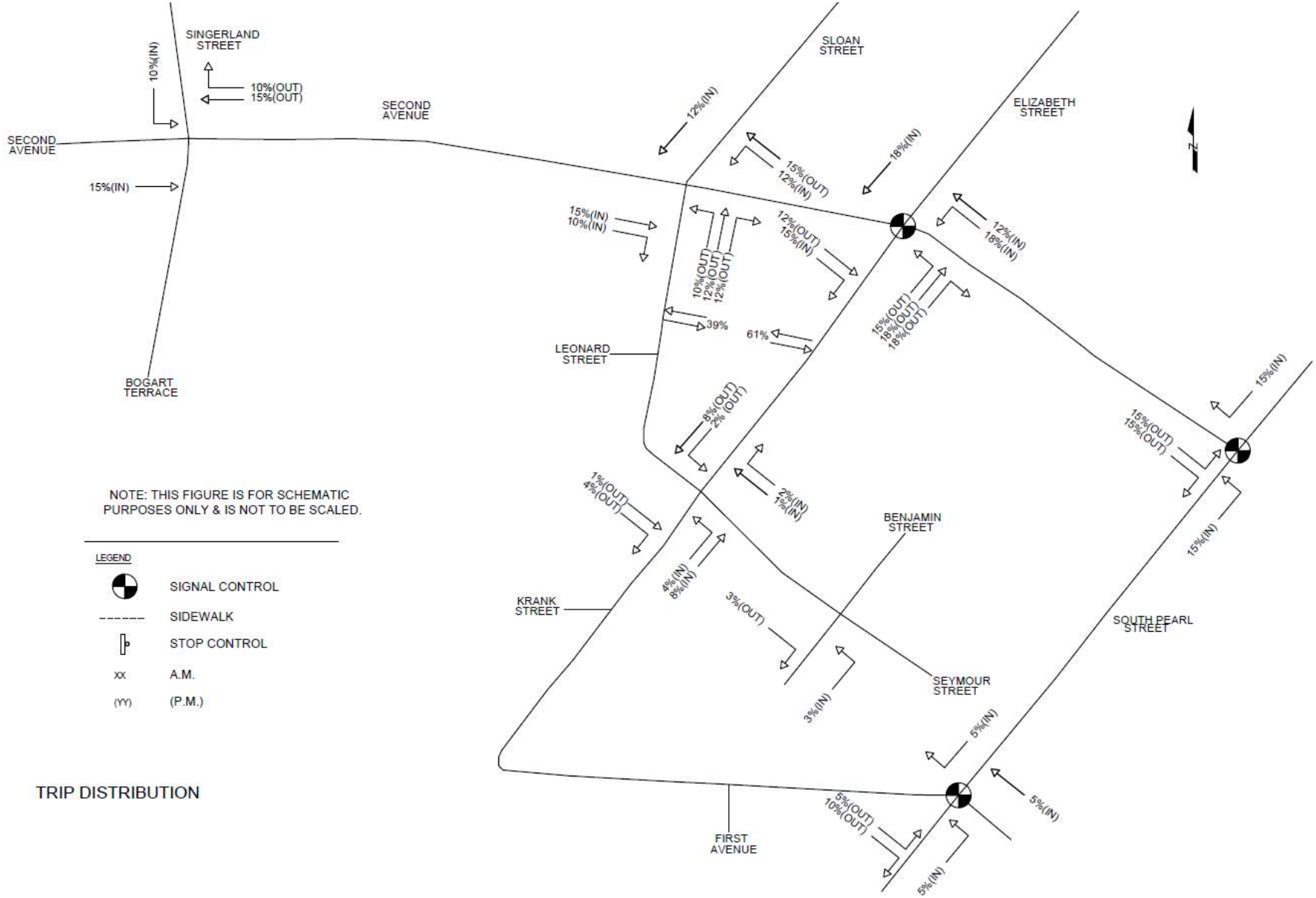


Figure 11: Trip Distribution Model

3.8 Intersection Operations

Details for the 2021 future build LOS are outlined below in Table 10 through Table 16. These operations are based on the future background traffic volumes and the trips generated by the Seventy-Six, as shown in Table 9. These volumes reflect a 0.5% growth rate for one year, due to completion of construction in 2021. LOS definitions are included in **Appendix B** and detailed capacity analysis worksheets (Synchro Reports) are included in **Appendix C**.

Figure 12 depicts the updated intersection volumes, following the Trip Distribution Analysis.

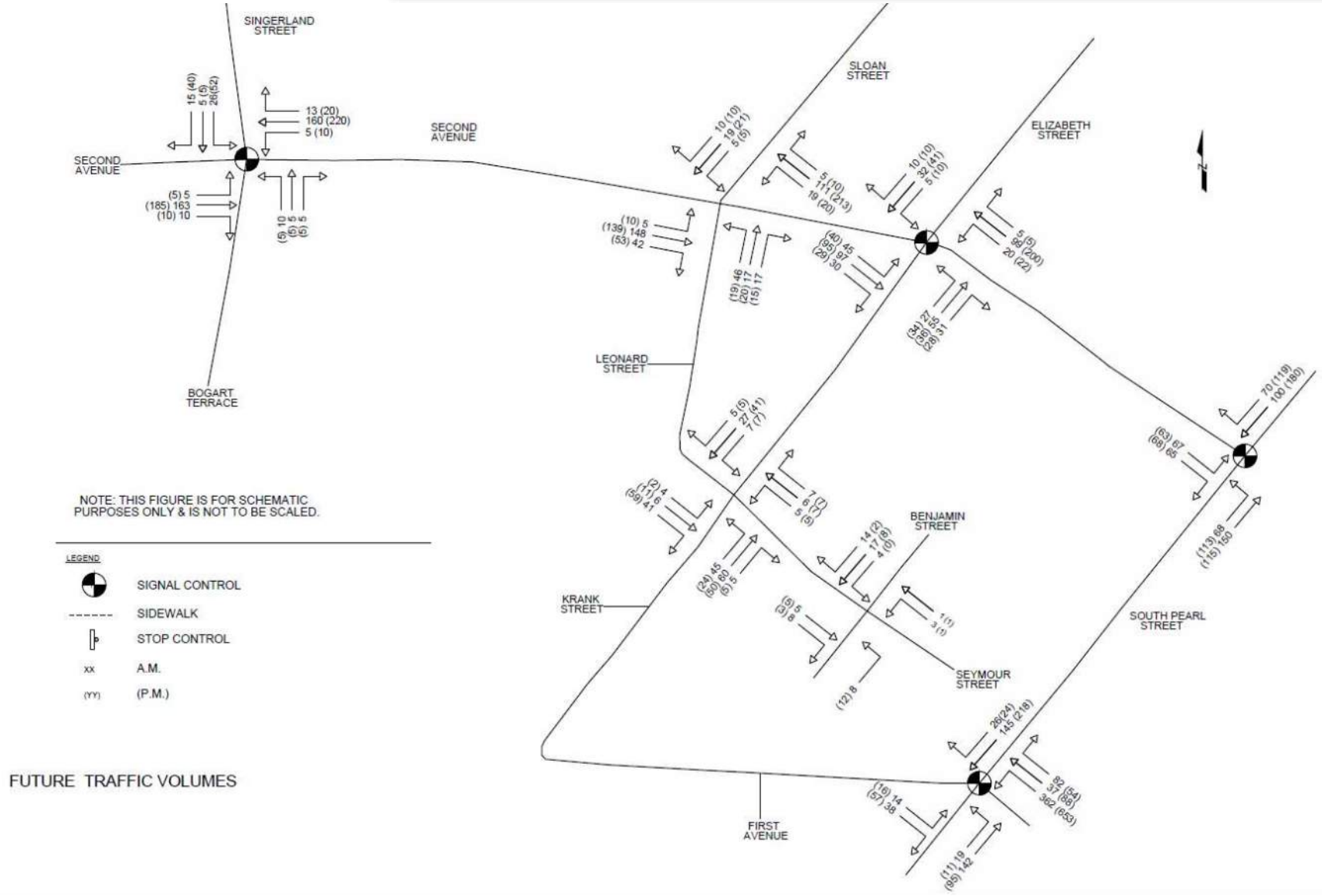


Figure 12: Post Development 2021 Volumes

Table 10: Detailed Existing and Future Levels of Service at S Pearl St and Second Ave

S Pearl St and Second Ave – Signalized				
Approach/ Movement	AM		PM	
	2020 Existing	2021 Future	2020 Existing	2021 Future
SE Approach	A/5.8	A/6.0	A/6.3	A/6.3
NE Approach	B/10.3	B/14.4	B/13.6	B/15.8
SW Approach	A/7.3	A/6.6	A/5.2	A/9.3
Intersection	A/8.3	A/9.7	A/8.1	B/10.7

Table 11: Detailed Existing and Future Levels of Service at Second Ave and Krank St

Second Ave and Krank St – Signalized				
Approach/ Movement	AM		PM	
	2020 Existing	2021 Future	2020 Existing	2021 Future
NE Approach	C/22.9	C/22.9	B/17.2	B/17.5
SW Approach	B/18.0	B/18.6	B/15.2	B/17.69
EB Approach	A/2.8	A/3.5	A/5.0	A/4.9
WB Approach	A/2.8	A/3.9	A/5.8	A/6.1
Intersection	A/7.6	A/10	A/7.7	A/8.6

Table 12: Detailed Existing and Future Levels of Service at Second Ave and Leonard St

Second Ave and Leonard St – Unsignalized				
Approach/ Movement	AM		PM	
	2020 Existing	2021 Future	2020 Existing	2021 Future
NB Approach	B/10.9	B/12.1	C/20.7	D/27.9
SB Approach	A/9.8	B/11.2	B/14.0	C/16.4
EB Approach	A/0.2	A/0.2	A/0.3	A/0.3
WB Approach	A/0.4	A/1.1	A/2.6	A/2.2

Table 13: Detailed Existing and Future Levels of Service at Second Ave and Slingerland St

Second Ave and Slingerland St – Unsignalized/Signalized				
Approach/ Movement	AM		PM	
	2020 Existing (Unsignalized)	2021 Future (Signalized)	2020 Existing (Unsignalized)	2021 Future (Signalized)
NB Approach	B/10.8	C/21.1	B/13.7	B/18.6
SB Approach	B/11.0	C/21.4	B/12.3	B/17.6
EB Approach	A/0.3	A/2.4	A/0.2	A/2.9
WB Approach	A/0.2	A/5.3	A/0.3	A/3.1

Table 14: Detailed Existing and Future Levels of Service at S Pearl St and First Ave

S Pearl St and First Ave – Signalized				
Approach/ Movement	AM		PM	
	2020 Existing	2021 Future	2020 Existing	2021 Future
NE Approach	A/10.0	B/10.2	A/9.8	A/9.9
SW Approach	A/9.4	B/10.2	B/11.2	B/11.2
EB Approach	A/4.6	A/8.7	A/3.3	A/3.4
WB Approach	B/11.8	B/13.1	D/49.3	D/49.6
Intersection	B/10.7	B/11.7	C/28.8	C/31.4

Table 15: Detailed Existing and Future Levels of Service at Seymour St and Krank St

Seymour St and Krank St – Unsignalized				
Approach/ Movement	AM		PM	
	2020 Existing	2021 Future	2020 Existing	2021 Future
NW Approach	A/7.2	A/7.3	A/7.6	A/7.7
SE Approach	A/6.9	A/7.1	A/8.4	A/8.7
NE Approach	A/7.7	A/7.9	A/8.5	A/8.6
SW Approach	A/7.2	A/7.4	A/8.0	A/8.1

Table 16: Detailed Existing and Future Levels of Service at Seymour St and Benjamin St

Seymour St and Benjamin St – Unsignalized				
Approach/ Movement	AM		PM	
	2020 Existing	2021 Future	2020 Existing	2021 Future
NW Approach	A/7.2	A/7.3	A/7.1	A/7.1
SE Approach	A/7.0	A/6.8	A/7.1	A/7.0
NE Approach	A/6.1	A/7.9	A/6.4	A/7.9
SW Approach	A/7.1	A/7.0	A/7.1	A/7.0

The level of service outlined in Table 10 through Table 16 above indicate that the site access is expected to operate under excellent conditions with minimal delays to inbound and outbound volumes. The intersections along Second Avenue and S Pearl Street are anticipated to continue operating at a LOS “A” and “B” in the weekday A.M. and P.M. peak hours, with the exception of First Avenue and S Pearl Street operating at a LOS of “C” and at Leonard street operating at a LOS of “D”.

To mitigate the level of service change from C to D for the northbound approach of Leonard Street to Second Avenue, an All-Way Stop control intersection will be needed. The level of service for the northbound approach will improve to level of service B and all other approaches would be A and B. However, it is not recommended to change to an All-Way Stop as it will have negative effects on the BRT line as it introduces delay to the Second Avenue mainline. The increase in delay for Leonard Street without improvements is minimal and about two seconds above the level of service C range and into the level of service D range.

4 PARKING DEMAND STUDY AND TRANSPORTATION DEMAND MANAGEMENT PLAN

4.1 Introduction

In accordance with the City of Albany's, Unified Sustainable Development Ordinance (USDO) and in alignment with the "Albany 2030 Comprehensive Plan" (adopted in 2012), the development will implement a Transportation Demand Management Plan (TDM) to reduce the daily amount of single occupant vehicles commuting to work. With this reduction in cars, the City hopes to relieve congestion in some of the major business hubs. This section outlines the TDM measures that will be applied at the Seventy-Six to meet the City's goal, as well as the high sustainability goals of the development.

4.2 Minimum Parking Requirements

The Seventy-Six will provide a minimum of 250 parking spaces in the underground parking garages, which are designed to allow shared parking spaces between the residential and commercial users. All parking spaces will be monitored via a smart digital parking management system.

The parking requirements for the project were estimated by determining the minimum off-street parking required for each proposed use, then applying the applicable adjustments in accordance with USDO Section 375-4E (Development Standards – Parking and Loading), as detailed in this section. Relevant excerpts of the USDO standard are provided in **Appendix F**. Table 17 shows the estimated minimum quantity of off-street parking spaces, per USDO Table 375-4-6, as an initial total before applying applicable adjustments.

Per USDO Section 375-4(E)(3)(b), where two or more uses listed in Table 375-3-1, share a parking lot or structure, the total off-street automobile parking requirement for those uses may be reduced by the factors shown in Table 375-4-7. This is accomplished by adding the requirements for each category, then dividing the sum by the factor indicated in Table 375-4-7. Since more than two uses share a parking lot or structure, this adjustment is made for the two uses with the largest off-street parking requirements (dwelling, multi-family and retail) and any parking requirements for additional uses are added to that adjusted requirement without further adjustment. Table 18 provides the estimated minimum number of off-street parking spaces for the two largest uses, and the reduced quantity required for those two uses after applying the shared parking reduction factor. The total estimated required parking after application of the shared parking adjustment is 328.

Upon completion of the CDTA River Corridor Bus Rapid Transit (BRT) Line (BusPlus Blue Line) in November 2020, the proposed development will be located within ¼ mile of a multi-modal transit stop with a peak service frequency of 15 minutes or better. As such, the minimum number of required off-street parking spaces has been reduced by 20%, resulting in an estimated total of 263 spaces.

Table 17: Minimum Required Off-Street Parking:

Use	Proposed Units/ GSF/NLA	Minimum Off-Street Parking Required per Unit				Required Parking		
						Initial Total	Reduced Shared Total	Proximity to Transit 20% Reduction
Dwelling, Multi-Family	239	1	per	1	dwelling unit	*239*	*239*	
Community Center	2,353	1	per	300	gross floor area	8	8	
Restaurant	2,352	1	per	150	net leasable area	16	16	
Office	2,688	1	per	400	net leasable area	7	7	
Personal or Business Service	11,985	1	per	400	net leasable area	30	30	
General or Specialty Retail	12,219	1	per	400	net leasable area	*31*	*7*	
Supermarket	9,774	1	per	300	net leasable area	*33*	*7*	
Day Care Center	4,113	1	per	300	net leasable area	14	14	
Total						**375**	**328**	**263**

Table 18: Shared Parking Adjustment - Per USDO Section 375-4E(3)(b)

Largest Use 1: Dwelling, Multi-Family	**239**
Largest Use 2: Retail (General/Specialty Retail & Supermarket)	64
Subtotal Required	*303*
Shared Parking Reduction Factor	*1.2*
Shared Parking Required for Two Largest Uses	**253**
Parking Required for Additional Use	*75*
Total Required after Shared Parking Reduction	**328**

The proposed development includes approximately 250 off-road parking in the underground garages, which is only 13 parking spaces less than the minimum parking spaces required for the development, as summarized in Table 18. However, it shall be noted that the following measures will also be implemented as part of the development to further reduce the parking needs:

- The developer is actively evaluating implementation of an electric car, carshare program for residents of the Seventy-Six. This service will offer several vehicles for scheduled, affordable rental by residents on an hourly or daily basis. The program will be operated and managed by the developer, and is expected to further reduce the quantity of personal vehicles and parking spaces required.
- The development will actively monitor shared use of the parking garages with a digital management system to ensure maximum utilization of parking spaces. Those who do not have a car or other personal vehicles will have the option of reduced monthly rent, and the unused spaces will be available for rental by residents that need more than one space per unit.

While it is noted that the USDO allows for credit to be taken for available on-street parking, we recognize that the adjacent streets are narrow in width and that concerns exist by neighbors regarding on-street parking. As such, we will not take credit for any on-street parking that may be available along the property frontages. However, with the above outlined measures and the TDM plan outlined below, we are fully confident that the number of parking spaces to be provided as part of this development will not only meet the minimum parking requirement, but also provide a low-carbon transportation footprint through emphasis on alternative transportation and a healthier lifestyle. In accordance with the USDO, it is requested that the Chief Planning Official review the alternative parking plan proposed herein, and provide approval of the 13-space parking reduction, if deemed warranted, without the need for an area variance.

4.3 Transportation Demand Management Plan

This section describes the Transportation Demand Management Plan (TDM) measures that will be applied to promote alternative transportation options to the users of the Seventy-Six development in order to help decrease the roadway traffic volumes generated by the development. The TDM discussed here will align the development with the future vision outlined in City of Albany's 2030 "Comprehensive Plan".

4.3.1 Local Context

It is essential that TDM measures consider and complement the existing and planned transportation infrastructure in the vicinity of the development. In particular, the surrounding infrastructure needs to be able to support the alternative transportation modes that will be promoted and incentivized through TDM. Refer to Figure 4, Figure 5 and Figure 7, for the existing and planned alternative transportation infrastructure in the vicinity of the new development.

The highlights of the existing and future transportation amenities of the surrounding the project area are detailed in Section 2 and Section 3 and summarized below:

- As shown in Figure 4, the Seventy-Six is situated along the Second Avenue corridor that is home to Bus Route 6 of the Capital District Transportation Authority (CDTA) transit network.
- As shown in Figure 5, Bus Route 7 has a stop at the S Pearl Street/Second Avenue intersection, which is only a ¼ mile away from the project site.
- As shown in Figure 6, the project site is located between two Albany Bicycle Coalition (ABC) preferred bicycle routes for commuters that work in and around the downtown core. This provides a great opportunity to expand bicycle commuting opportunities for residents, employees, and visitors of the Seventy-Six.
- Second Avenue is also undergoing future transit improvements (shown in Figure 7) with a proposed Bus Rapid Transit (BRT) route that is set to open in 2020. With this improvement, along with Bus Route 6, the proposed development is well connected to the multimodal transit network, providing convenient transit access for the residents and business users.

Overall, the proposed development site will provide commuters with access to a wide variety of alternative transportation options.

4.3.2 Roles and Responsibilities

The TDM measures discussed in this plan can be divided into the following two (2) categories:

- Category 1: New site-specific and connecting infrastructure
- Category 2: Incentives and strategies that enhance the attractiveness of alternative transportation modes

Category 1 measures focus on implementing site infrastructure and amenities that support efficient and sustainable commuting. This includes both site-specific infrastructure (e.g. bicycle parking and carpool parking) and infrastructure that provides connectivity with the surrounding transportation system (e.g. transit stops, connecting sidewalks, bicycle path, and multi-use paths). This first category of TDM is in the direct control of the developer and serves to provide the base infrastructure that is necessary to allow the incentives and strategies of Category 2 to work.

Category 2 focuses on encouraging use of existing efficient and sustainable transportation options through structured programs and initiatives (e.g. transit pass programs, carpooling programs, shared taxi and incentives for not using a parking space). These programs require education, in order to increase participation and promote a sustainable lifestyle.

4.3.3 New Infrastructure

This section describes the infrastructure that will be implemented at the Seventy-Six as part of the development of all four buildings to support the use of alternative transportation modes. The supporting infrastructure will be constructed and ready to use at the build-out stage.

<u>Pedestrian Access</u>

- The overall pedestrian network was designed to provide a complete network of barrier free walkways through the interior campus of the development. The network seamlessly interconnects the primary roadway sidewalks to each building, to the public plaza, and to private garden and other open spaces. The walkways provide access to both the building entrances and commercial frontages along the primary roads, as well as within the campus interior.
- The proposed building lobbies were designed to accommodate dual frontages to facilitate pedestrian connectivity. Private covered walkways were incorporated directly adjacent to the proposed building grade related uses to accommodate easy access year-round.
- Public sidewalks will be provided along the full frontage of Leonard Street, Seymour Street and Krank Street to encourage and support pedestrian connectivity and access to the commercial uses.

- Accessible sidewalks, or ADA accessible ramps and stairs are proposed at all key access points and along pedestrian circulation routes.
- Bicycle parking facilities are provided in each building.

Figure 13 below illustrates the planned pedestrian network both within and surrounding the proposed development. Supporting pedestrian infrastructure will be provided in phases that are parallel to the construction of each of the two phases of construction. Pedestrian connectivity will be provided for the three buildings to be constructed in Phase 1, without relying on Phase 2 infrastructure. This will ensure that proper pedestrian access is provided to each building once it is in operation and open to tenants.

Provision of Bicycle Parking Spaces

- Both long-term and short-term bicycle parking facilities are to be provided as part of the proposed Development Plan.
- A total of 50 short-term secure bicycle parking spaces, consisting of bicycle racks, will be provided on-site at key locations adjacent to the buildings, along roadway frontages, and adjacent to the covered walkway that provides access to the main entrances and commercial uses. The short-term bicycle parking spaces will be no more than 50 feet away from building entrances.
- Each building will be equipped with 25 interior, long-term bicycle parking spaces. These spaces will have direct access from the exterior of the building and provide internal access to the main lobby.

Bicycle infrastructure will be provided in phases that are parallel to the construction of each of the two phases of the construction. This will ensure that the bicycle facilities will be provided at each building once it is in operation and open to tenants.

Provision of Preferential Parking Locations for Carpooling

- A total of 30 parking spaces will be clearly marked as preferential parking locations for carpools. These spaces will be located within 50 feet of elevators/building entrances
- 511NY Rideshare/iPool2 is a recognized leader in the development and delivery of carpool priority parking and will assist the Seventy-Six by providing priority carpool parking signage designs and materials to promote the parking spaces once they are implemented.

Preferential parking spaces will be marked accordingly once each building is in operation and open to tenants.

Transit Access

Existing bus stops at Second Avenue/Krank Street and Second Avenue/Leonard Avenue will provide access to available transit, including CDTA Bus Route 6 and the new BRT line.

- Bus Route 6 runs daily services twice per hour throughout the work week and twice per hour on weekends until midnight, except for Sunday evening where is stops at 7:10 pm. Service resumes at 7:18 am Sunday morning, 5:48 am on weekdays and 6:18 am on Saturdays. As shown in the Development Plan, the Seventy-Six will integrate this existing bus stop by building a covered/heated seating area along Second Ave, where occupants and local residents are able to comfortably wait for the bus. With seamlessly integrated building and transit infrastructure, the need for travel is greatly reduced due to the practicality of an 8-minute bus ride to the downtown core. The enclosure will also be equipped with digital monitors that are connected to the CDTA compass software to give live updates and ETA on current busses along the route.
- The proposed River Corridor BRT route will connect Albany to Troy, and is set to open in 2020. The BRT will run 20 buses and make 31 stops along a route connecting Waterford, Troy, and

Albany. It would be the region's second BusPlus rapid transit line – the first serves the Route 5 corridor, which runs between Schenectady and Albany. With this improvement, along with Bus Route 6, the Seventy-Six will be well connected to the multimodal transit network, providing convenient transit access for the residents and business users.

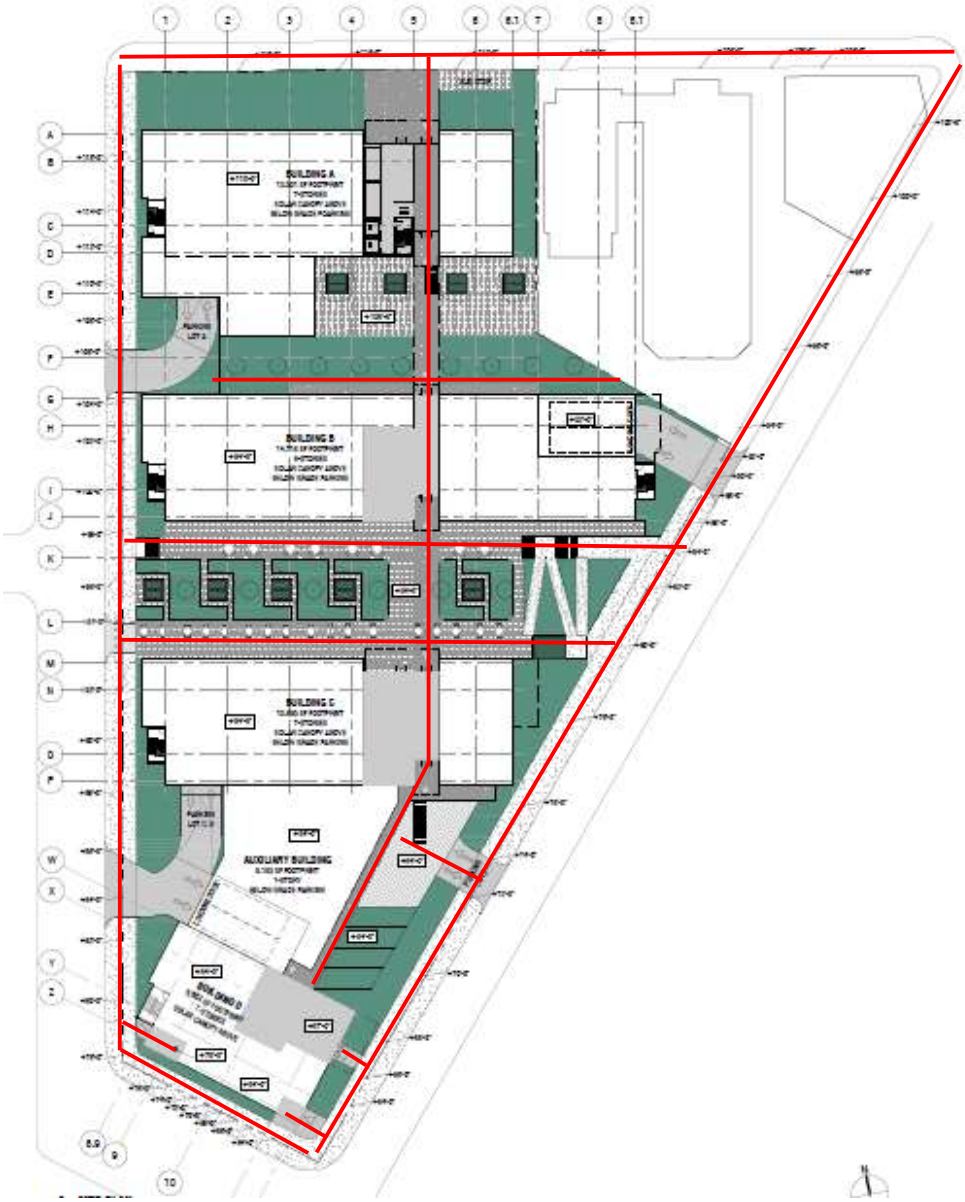


Figure 13: Pedestrian Access

Bicycle Access

The Seventy-Six's proximity to major bicycle routes, makes the development an ideal living space for bicycle commuters heading into the downtown core on a daily basis. As shown in Figure 5, the Seventy-Six is located near Bus Route 7 and the south end bicycle link trail, both of which are ABC preferred bicycle routes. This connectivity will attract bicycle friendly occupants that will have access to dedicated storage areas for their bicycles and equipment. The integration and promotion of bicycle friendly services at the Seventy-Six will reduce the need for single occupant vehicles.

4.3.4 TDM Programs

The TDM programs will be easily integrated into the Seventy-Six, for use by residents and businesses, through partnerships with CDTA, CDPHP Cycle! and 511NY Rideshare/iPool2, as detailed in this section.

- The developer will partner with CDTA to incorporate a bus stop with a heated bus shelter at the Second Avenue Frontage. The developer will also explore potential emission reduction funding and is considering implementation of a Universal Transit Access Program for the residents and businesses at the Seventy-Six. A Universal Transit Access Program includes a single transit pass that allows the residents and users to use the pass for all CDTA operated transit systems (busses, BRTs, and others). A fully automated transit kiosk will be installed at the bus stop to facilitate purchase of a Universal Transit Pass for those who have limited or no access to mobile applications.
- A partnership with the CDPHP Cycle! program will provide on-site bicycle-share stations to provide neighborhood access to cutting edge bicycles, available 24/7. This arrangement will provide a healthy, alternative mode of transportation to the Seventy-Six residents and visitors, while reducing traffic congestion and boosting the local economy. This program will be made available to residents and business visitors through local bulletin message boards and other means of communication.
- A multi-modal rideshare program will be made available to the residents and visitors of the Seventy-Six through a partnership with 511NY Rideshare/iPool2. This flexible arrangement gives users the freedom to choose how frequently they want to carpool and with whom.

The developer is committed to supporting TDM initiatives to reduce single occupancy vehicle trips and incentivize the use of alternative transportation at the Seventy-Six. To achieve this end, the developer will enter a multi-year partnership with CDTA, CDPHP Cycle! and 511NY Rideshare/iPool2 to establish a best practice TDM program of sustainable commuting initiatives that are discussed in more detail in the following sections.

Years 1 – 2:

Baseline Commuter Survey and Site Assessment: A confidential transportation survey will be conducted amongst all residents and retail employees in the Seventy-Six in both online and paper formats. The survey will include questions that provide a measure of current commuter traffic patterns, modes of transportation, behaviors, and perceptions. To achieve a high response rate to the survey, prizes will be provided to incentivize participation. This initial survey will identify and assess the key commuting needs of the residents and retail employees and determine the demand for alternative transportation options. Furthermore, the baseline commuter survey will be the first component of an on-going monitoring effort that analyzes commuting trends and the progress made towards reaching the preferred mode split goal (higher proportion of transit and bicycle usage).

An on-site assessment will also be conducted to evaluate the existing site's commuting policies, infrastructure, accessibility to sustainable commute modes, and surrounding land use. Combined with the survey results, the on-site assessment will inform the development of strategies for reducing single occupancy vehicle trips to the site and promoting green transportation options.

Carpool Ride-matching: An online sub-group will be established on 511NY Rideshare/iPool2 that will be available to all residents and employees at the Seventy-Six. The sub-group will enable members to find carpool partners among others who live or work at the development, or select from the broad group of thousands of other registrants at over 35 Park & Ride locations in the City of Albany. The 511NY Rideshare/iPool2 program will be promoted to residents and employees through branded promotional materials, email communications/newsletters, and promotional events (see below).

Guaranteed Ride Home Program (GRP): The GRP program offered by the CDTA will offer alternative transportation commuters at the Seventy-Six a guaranteed method to get home quickly and

conveniently in the case of an urgent emergency. Each registered user will be entitled to a maximum of six rides per year for up to $300 per year in GRP rides (no more than two rides per month). This service encourages employees to use alternative modes of transportation by ensuring that they will have an alternate ride home in the case of an emergency.

Promotional Events and Marketing: Participation in the CDTA, CDPHP Cycle! and 511NY Rideshare/iPool2 programs will be promoted with annual campaigns and promotions, such as Bike to Work Day / Bicycle Month, Smart Commute Week, and Carpool Week. Through these promotions, residents and employees at the Seventy-Six will be able to win prizes for choosing sustainable transportation alternatives. These events will also track commuting activity during their timeframe, and the results will form another component of the overall TDM monitoring effort.

Interactive information sessions (e.g. in-house workshops / booths) may also be provided by the partnering agencies to introduce residents and employees to the programs, assist with registration, and outline the alternative commuting options. These events and other Sustainable Commute marketing materials will encourage and promote TDM participation for all users at the Seventy-Six.

In addition to taking advantage of the already programmed TDM measures, employees of the commercial spaces will be encouraged to consider the following types of employer specific TDM measures:

- Flexible Work Hours and Telecommuting: Flexible work arrangements can eliminate the need to travel to the workplace on certain days or even on most days of the week. However, such arrangements are not suitable to all employees and employers and are highly dependent on the nature of the work being performed.
- Transit Pass Programs / Incentives: Transit passes can be conveniently sold through employers via paycheck deductions. In some cases, transit passes sold through this method can be discounted by the transit agency and/or subsidized by the commercial employer.
- Shuttles and Vanpooling: Dedicated shuttles and vanpools can carry multiple commuters to local transit hubs and/or serve long-distance commutes that are not already well served by public transit.

Years 3 – 4

The following TDM initiatives previously presented above for Years 1-2 are expected to be on-going and continue into Years 3-4:

- 511NY Rideshare/iPool2 Sub-Group and Promotion
- Guaranteed Ride Home Program
- Promotional Events and Marketing

These initiatives will be expanded as necessary to include each of the new building phases as each building is completed and becomes occupied (minimum 50% occupancy).

The following additional TDM programs are also planned for Years 3-4:

Follow-Up Commuter Survey: A confidential follow-up transportation survey will be conducted amongst all residents and retail owners and employees of the Seventy-Six within 3-4 years of the baseline commuter survey. The results will be compared against those observed previously (Years 1-2) to track the progress of the TDM program and will serve to monitor progress towards reaching the City of Albany's overall transit mode split goal.

As soon as the survey is completed, a revised and updated TDM workplan will be developed that is tailored to the needs of the residents, commercial owners, and employees of the Seventy-Six.

Commuter Options Brochure: Lack of information on available transportation options can be a significant barrier to the usage of transit, walking, and cycling. To this end, the developed will work with

CDTA, CDPHP Cycle! and 511NY Rideshare/iPool2 to develop a customized commuter options brochure for the Seventy-Six. This brochure will contain details on the variety of travel options available to residents, commercial owners, and employees such as: local and regional transit, the 511NY Rideshare/iPool2 ride-matching and vanpool programs, parking information, and location of cycling routes and bicycle parking. The brochure will be placed prominently in each building's foyer and will be particularly useful at the Seventy-Six since the transit routes that serve the area are provided by two (2) transit lines that each have their own distinct schedules, route and fare structures.

Budget

The overall four (4) year administrative budgets for the TDM program to be delivered through the partnerships with CDTA, CDPHP Cycle! and 511NY Rideshare/iPool2 is estimated as follows:

- Year One: $10,000
- Year 2-4: $12,000 per year
- **Total: $46,000**

SED is committed to continuing its emphasis on TDM programs at the Seventy-Six beyond the initial four (4) years. It is anticipated that the future on-going TDM programs will be similar in scope to the initial program presented above, with modifications to incorporate advancing technologies and to ensure that the program continues to best meet the needs of the tenants, employees and employers.

5 CONSTRUCTION TRAFFIC MANAGEMENT PLAN

This section identifies anticipated construction parking demand; construction staging, traffic & noise; major construction and haul routes; and road/pedestrian path closure requirements. An overall assessment of construction traffic impacts is discussed throughout the section, and will be further developed. A detailed Construction Management Plan will be submitted to the City for review and approval prior to the start of construction of the Seventy-Six.

The Seventy-Six is a modular development project. This type of construction involves off-site assembly, which results in not only reduced construction traffic & impacts (noise, dust, vehicular and pedestrian impacts), but also reduced waste and energy consumption compared with regular construction projects. There are strong sustainability advantages associated with modular construction as discussed further in the sub-sections below.

5.1 Construction Parking Demand

All construction activities at the Seventy-Six are expected to occur within a closed construction fence with sound mitigation features installed around the active construction area. Secure access will be provided through the two construction access points at each end of Scott Street, as shown in Figure 14. All pedestrian sidewalks around the project site and beyond the active construction area will be left open for public use and regular maintenance activities. Temporary closures of sidewalks will occur in phases and will be coordinated with the City for the duration of sidewalk replacements. Construction access will be fully secured and monitored 24/7 by having full-time security, an entry/exit record management system and a CCTV recording system, while providing a convenient access to construction vehicles and emergency services. All construction stage parking will be provided through a combination of on-site and designated off-site parking areas to avoid congestion on local roads. Off-site parking will be coordinated with adjacent property owners for use of existing underutilized parking areas. Some visitor parking will be provided along Leonard Street and Seymour Street while ensuring the level of visitor parking at any time does not impact the regular public parking needs at any point in time. We anticipate not more than 5 to 10 construction visitor parking spaces on Leonard Street and Seymour Street at the peak construction phase, which is less than 50% of the number of legal on-street parking spaces available.

All staging and material storage areas required to support the construction will be provided within the closed site construction fence described above.

5.2 Construction Stages, Traffic & Noise

Construction of the Seventy-Six will occur in the following major stages, with slight overlaps as required:

- Site work (demolition, clearing & grubbing, excess material removal, grading, temporary shoring, excavation, utility installation, etc.)
- Foundation/parking garage excavation and construction
- Modular building delivery and fit-out
- Mechanical, Electrical, Plumping (MEP) and interior
- Pedestrian improvements and landscaping
- Finishing

Other than the site work and landscape work, all other major construction stages listed above will be completed within significantly less time compared to a regular construction project due to the inherent benefits of modular building construction. In particular, the construction traffic generation during the installation of modular units is significantly less compared to a regular construction project of similar size. Similarly, all MEP and finishing work is expected to generate significantly less construction traffic volume as the modular units come in standard sizes, with most MEP components preinstalled, demanding very minimum on-site work before commissioning.

Two construction accesses, Construction Access 1 fronting Leonard Street and Construction Access 2 fronting Krank Street as shown in Figure 14, will be provided to further reduce the traffic impact on the surrounding road network. Maximum frequency of construction vehicle access is expected to be not more than five trucks per hour, which is anticipated to occur during the peak production levels of site work and concrete pouring. As such, the traffic impact on the existing transportation network during the maximum frequency construction traffic and other conditions is very low.

The quantity of on-site construction equipment will be significantly reduced for this modular construction project, when compared to conventional building construction. As such, the associated noise, emission & dust impacts will also be significantly reduced.

5.3 Construction Haul Routes

The project site is located 1/4 mile from a major exit on I-787. There are two haul routes to the site that rely on primary roads. The most direct path is along First Ave to Krank Street, which runs directly into the site. On-street parking on portions of Krank Street may need to be temporarily prohibited if oversized vehicles are anticipated. This path does pass through a residential block and by the Albany Community Charter School, which makes this option less attractive.

The second haul route is along S Pearl Street and Second Ave. This route, which is slightly longer, passes through an industrial and mixed-use corridor that has on-street parking needs. There are residential properties mixed in along this route, but a high percentage of them are vacant. Collectively, these routes and the proximity to I-787 and the Port of Albany will allow for the removal of debris and fill from the site, as well as the delivery of construction materials including modular components, with a limited impact to residents. Both routes are shown in Figure 14 below. Figure 15 shows the access paths to/from I-787 and Figure 16 outlines the estimated construction materials required for each phase of the project.

As per NYSDOT, all vehicles (trucks, tractors, and trailers) must comply with the Infrastructure Friendly (IFV) requirements to be permitted under a Divisible Load Overweight Permit. All construction vehicles used in this project will have a Divisible Load Overweight Permit to ensure the project haul routes are protected from any damages resulting from overweight cargo.

Special hauling permits are required to move vehicles and/or loads on New York State highways if the vehicle and/or loads exceed the legal dimensions or weights specified in Section 385 of the New York State Vehicle and Traffic Law. NYSDOT issues different types of special hauling permits and relevant

permits will be obtained in advance, if oversize cargo delivery requirements are identified, as part of the Construction Management Plan that will be submitted prior to construction.

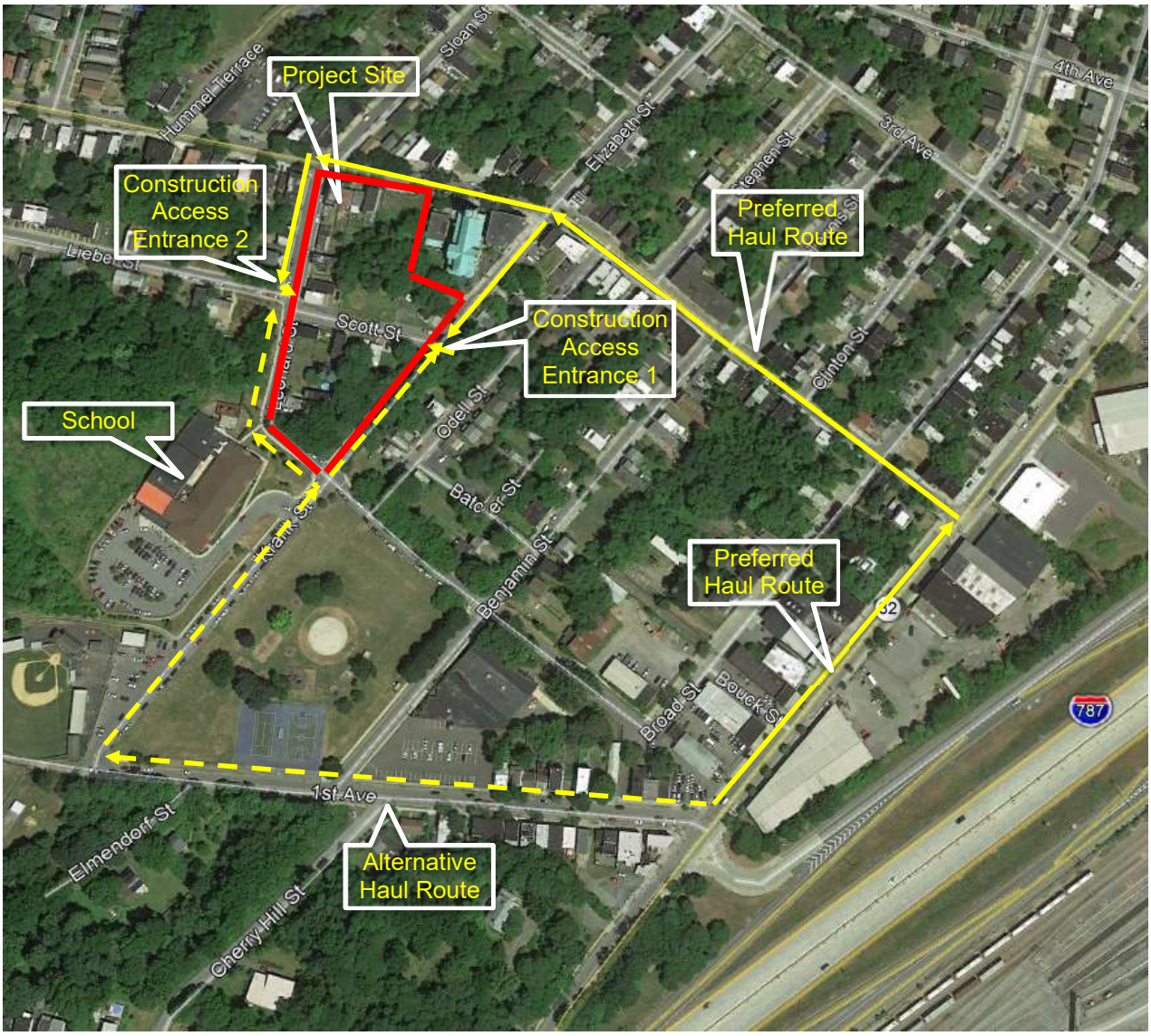


Figure 14: Construction Access and Haul Route (Source: Google Earth)

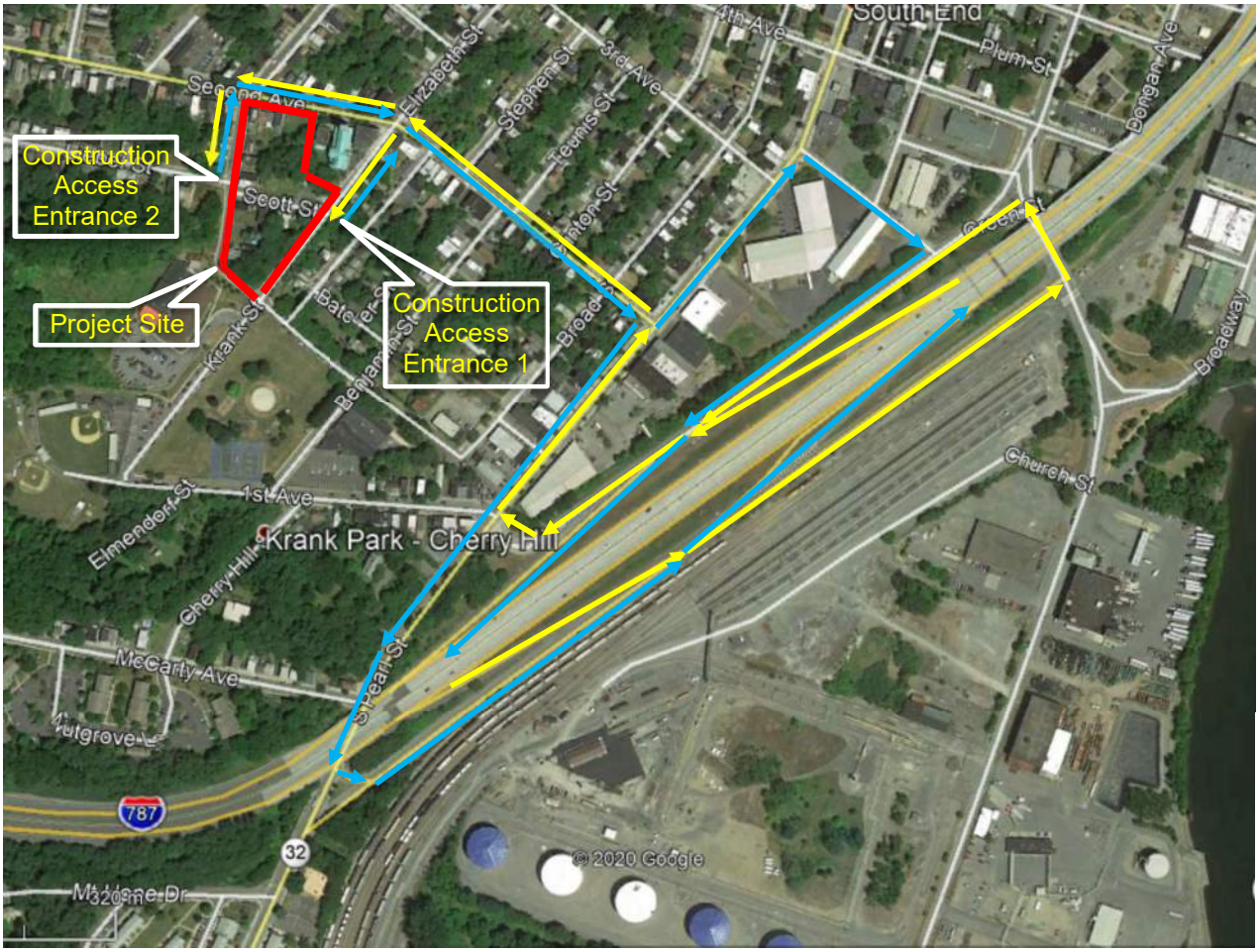


Figure 15: Access to I-787 (Source: Google Earth)

Construction Materials - Phase 1						
Item	Value	Units	Number of Vehicles	Vehicles Per Hour	Total Time	Notes
Cut Removed	38150	CY	1908	5	6 weeks	10 hrs/day, 6 days/week , 20 CY Truck
Fill Required	6	CY	1	1	1 week	Simultaneous with Cut, 20 CY Truck
Concrete	5721	CY	573	3	5 weeks	10 CY Truck
Rebar	244	Ton	16	3	1 week	32,000lb Truck Capacity
Steel Piles	1869	Ton	117	3	1 week	32,000lb Truck Capacity
Modules	598	-	598	3	5 weeks	1 Unit Per Vehicle

Construction Materials - Phase 2						
Item	Value	Units	Number of Vehicles	Vehicles Per Hour	Total Time	Notes
Cut Removed	18400	CY	920	5	3 week	10 hrs/day, 6 days/week , 20 CY Truck
Fill Required	0	CY	0	0	-	20 CY Truck
Concrete	2653	CY	266	3	2 weeks	10 CY Truck
Rebar	108	Ton	7	3	1 week	32,000lb Truck Capacity
Steel Piles	830	Ton	52	3	1 week	32,000lb Truck Capacity
Modules	203	-	203	3	2 weeks	1 Unit Per Vehicle

Figure 16: Construction Material Estimate

6 CONCLUSION

The Seventy-Six redevelopment is surrounded by: the CDTC Tier 1 and Tier 2 bicycle and pedestrian priority networks, several existing bicycle routes, minor arterial roads in all directions, traffic relief roads, and Interstate Highway (I-187). The development will be serviced by two major transit networks (CDTA Bus Routes 6 and 7), as well as the new River Corridor BRT line. With this improvement, along with the existing network, the proposed development is well connected to the multimodal transit network, providing convenient and economical transit access for the residents and business users. Improvements as part of the BRT project include traffic signal replacements and a new signal at the Second Avenue/Slingerland Street intersection. Convenient access to the multimodal transit network is expected to create a significant reduction in the trips generated from this net-zero community, which is designed to support a sustainable environment and healthy lifestyle.

Based on the detailed traffic impact analysis, it was determined that the proposed Seventy-Six development (Phase 1 and Phase 2) will have minor impacts on the operation of the peripheral road network. After adjustments, the total site trips generated from the development is 226 trips for weekday A.M. and 178 trips for weekday P.M. during 2021 future conditions.

The findings of the level of service analysis for future conditions in 2021 suggest that intersections along Second Avenue and S Pearl Street are anticipated to continue operating at a LOS “A” and “B” in the weekday A.M. and P.M. peak hours, with an exemption of First Avenue and South Pearl Street operating at a LOS of “C” and Leonard Street at Second Avenue operating at a LOS of “D”. Besides these two intersections that have been addressed in section 3.8 of this report, the site generated traffic is not expected to materially impact the operations of the boundary road network.

The proposed Seventy-Six will have approximately 250 parking spaces in the underground garages. Both long-term (25 per building) and short-term (50 on-site) bicycle parking facilities will also be provided as part of the proposed Development Plan. We are fully confident that the number of parking spaces to be provided as part of this development will not only meet the minimum parking requirement, but also provide a low-carbon transportation footprint through emphasis on alternative transportation and a healthier lifestyle.

Considering the scale and scope of the development, it is expected that the full build-out of the proposed site will also benefit from the long-term improvement plans, transit initiatives and sustainable strategies being considered by the City, CDTA and other agencies within the study area.

In addition, the developer is committed to supporting the City to reduce single occupancy vehicle trips and incentivize the use of alternative transportation at the Seventy-Six. To achieve this end, the project is designed to provide site specific connecting infrastructure (bicycle parking, carpool parking, a connected pedestrian network within and around the development) that will be further supported by multi-year partnerships with CDTA, CDPHP Cycle! and 511NY Rideshare/iPool2 to promote best practice sustainable commuting initiatives.

The Seventy-Six will have approximately 250 parking spaces in the underground garages, which meets the minimum parking requirements for this development. The underground parking garage is designed to allow shared parking spaces between the residential and commercial users. All parking spaces will be monitored via a smart digital parking management system.

Construction traffic impact resulting from the Seventy-Six is determined to be low, since the modular construction type is expected to generate significantly less traffic than a conventional construction project. The site is located near I-787 with two alternative haul routes. Since the quantity of on-site construction equipment will be significantly reduced for modular construction, the associated noise, emission & dust impacts will also be greatly reduced.

In summary, the Seventy-Six redevelopment is designed to promote a sustainable future and culture in the South End neighborhood of Albany, and will have minimal impact to traffic, parking, and the environment.

APPENDIX A

TRAFFIC DATA

STATION: 112059

New York State Department of Transportation
Roadway Traffic Count Hourly Report

ROUTE/ROAD:	SECOND AVE	FROM:	DELAWARE AVE	TO:	S PEARL ST	REGION-COUNTY:	1-ALBANY
FED DIR CODE:	3, 7	REF. MARKER:		FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Albany-City-2001
ST DIR CODE:	6	END MILEPOST:	1.29	FACTOR GROUP:	30	BIN:	
DOT ID:	104573	LANES BY DIR:	1 East 1 West	CC STN:		RR CROSSING:	
BEGIN DATE:	5/1/2014	WEEK OF YEAR:	18	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:	EB travel lane	PLACEMENT:	50' W of Hummel Terrace î	JURISDICTION:	04-City or village	1 WAY CODE:	
NOTES 2:	WB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	R01-TDB	BATCH ID:	DOT-R01R1 WW1	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
5/01, Thu										**251**	**237**	**229**	**250**	**270**	**267**	**394**	**383**	**410**	**339**	**272**	**235**	**199**	**147**	**98**	3981		
5/02, Fri	**53**	**34**	**21**	**16**	**18**	**38**	**128**	**322**	**320**	**246**	**239**	**250**	**270**	**297**	**318**	**337**	**383**	**407**	**391**	**304**	**278**	**216**	**215**	**147**	5248	407	17-18
5/03, Sat	**96**	**58**	**36**	**29**	**36**	**18**	**49**	**109**	**119**	**225**	**236**	**309**	**299**	**318**	**288**	**317**	**305**	**299**	**276**	**254**	**209**	**193**	**161**	**136**	4375	318	13-14
5/04, Sun	**85**	**88**	**61**	**28**	**18**	**21**	**41**	**74**	**95**	**140**	**184**	**175**	**243**	**290**	**265**	**253**	**251**	**246**	**211**	**228**	**172**	**111**	**119**	**86**	3485	290	13-14
5/05, Mon	**40**	**24**	**9**	**7**	**26**	**38**	**132**	**292**	**270**	**221**	**228**	**231**	**268**	**262**	**269**	**355**	**364**	**398**	**381**	**296**	**244**	**185**	**137**	**112**	4789	398	17-18
5/06, Tue	**57**	**36**	**12**	**6**	**11**	**33**	**122**	**293**	**266**	**189**	**195**	**214**	**238**	**242**	**246**	**362**	**394**	**399**	**336**	**284**	**233**	**183**	**150**	**92**	4593	399	17-18
5/07, Wed	**51**	**22**	**6**	**8**	**10**	**36**	**109**	**297**	**265**	**207**	**219**	**221**													1451		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	54	**31**	**13**	**10**	**13**	**36**	**123**	**301**	**280**	**223**	**224**	**229**	**252**	**258**	**261**	**370**	**380**	**402**	**352**	**284**	**237**	**189**	**145**	**101**	4767		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	East High Hour	East % of day	West High Hour	West % of day
6	147	3	81	402	8.4	180	8.1	222	8.7

ESTIMATED AADT		
Roadway	East	West
4424	1956	2260

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
5	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 112059

New York State Department of Transportation
EB Traffic Count Hourly Report

ROUTE/ROAD:	SECOND AVE	FROM:	DELAWARE AVE	TO:	S PEARL ST	REGION-COUNTY:	1-ALBANY
FED DIR CODE:	3	REF. MARKER:		FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Albany-City-2001
ST DIR CODE:	6	END MILEPOST:	1.29	FACTOR GROUP:	30	BIN:	
DOT ID:	104573	LANES BY DIR:	1 East	CC STN:		RR CROSSING:	
BEGIN DATE:	5/1/2014	WEEK OF YEAR:	18	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:	EB travel lane	PLACEMENT:	50' W of Hummel Terrace î	JURISDICTION:	04-City or village	1 WAY CODE:	
NOTES 2:	WB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	R01-TDB	BATCH ID:	DOT-R01R1 WW1	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
5/01, Thu										**127**	**112**	**112**	**106**	**118**	**116**	**184**	**177**	**189**	**170**	**126**	**100**	**88**	**72**	**52**	1849		
5/02, Fri	**26**	**13**	**9**	**6**	**7**	**21**	**63**	**171**	**166**	**126**	**118**	**122**	**138**	**145**	**143**	**132**	**154**	**174**	**174**	**133**	**124**	**96**	**92**	**71**	2424	174	18-19
5/03, Sat	**43**	**22**	**13**	**8**	**16**	**6**	**22**	**62**	**56**	**106**	**111**	**157**	**143**	**143**	**141**	**153**	**131**	**144**	**130**	**109**	**92**	**94**	**76**	**65**	2043	157	11-12
5/04, Sun	**38**	**35**	**25**	**10**	**8**	**12**	**17**	**41**	**49**	**73**	**91**	**93**	**124**	**112**	**124**	**118**	**117**	**108**	**103**	**106**	**86**	**46**	**45**	**40**	1621	124	14-15
5/05, Mon	**18**	**8**	**2**	**5**	**12**	**18**	**74**	**160**	**160**	**106**	**110**	**102**	**126**	**115**	**113**	**173**	**150**	**180**	**173**	**120**	**99**	**81**	**62**	**48**	2215	180	17-18
5/06, Tue	**29**	**11**	**5**	**2**	**6**	**16**	**64**	**160**	**143**	**94**	**85**	**101**	**107**	**115**	**104**	**162**	**163**	**171**	**143**	**111**	**102**	**80**	**65**	**44**	2083	171	17-18
5/07, Wed	**22**	**12**	**2**	**4**	**5**	**17**	**59**	**163**	**142**	**102**	**101**	**102**													731		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	26	**12**	**5**	**4**	**6**	**18**	**65**	**164**	**153**	**111**	**105**	**108**	**113**	**116**	**111**	**173**	**163**	**180**	**162**	**119**	**100**	**83**	**66**	**48**	2211		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	East High Hour	East % of day	West High Hour	West % of day
6	147	3	81	402	8.4	180	8.1	222	8.7

ESTIMATED AADT		
Roadway	East	West
4424	1956	2260

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
5	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 112059

New York State Department of Transportation
WB Traffic Count Hourly Report

ROUTE/ROAD:	SECOND AVE	FROM:	DELAWARE AVE	TO:	S PEARL ST	REGION-COUNTY:	1-ALBANY
FED DIR CODE:	7	REF. MARKER:		FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Albany-City-2001
ST DIR CODE:	6	END MILEPOST:	1.29	FACTOR GROUP:	30	BIN:	
DOT ID:	104573	LANES BY DIR:	1 West	CC STN:		RR CROSSING:	
BEGIN DATE:	5/1/2014	WEEK OF YEAR:	18	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:	EB travel lane	PLACEMENT:	50' W of Hummel Terrace î	JURISDICTION:	04-City or village	1 WAY CODE:	
NOTES 2:	WB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	R01-TDB	BATCH ID:	DOT-R01R1 WW1	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
5/01, Thu										**124**	**125**	**117**	**144**	**152**	**151**	**210**	**206**	**221**	**169**	**146**	**135**	**111**	**75**	**46**	2132		
5/02, Fri	**27**	**21**	**12**	**10**	**11**	**17**	**65**	**151**	**154**	**120**	**121**	**128**	**132**	**152**	**175**	**205**	**229**	**233**	**217**	**171**	**154**	**120**	**123**	**76**	2824	233	17-18
5/03, Sat	**53**	**36**	**23**	**21**	**20**	**12**	**27**	**47**	**63**	**119**	**125**	**152**	**156**	**175**	**147**	**164**	**174**	**155**	**146**	**145**	**117**	**99**	**85**	**71**	2332	175	13-14
5/04, Sun	**47**	**53**	**36**	**18**	**10**	**9**	**24**	**33**	**46**	**67**	**93**	**82**	**119**	**178**	**141**	**135**	**134**	**138**	**108**	**122**	**86**	**65**	**74**	**46**	1864	178	13-14
5/05, Mon	**22**	**16**	**7**	**2**	**14**	**20**	**58**	**132**	**110**	**115**	**118**	**129**	**142**	**147**	**156**	**182**	**214**	**218**	**208**	**176**	**145**	**104**	**75**	**64**	2574	218	17-18
5/06, Tue	**28**	**25**	**7**	**4**	**5**	**17**	**58**	**133**	**123**	**95**	**110**	**113**	**131**	**127**	**142**	**200**	**231**	**228**	**193**	**173**	**131**	**103**	**85**	**48**	2510	231	16-17
5/07, Wed	**29**	**10**	**4**	**4**	**5**	**19**	**50**	**134**	**123**	**105**	**118**	**119**													720		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	28	**19**	**8**	**6**	**7**	**18**	**58**	**138**	**128**	**112**	**118**	**121**	**139**	**142**	**150**	**197**	**217**	**222**	**190**	**165**	**137**	**106**	**78**	**53**	2555		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	East High Hour	East % of day	West High Hour	West % of day	ESTIMATED AADT Roadway	East	West
6	147	3	81	402	8.4	180	8.1	222	8.7	4424	1956	2260

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
5	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
787 Access & 32 N. @ Church
Counter:JSR

File Name : 787 Access & 32 N. @ Church_10-16-09_
Site Code : 00000000
Start Date : 10/8/2009
Page No : 1

Groups Printed- Cars - Heavy Trucks

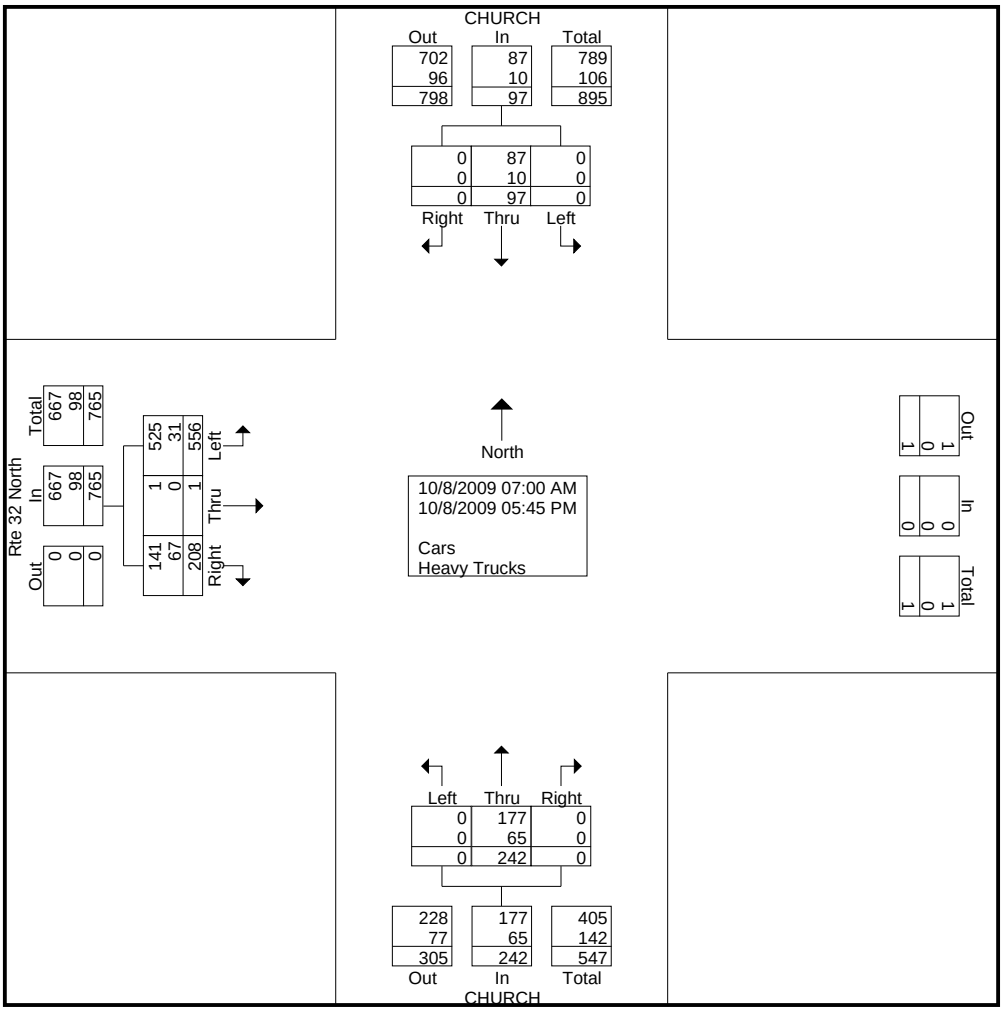
	CHURCH From North				From East	CHURCH From South				Rte 32 North From West				
Start Time	Right	Thru	Left	App. Total	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0			1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	0	5	0	5	0	0	6	0	6	16	0	20	36	47
07:15 AM	0	5	0	5	0	0	11	0	11	18	0	30	48	64
07:30 AM	0	2	0	2	0	0	8	0	8	18	0	47	65	75
07:45 AM	0	8	0	8	0	0	14	0	14	28	0	59	87	109
Total	0	20	0	20	0	0	39	0	39	80	0	156	236	295
08:00 AM	0	0	0	0	0	0	9	0	9	9	0	46	55	64
08:15 AM	0	6	0	6	0	0	21	0	21	18	0	49	67	94
08:30 AM	0	6	0	6	0	0	8	0	8	6	0	65	71	85
08:45 AM	0	4	0	4	0	0	14	0	14	13	0	50	63	81
Total	0	16	0	16	0	0	52	0	52	46	0	210	256	324
09:00 AM	0	6	0	6	0	0	13	0	13	9	0	34	43	62
****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** BREAK ****** ****** ****** ****** ****** ****** ****** ******														
Total	0	6	0	6	0	0	13	0	13	9	0	34	43	62
****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** BREAK ****** ****** ****** ****** ****** ****** ****** ******														
04:00 PM	0	6	0	6	0	0	24	0	24	12	0	29	41	71
04:15 PM	0	4	0	4	0	0	17	0	17	9	0	18	27	48
04:30 PM	0	10	0	10	0	0	7	0	7	4	0	29	33	50
04:45 PM	0	10	0	10	0	0	24	0	24	8	0	16	24	58
Total	0	30	0	30	0	0	72	0	72	33	0	92	125	227
05:00 PM	0	3	0	3	0	0	16	0	16	8	1	20	29	48
05:15 PM	0	9	0	9	0	0	18	0	18	8	0	20	28	55
05:30 PM	0	8	0	8	0	0	18	0	18	14	0	9	23	49
05:45 PM	0	5	0	5	0	0	14	0	14	10	0	15	25	44
Total	0	25	0	25	0	0	66	0	66	40	1	64	105	196
Grand Total	0	97	0	97	0	0	242	0	242	208	1	556	765	1104
Apprch %	0	100	0			0	100	0		27.2	0.1	72.7		
Total %	0	8.8	0	8.8	0	0	21.9	0	21.9	18.8	0.1	50.4	69.3	
Cars	0	87	0	87	0	0	177	0	177	141	1	525	667	931
% Cars	0	89.7	0	89.7	0	0	73.1	0	73.1	67.8	100	94.4	87.2	84.3
Heavy Trucks	0	10	0	10	0	0	65	0	65	67	0	31	98	173
% Heavy Trucks	0	10.3	0	10.3	0	0	26.9	0	26.9	32.2	0	5.6	12.8	15.7

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
787 Access & 32 N. @ Church
Counter:JSR

File Name : 787 Access & 32 N. @ Church_10-16-09_
Site Code : 00000000
Start Date : 10/8/2009
Page No : 2



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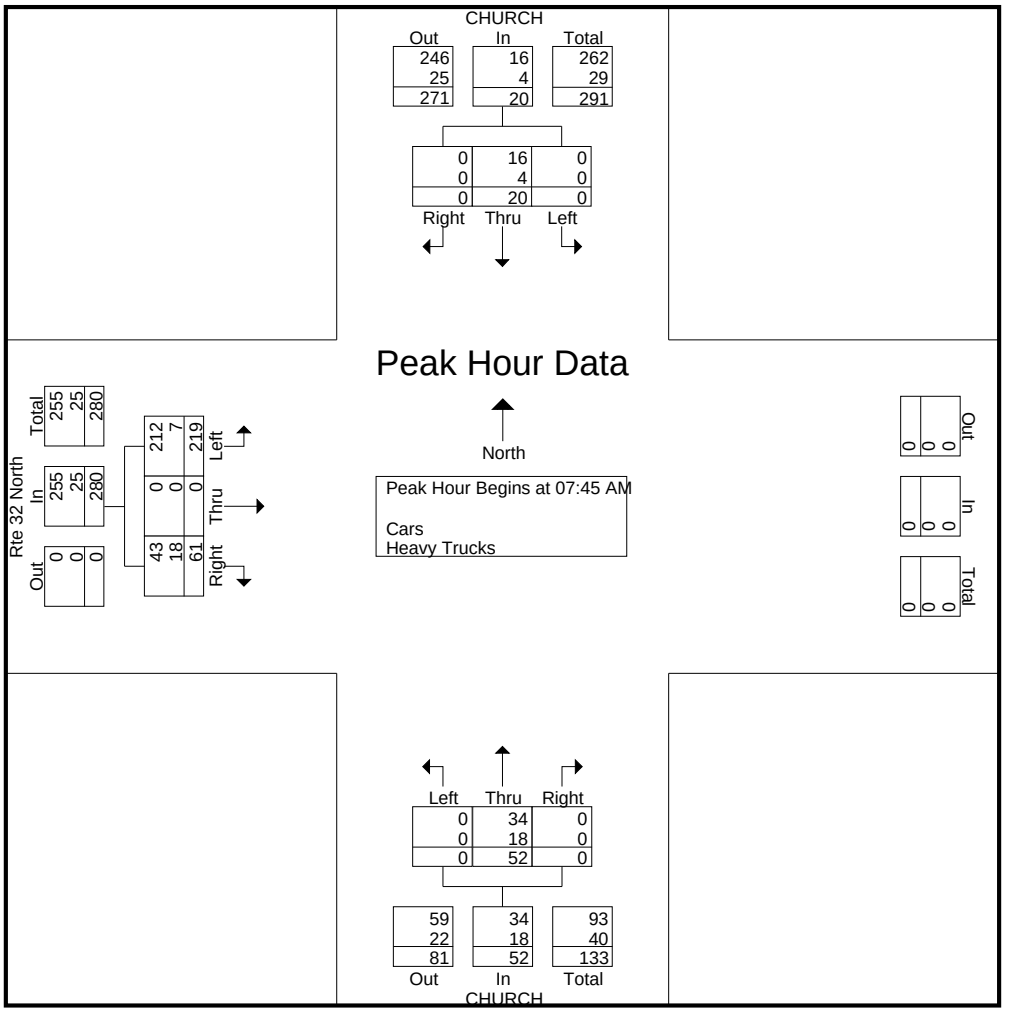
Site Code : 00000000
Start Date : 10/8/2009
Page No : 3

	CHURCH From North				From East	CHURCH From South				Rte 32 North From West				
Start Time	Right	Thru	Left	App. Total	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:45 AM														
07:45 AM	0	**8**	0	**8**	0	0	14	0	14	**28**	0	59	**87**	**109**
08:00 AM	0	0	0	0	0	0	9	0	9	9	0	46	55	64
08:15 AM	0	6	0	6	0	0	**21**	0	**21**	18	0	49	67	94
08:30 AM	0	6	0	6	0	0	8	0	8	6	0	**65**	71	85
Total Volume	0	20	0	20	0	0	52	0	52	61	0	219	280	352
% App. Total	0	100	0			0	100	0		21.8	0	78.2		
PHF	.000	.625	.000	.625	.000	.000	.619	.000	.619	.545	.000	.842	.805	.807
Cars	0	16	0	16	0	0	34	0	34	43	0	212	255	305
% Cars	0	80.0	0	80.0	0	0	65.4	0	65.4	70.5	0	96.8	91.1	86.6
Heavy Trucks	0	4	0	4	0	0	18	0	18	18	0	7	25	47
% Heavy Trucks	0	20.0	0	20.0	0	0	34.6	0	34.6	29.5	0	3.2	8.9	13.4



NYSDOT

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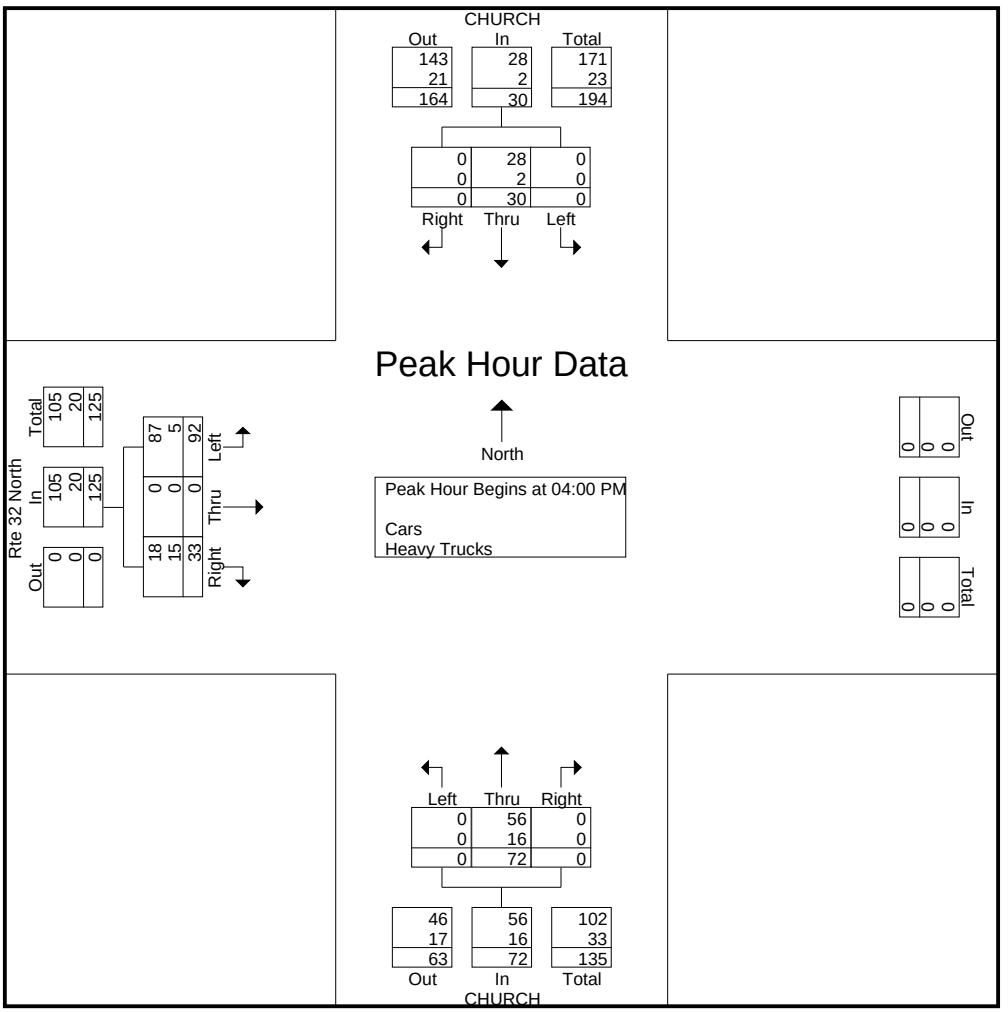
File Name : 787 Access & 32 N. @ Church_10-16-09_
Site Code : 00000000
Start Date : 10/8/2009
Page No : 4

	CHURCH From North				From East	CHURCH From South				Rte 32 North From West				
Start Time	Right	Thru	Left	App. Total	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 04:00 PM														
04:00 PM	0	6	0	6	0	0	**24**	0	**24**	**12**	0	**29**	**41**	**71**
04:15 PM	0	4	0	4	0	0	17	0	17	9	0	18	27	48
04:30 PM	0	**10**	0	**10**	0	0	7	0	7	4	0	29	33	50
04:45 PM	0	10	0	10	0	0	24	0	24	8	0	16	24	58
Total Volume	0	30	0	30	0	0	72	0	72	33	0	92	125	227
% App. Total	0	100	0			0	100	0		26.4	0	73.6		
PHF	.000	.750	.000	.750	.000	.000	.750	.000	.750	.688	.000	.793	.762	.799
Cars	0	28	0	28	0	0	56	0	56	18	0	87	105	189
% Cars	0	93.3	0	93.3	0	0	77.8	0	77.8	54.5	0	94.6	84.0	83.3
Heavy Trucks	0	2	0	2	0	0	16	0	16	15	0	5	20	38
% Heavy Trucks	0	6.7	0	6.7	0	0	22.2	0	22.2	45.5	0	5.4	16.0	16.7



NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany,NY
Rte 912S @ McCarty Ave.
Counter:JSR

File Name : 912S @ McCarty Ave_10-16-09_
Site Code : 00000000
Start Date : 10/7/2009
Page No : 1

Groups Printed- Cars - Heavy Trucks

	HOFFMAN AVE From North				MCCARTY AVE From East				912S @ McCarty Ave From South				MCCARTY AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	1	30	23	54	36	22	5	63	131	43	58	232	78	38	3	119	468
07:15 AM	1	28	34	63	48	32	10	90	133	55	78	266	125	44	1	170	589
07:30 AM	4	61	33	98	82	32	9	123	132	89	114	335	136	37	1	174	730
07:45 AM	1	59	32	92	72	37	9	118	113	92	116	321	200	43	4	247	778
Total	7	178	122	307	238	123	33	394	509	279	366	1154	539	162	9	710	2565
08:00 AM	4	45	29	78	48	23	11	82	140	59	79	278	171	57	2	230	668
08:15 AM	2	42	32	76	43	32	8	83	121	47	74	242	172	42	5	219	620
08:30 AM	7	44	18	69	36	42	8	86	103	55	66	224	142	46	5	193	572
08:45 AM	2	43	22	67	38	34	8	80	81	48	69	198	134	37	3	174	519
Total	15	174	101	290	165	131	35	331	445	209	288	942	619	182	15	816	2379
****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** BREAK ****** ****** ****** ****** ****** ****** ****** ******																	
04:00 PM	1	55	45	101	32	37	17	86	173	64	121	358	113	50	2	165	710
04:15 PM	2	45	47	94	36	34	19	89	174	55	128	357	86	34	5	125	665
04:30 PM	3	44	41	88	48	39	12	99	178	70	108	356	122	68	4	194	737
04:45 PM	3	57	50	110	36	40	21	97	155	50	118	323	95	68	8	171	701
Total	9	201	183	393	152	150	69	371	680	239	475	1394	416	220	19	655	2813
05:00 PM	5	48	34	87	42	31	8	81	203	83	146	432	101	46	7	154	754
05:15 PM	2	52	49	103	45	19	21	85	189	49	143	381	115	61	5	181	750
05:30 PM	4	41	51	96	33	34	17	84	180	80	102	362	95	53	6	154	696
05:45 PM	1	64	33	98	32	25	14	71	187	68	114	369	85	56	4	145	683
Total	12	205	167	384	152	109	60	321	759	280	505	1544	396	216	22	634	2883
Grand Total	43	758	573	1374	707	513	197	1417	2393	1007	1634	5034	1970	780	65	2815	10640
Apprch %	3.1	55.2	41.7		49.9	36.2	13.9		47.5	20	32.5		70	27.7	2.3		
Total %	0.4	7.1	5.4	12.9	6.6	4.8	1.9	13.3	22.5	9.5	15.4	47.3	18.5	7.3	0.6	26.5	
Cars	41	742	565	1348	685	497	162	1344	2268	992	1624	4884	1951	765	63	2779	10355
% Cars	95.3	97.9	98.6	98.1	96.9	96.9	82.2	94.8	94.8	98.5	99.4	97	99	98.1	96.9	98.7	97.3
Heavy Trucks	2	16	8	26	22	16	35	73	125	15	10	150	19	15	2	36	285
% Heavy Trucks	4.7	2.1	1.4	1.9	3.1	3.1	17.8	5.2	5.2	1.5	0.6	3	1	1.9	3.1	1.3	2.7

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Schenectady, NY 12305
Region 1 Planning

Albany County
Albany,NY
Rte 912S @ McCarty Ave.
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File Name : 912S @ McCarty Ave_10-16-09_
Site Code : 00000000
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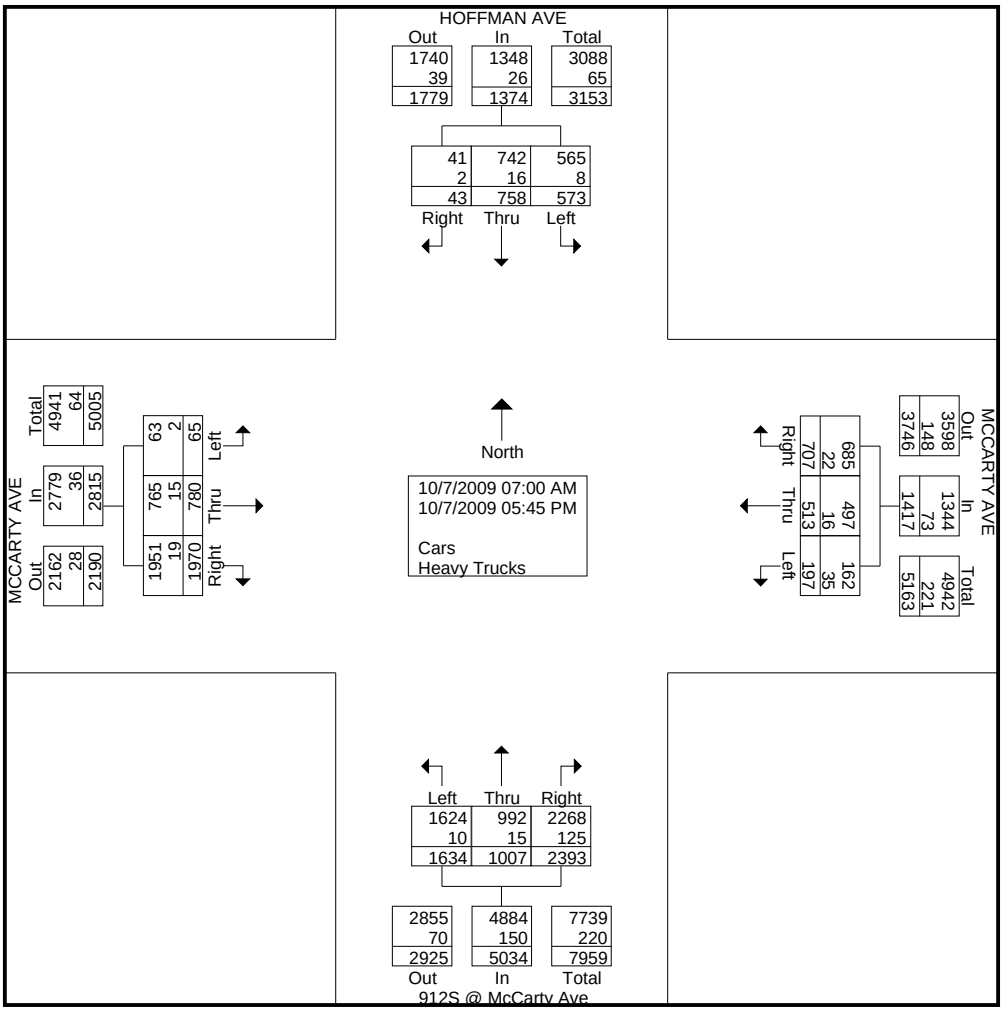

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328 State St.
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Albany,NY
Rte 912S @ McCarty Ave.
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File Name : 912S @ McCarty Ave_10-16-09_
Site Code : 00000000
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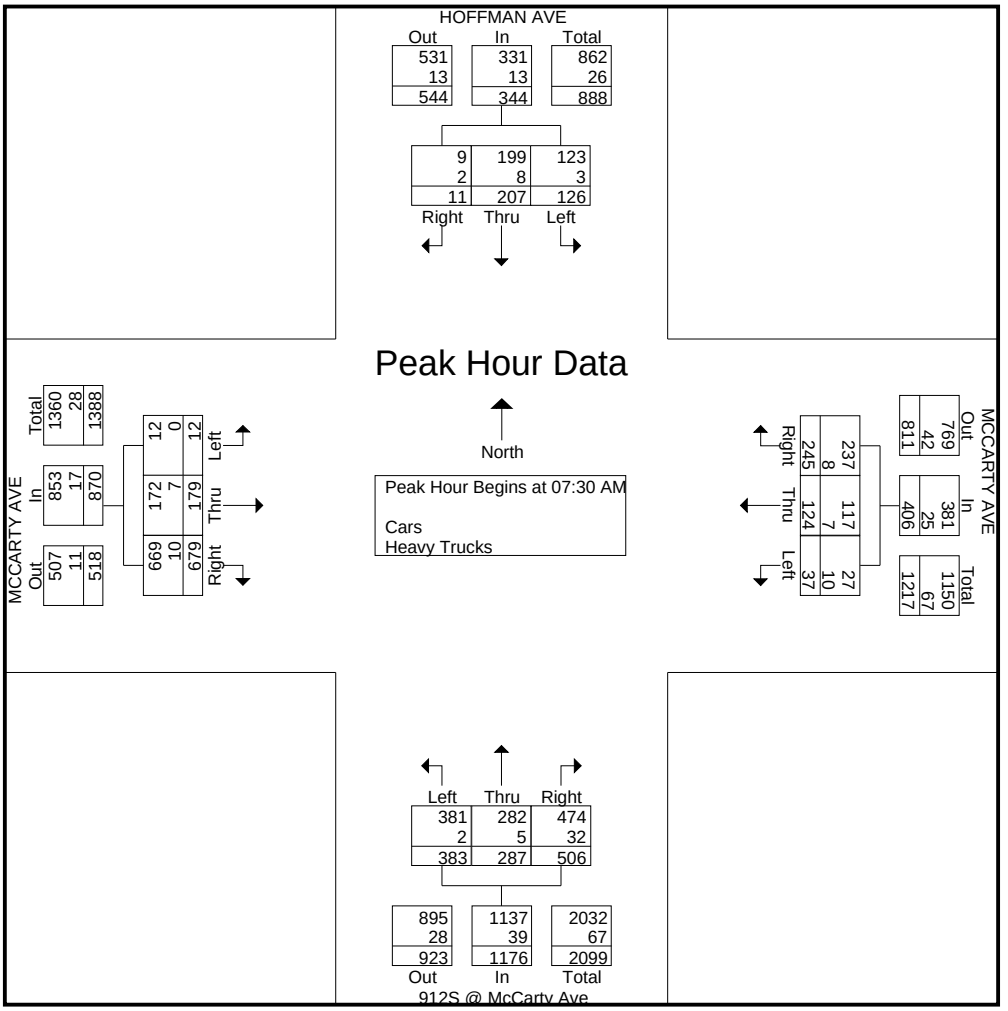
	HOFFMAN AVE From North				MCCARTY AVE From East				912S @ McCarty Ave From South				MCCARTY AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**4**	**61**	**33**	**98**	**82**	32	9	**123**	132	89	114	**335**	136	37	1	174	730
07:45 AM	1	59	32	92	72	**37**	9	118	113	**92**	**116**	321	**200**	43	4	**247**	**778**
08:00 AM	4	45	29	78	48	23	**11**	82	**140**	59	79	278	171	**57**	2	230	668
08:15 AM	2	42	32	76	43	32	8	83	121	47	74	242	172	42	**5**	219	620
Total Volume	11	207	126	344	245	124	37	406	506	287	383	1176	679	179	12	870	2796
% App. Total	3.2	60.2	36.6		60.3	30.5	9.1		43	24.4	32.6		78	20.6	1.4		
PHF	.688	.848	.955	.878	.747	.838	.841	.825	.904	.780	.825	.878	.849	.785	.600	.881	.898
Cars	9	199	123	331	237	117	27	381	474	282	381	1137	669	172	12	853	2702
% Cars	81.8	96.1	97.6	96.2	96.7	94.4	73.0	93.8	93.7	98.3	99.5	96.7	98.5	96.1	100	98.0	96.6
Heavy Trucks	2	8	3	13	8	7	10	25	32	5	2	39	10	7	0	17	94
% Heavy Trucks	18.2	3.9	2.4	3.8	3.3	5.6	27.0	6.2	6.3	1.7	0.5	3.3	1.5	3.9	0	2.0	3.4



NYSDOT

328 State St.
Schenectady, NY 12305
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Albany County
Albany,NY
Rte 912S @ McCarty Ave.
Counter:JSR

File Name : 912S @ McCarty Ave_10-16-09_
Site Code : 00000000
Start Date : 10/7/2009
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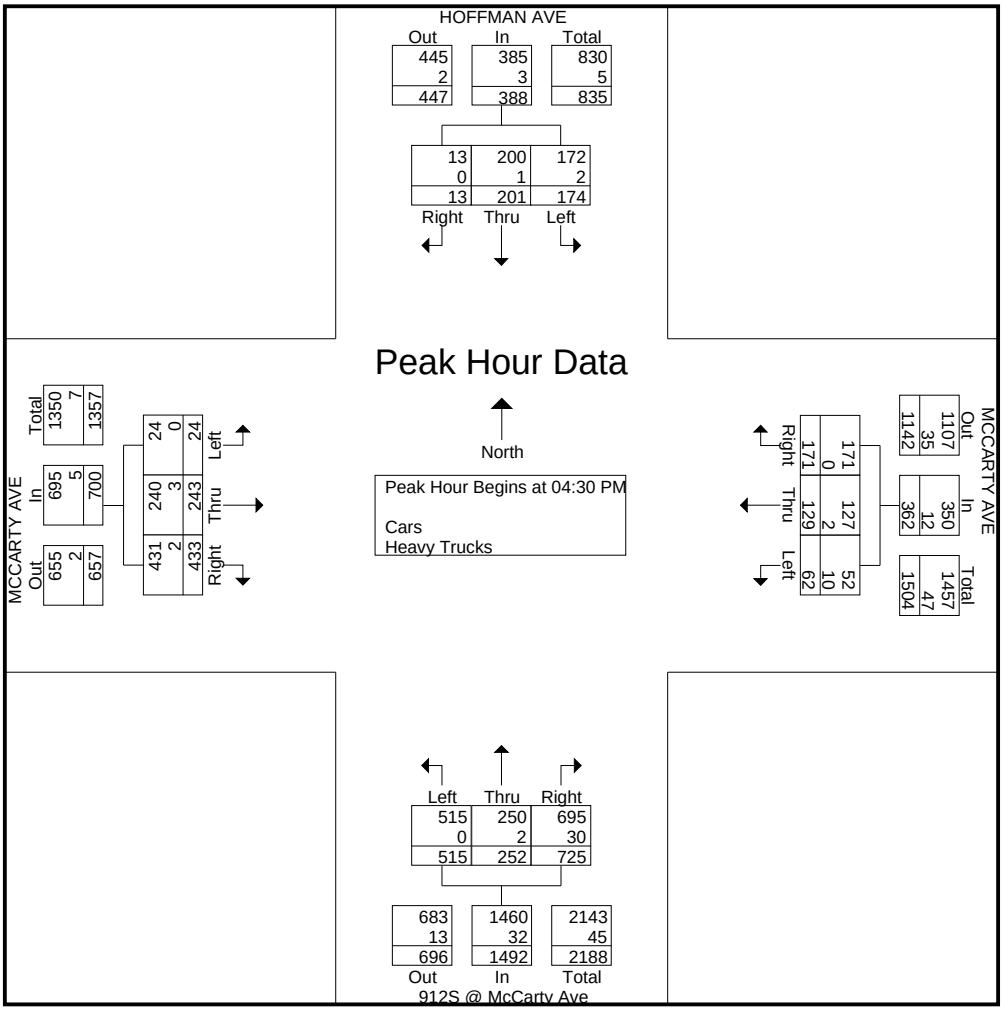
	HOFFMAN AVE From North				MCCARTY AVE From East				912S @ McCarty Ave From South				MCCARTY AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	3	44	41	88	**48**	39	12	**99**	178	70	108	356	**122**	**68**	4	**194**	737
04:45 PM	3	**57**	**50**	**110**	36	**40**	**21**	97	155	50	118	323	95	68	**8**	171	701
05:00 PM	**5**	48	34	87	42	31	8	81	**203**	**83**	**146**	**432**	101	46	7	154	**754**
05:15 PM	2	52	49	103	45	19	21	85	189	49	143	381	115	61	5	181	750
Total Volume	13	201	174	388	171	129	62	362	725	252	515	1492	433	243	24	700	2942
% App. Total	3.4	51.8	44.8		47.2	35.6	17.1		48.6	16.9	34.5		61.9	34.7	3.4		
PHF	.650	.882	.870	.882	.891	.806	.738	.914	.893	.759	.882	.863	.887	.893	.750	.902	.975
Cars	13	200	172	385	171	127	52	350	695	250	515	1460	431	240	24	695	2890
% Cars	100	99.5	98.9	99.2	100	98.4	83.9	96.7	95.9	99.2	100	97.9	99.5	98.8	100	99.3	98.2
Heavy Trucks	0	1	2	3	0	2	10	12	30	2	0	32	2	3	0	5	52
% Heavy Trucks	0	0.5	1.1	0.8	0	1.6	16.1	3.3	4.1	0.8	0	2.1	0.5	1.2	0	0.7	1.8

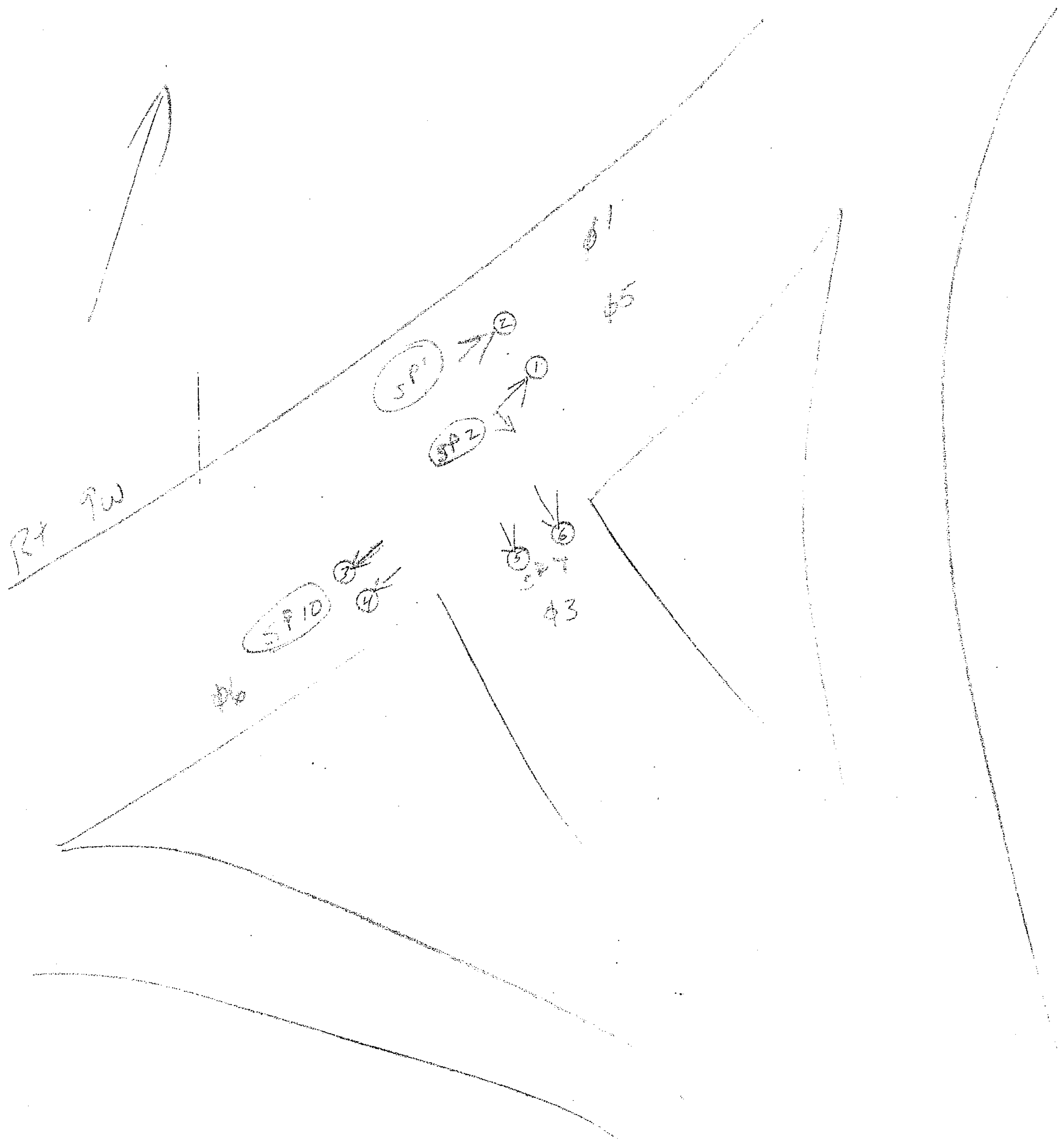


9W @ CORNING HILL

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
TRAFFIC CONTROL SIGNAL SPECIFICATIONS (CONTINUED)

Study:
Contract:
P.I.N.:
File:

23	ALBANY	10-22-97	PAGE ____ OF ____ PAGES
SIGNAL NO(S).	COUNTY	DATE	



Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	20		10		5	20		
Gap, Ext	5		3		2	5		
Max 1	65		30		25	65		
Max 2								
Yel Clearance	4	4	4	4	4	4	4	4
Red Clearance	1	1	1	1	1	1	1	1
Walk								
Ped Clearance								
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Enable	On		On		On	On		
Min Recall	On					On		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls	On		On			On		
Auto Flash Entry								
Auto Flash Exit								
Dual Entry		On		On		On		On
Enable Simul Gap	On	On	On	On	On	On	On	On
Gaurantee Passage								
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								
Options+ [1.1.3]	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Call Phase								
Conflicting Phase								
Omit Yellow								
Ped Delay								
Grn/Ped Delay								

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	1	1	13	0	0	13	1	25	0	0	0	1	37	0	0	0	1
2	0	0	2	1	14	0	0	14	1	26	0	0	0	1	38	0	0	0	1
3	0	0	3	1	15	0	0	15	1	27	0	0	0	1	39	0	0	0	1
4	0	0	4	1	16	0	0	16	1	28	0	0	0	1	40	0	0	0	1
5	0	0	5	1	17	0	0	17	1	29	0	0	0	1	41	0	0	0	1
6	0	0	6	1	18	0	0	18	1	30	0	0	0	1	42	0	0	0	1
7	0	0	7	1	19	0	0	19	1	31	0	0	0	1	43	0	0	0	1
8	0	0	8	1	20	0	0	20	1	32	0	0	0	1	44	0	0	0	1
9	0	0	9	1	21	0	0	21	1	33	0	0	0	1	45	0	0	0	1
10	0	0	10	1	22	0	0	22	1	34	0	0	0	1	46	0	0	0	1
11	0	0	11	1	23	0	0	23	1	35	0	0	0	1	47	0	0	0	1
12	0	0	12	1	24	0	0	24	1	36	0	0	0	1	48	0	0	0	1

Split		1	2	3	4	5	6	7	8	Split		1	2	3	4	5	6	7	8
1	Coor	0	0	0	0	0	0	0	0	13	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
2	Coor	120	0	30	0	20	120	0	0	14	Coor	0	0	0	0	0	0	0	0
		MIN	NON	NON	NON	NON	MIN	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
3	Coor	0	0	0	0	0	0	0	0	15	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
4	Coor	0	0	0	0	0	0	0	0	16	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
5	Coor	0	0	0	0	0	0	0	0	17	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
6	Coor	0	0	0	0	0	0	0	0	18	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
7	Coor	0	0	0	0	0	0	0	0	19	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
8	Coor	0	0	0	0	0	0	0	0	20	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
9	Coor	0	0	0	0	0	0	0	0	21	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
10	Coor	0	0	0	0	0	0	0	0	22	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
11	Coor	0	0	0	0	0	0	0	0	23	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
12	Coor	0	0	0	0	0	0	0	0	24	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON

Page#	
1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)
3	Detection; Sample Time and Unit Parameters related to detection
4	Preemption and Alternate Phase Time and Phase Options
5	Annual Schedule
6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
7	Communications; Secutiry; I/O Setup
8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param

1023

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	RED	On
2	1	RED	Off
3	1	RED	On
4	1	RED	Off
5	2	RED	On
6	2	RED	On
7	2	RED	Off
8	2	RED	Off

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	ON
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	40
Flash Red	10

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	40
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

9W @
McCarthy

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
TRAFFIC CONTROL SIGNAL SPECIFICATIONS (CONTINUED)

Study:
Contract:
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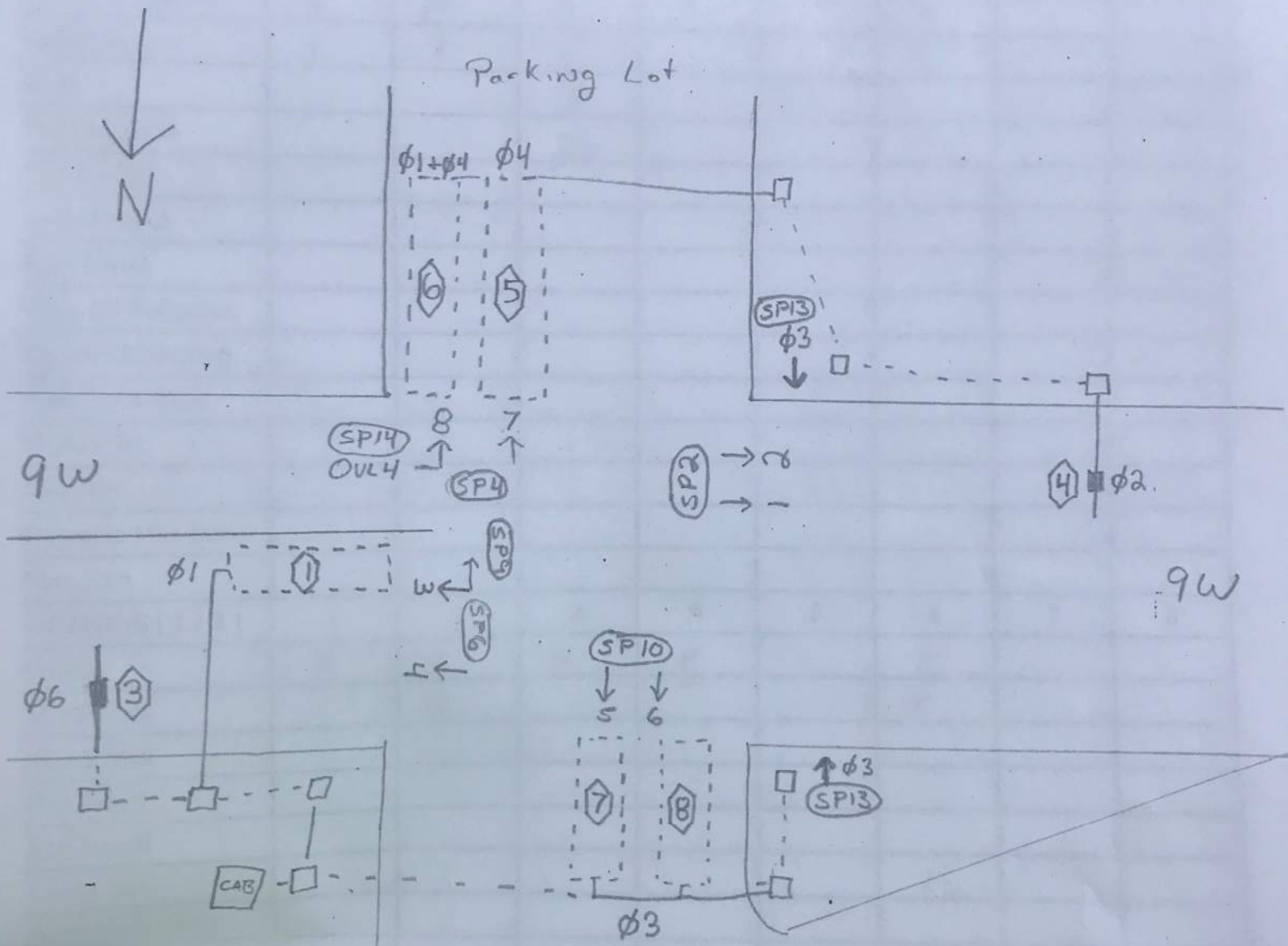
File:

1116 SIGNAL NO(S). | ALBANY COUNTY | DATE | PAGE____OF____PAG



TE 5b (8/82)

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green		20				20		
Gap, Ext	2	4	2	2		4		
Max 1	10	80	25	30		80		
Max 2								
Yel Clearance	4	4	4	4	4	4	4	4
Red Clearance	1	1	1	1	1	1	1	1
Walk			7					
Ped Clearance			22					
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Enable	On	On	On	On		On		
Min Recall		On				On		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry		On		On		On		On
Enable Simul Gap	On	On	On	On	On	On	On	On
Gaurantee Passage								
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								
Options+ [1.1.3]	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Call Phase								
Conflicting Phase								
Omit Yellow								
Ped Delay								
Grn/Ped Delay								

1116 Route 9W @ McCarty

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	1	1	13	0	0	13	1	25	0	0	0	1	37	0	0	0	1
2	0	0	2	1	14	0	0	14	1	26	0	0	0	1	38	0	0	0	1
3	0	0	3	1	15	0	0	15	1	27	0	0	0	1	39	0	0	0	1
4	0	0	4	1	16	0	0	16	1	28	0	0	0	1	40	0	0	0	1
5	0	0	5	1	17	0	0	17	1	29	0	0	0	1	41	0	0	0	1
6	0	0	6	1	18	0	0	18	1	30	0	0	0	1	42	0	0	0	1
7	0	0	7	1	19	0	0	19	1	31	0	0	0	1	43	0	0	0	1
8	0	0	8	1	20	0	0	20	1	32	0	0	0	1	44	0	0	0	1
9	0	0	9	1	21	0	0	21	1	33	0	0	0	1	45	0	0	0	1
10	0	0	10	1	22	0	0	22	1	34	0	0	0	1	46	0	0	0	1
11	0	0	11	1	23	0	0	23	1	35	0	0	0	1	47	0	0	0	1
12	0	0	12	1	24	0	0	24	1	36	0	0	0	1	48	0	0	0	1

Split		1	2	3	4	5	6	7	8	Split		1	2	3	4	5	6	7	8
1	Coor	0	0	0	0	0	0	0	0	13	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
2	Coor	0	0	0	0	0	0	0	0	14	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
3	Coor	0	0	0	0	0	0	0	0	15	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
4	Coor	0	0	0	0	0	0	0	0	16	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
5	Coor	0	0	0	0	0	0	0	0	17	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
6	Coor	0	0	0	0	0	0	0	0	18	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
7	Coor	0	0	0	0	0	0	0	0	19	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
8	Coor	0	0	0	0	0	0	0	0	20	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
9	Coor	0	0	0	0	0	0	0	0	21	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
10	Coor	0	0	0	0	0	0	0	0	22	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
11	Coor	0	0	0	0	0	0	0	0	23	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON
12	Coor	0	0	0	0	0	0	0	0	24	Coor	0	0	0	0	0	0	0	0
		NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON

Page#	
1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)
3	Detection; Sample Time and Unit Parameters related to detection
4	Preemption and Alternate Phase Time and Phase Options
5	Annual Schedule
6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
7	Communications; Secutiry; I/O Setup
8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param

1116

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	RED	On
2	1	RED	On
3	1	RED	On
4	1	RED	On
5	2	RED	Off
6	2	RED	On
7	2	RED	Off
8	2	RED	Off

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	ON
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	40
Flash Red	10

Unit Params [1.2.1]

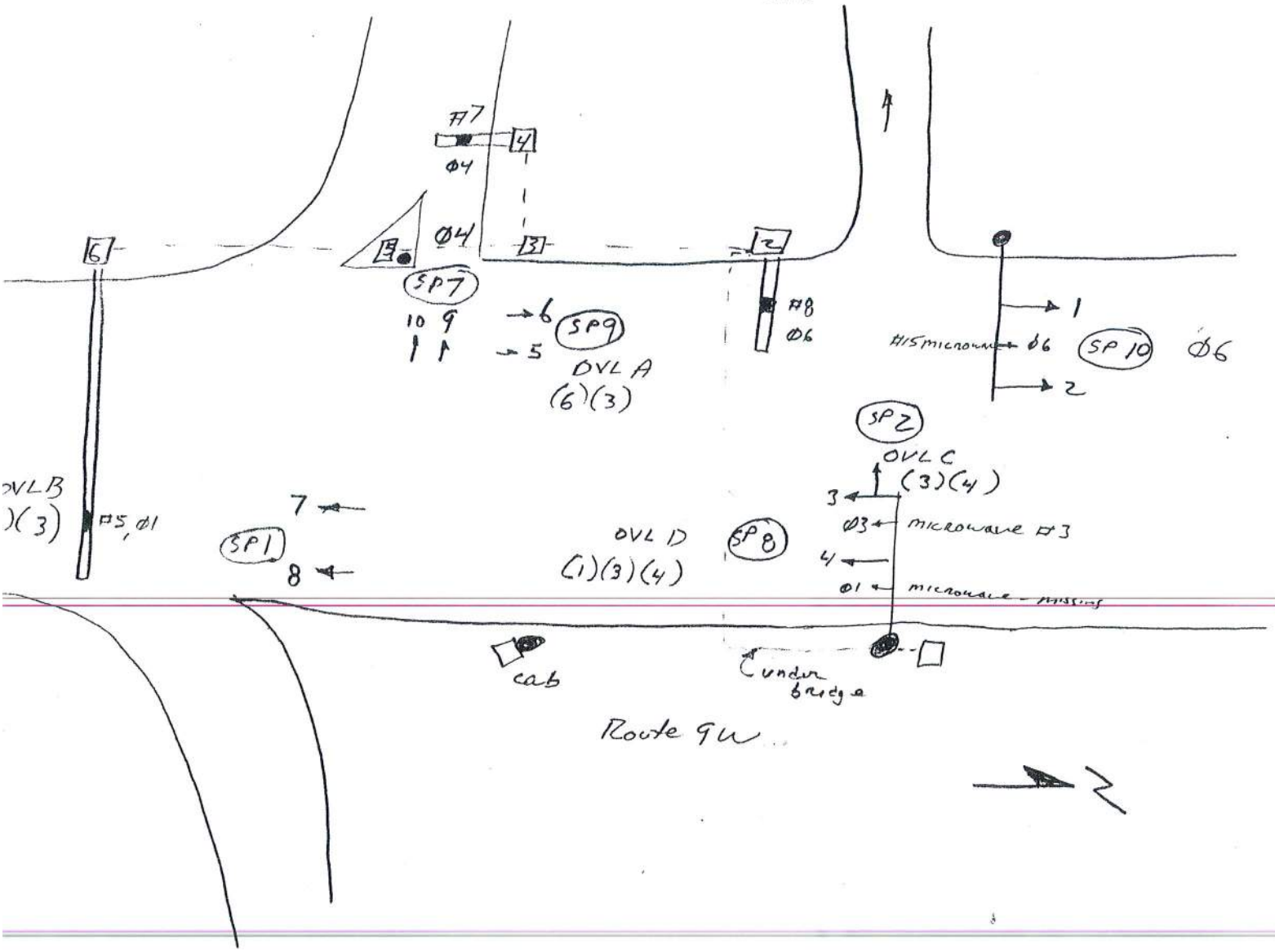
Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	40
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

9W @ THRUWAY

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
TRAFFIC CONTROL SIGNAL SPECIFICATIONS (CONTINUED)

Study:
Contract:
P.I.N.:
File:

2A, 2A.1	Albany	12/18/96	PAGE_____OF_____PAGES
SIGNAL NO(S).	COUNTY	DATE	



Ø1 - NB
Ø6 - SB
Ø3 - NB LTA
Ø4 - Exit Ramp

① 2	③ ④
5 ⑥	7 8

STD8

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	15		5	10		15		
Gap, Ext	5		2	4		5		
Max 1	60		25	50		80		
Max 2								
Yel Clearance	4	4	4	4	4	4	4	4
Red Clearance	1	1	1	1	1	1	1	1
Walk								
Ped Clearance								
Red Revert								
Add Initial	3			3		3		
Max Initial	20			15		20		
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								

Options [1.1.2]

Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	On		On	On		On		
Min Recall	On					On		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls			On	On				
Auto Flash Entry								
Auto Flash Exit								
Dual Entry		On		On		On		On
Enable Simul Gap	On	On	On	On	On	On	On	On
Gaurantee Passag								
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								

Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Call Phase								
Conflicting Phase								
Omit Yellow								
Ped Delay								
Grn/Ped Delay								

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	1	1	13	0	0	13	1	25	0	0	0	1	37	0	0	0	1
2	0	0	2	1	14	0	0	14	1	26	0	0	0	1	38	0	0	0	1
3	0	0	3	1	15	0	0	15	1	27	0	0	0	1	39	0	0	0	1
4	0	0	4	1	16	0	0	16	1	28	0	0	0	1	40	0	0	0	1
5	0	0	5	1	17	0	0	17	1	29	0	0	0	1	41	0	0	0	1
6	0	0	6	1	18	0	0	18	1	30	0	0	0	1	42	0	0	0	1
7	0	0	7	1	19	0	0	19	1	31	0	0	0	1	43	0	0	0	1
8	0	0	8	1	20	0	0	20	1	32	0	0	0	1	44	0	0	0	1
9	0	0	9	1	21	0	0	21	1	33	0	0	0	1	45	0	0	0	1
10	0	0	10	1	22	0	0	22	1	34	0	0	0	1	46	0	0	0	1
11	0	0	11	1	23	0	0	23	1	35	0	0	0	1	47	0	0	0	1
12	0	0	12	1	24	0	0	24	1	36	0	0	0	1	48	0	0	0	1

Split	1	2	3	4	5	6	7	8	Split	1	2	3	4	5	6	7	8
1 Coor	0	0	0	0	0	0	0	0	13 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
2 Coor	60	0	25	50	0	80	0	0	14 Coor	0	0	0	0	0	0	0	0
	MIN	NON	NON	NON	NON	MIN	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
3 Coor	0	0	0	0	0	0	0	0	15 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
4 Coor	0	0	0	0	0	0	0	0	16 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
5 Coor	0	0	0	0	0	0	0	0	17 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
6 Coor	0	0	0	0	0	0	0	0	18 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
7 Coor	0	0	0	0	0	0	0	0	19 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
8 Coor	0	0	0	0	0	0	0	0	20 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
9 Coor	0	0	0	0	0	0	0	0	21 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
10 Coor	0	0	0	0	0	0	0	0	22 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
11 Coor	0	0	0	0	0	0	0	0	23 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON
12 Coor	0	0	0	0	0	0	0	0	24 Coor	0	0	0	0	0	0	0	0
	NON	NON	NON	NON	NON	NON	NON	NON		NON	NON	NON	NON	NON	NON	NON	NON

Page#	
1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
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6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
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8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	RED	On
2	1	RED	Off
3	1	RED	On
4	1	RED	On
5	2	RED	Off
6	2	RED	On
7	2	RED	Off
8	2	RED	Off

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	ON
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	40
Flash Red	0

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	40
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

ID: 1902 Route 9W Exit 23 T-Way

03/18/19 **Page 1**

New York State Department of Transportation

Traffic Count Hourly Report

ROAD #: ROAD NAME: **FRISBIE AVE** FROM: **MCCARTY AVE** TO: **SECOND AVE** COUNTY: **Albany**
DIRECTION: Northbound FACTOR GROUP: 30 REC. SERIAL #: CN65 FUNC. CLASS: 16 CITY:
STATE DIR CODE: 6 WK OF YR: 32 PLACEMENT: 275' S of Avenue B NHS: no LION#:
DATE OF COUNT: 08/03/2016 @ REF MARKER: JURIS: County BIN:
NOTES LANE 1: NB travel lane ADDL DATA: Class Speed CC Stn: RR CROSSING:
COUNT TYPE: AXLE PAIRS BATCH ID: DOT-R01C32aTST5195 HPMS SAMPLE:
COUNT TAKEN BY: ORG CODE: TST INITIALS: BEK PROCESSED BY: ORG CODE: DOT INITIALS: KCF

DATE	DAY	12 TO 1 AM	1 TO 2 AM	2 TO 3 AM	3 TO 4 AM	4 TO 5 AM	5 TO 6 AM	6 TO 7 AM	7 TO 8 AM	8 TO 9 AM	9 TO 10 AM	10 TO 11 AM	11 TO 12 AM	12 TO 1 PM	1 TO 2 PM	2 TO 3 PM	3 TO 4 PM	4 TO 5 PM	5 TO 6 PM	6 TO 7 PM	7 TO 8 PM	8 TO 9 PM	9 TO 10 PM	10 TO 11 PM	11 TO 12 PM	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
1	M																											
2	T																											
3	W								**337**	**310**	**226**	**182**	**181**	**191**	**190**	**211**	**173**	**156**	**196**	**208**	**132**	**122**	**84**	**79**	**40**			
4	T	**32**	**11**	**14**	**9**	**24**	**71**	**243**	**356**	**293**	**236**	**179**	**164**	**196**	**175**	**214**	**187**	**194**	**204**	**235**	**165**	**127**	**88**	**86**	**62**	3565	356	7
5	F	**24**	**11**	**14**	**7**	**20**	**65**	**227**	**310**	**303**	**223**	**187**	**166**	**187**														
6	S																											
7	S																											
8	M																											
9	T																											
10	W																											
11	T																											
12	F																											
13	S																											
14	S																											
15	M																											
16	T																											
17	W																											
18	T																											
19	F																											
20	S																											
21	S																											
22	M																											
23	T																											
24	W																											
25	T																											
26	F																											
27	S																											
28	S																											
29	M																											
30	T																											
31	W																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

																									ADT
28	**11**	**14**	**8**	**22**	**68**	**235**	**334**	**302**	**228**	**183**	**170**	**194**	**182**	**212**	**180**	**175**	**200**	**222**	**148**	**124**	**86**	**82**	**51**	**3459**

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor
3	54	3	53	334	10%	1.000	1.089

ESTIMATED

AADT

3176

New York State Department of Transportation

Traffic Count Hourly Report

ROAD #: ROAD NAME: **FRISBIE AVE** FROM: **MCCARTY AVE** TO: **SECOND AVE** COUNTY: **Albany**

DIRECTION: Southbound FACTOR GROUP: 30 REC. SERIAL #: CN65 FUNC. CLASS: 16 CITY:

STATE DIR CODE: 7 WK OF YR: 32 PLACEMENT: 275' S of Avenue B NHS: no LION#:

DATE OF COUNT: 08/03/2016 @ REF MARKER: JURIS: County BIN:

NOTES LANE 1: SB travel lane ADDL DATA: Class Speed CC Stn: RR CROSSING:

COUNT TYPE: AXLE PAIRS BATCH ID: DOT-R01C32aTST5195 HPMS SAMPLE:

COUNT TAKEN BY: ORG CODE: TST INITIALS: BEK PROCESSED BY: ORG CODE: DOT INITIALS: KCF

DATE	DAY	12 TO 1 AM	1 TO 2 AM	2 TO 3 AM	3 TO 4 AM	4 TO 5 AM	5 TO 6 AM	6 TO 7 AM	7 TO 8 AM	8 TO 9 AM	9 TO 10 AM	10 TO 11 AM	11 TO 12 AM	12 TO 1 PM	1 TO 2 PM	2 TO 3 PM	3 TO 4 PM	4 TO 5 PM	5 TO 6 PM	6 TO 7 PM	7 TO 8 PM	8 TO 9 PM	9 TO 10 PM	10 TO 11 PM	11 TO 12 PM	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
1	M																											
2	T																											
3	W								**154**	**165**	**158**	**163**	**201**	**184**	**175**	**219**	**337**	**441**	**378**	**227**	**193**	**148**	**97**	**62**	**77**			
4	T	**33**	**19**	**11**	**13**	**14**	**29**	**86**	**133**	**133**	**155**	**173**	**168**	**200**	**192**	**266**	**334**	**437**	**379**	**221**	**210**	**166**	**113**	**85**	**72**	3642	437	16
5	F	**41**	**24**	**15**	**15**	**21**	**27**	**79**	**140**	**131**	**167**	**155**	**212**	**209**														
6	S																											
7	S																											
8	M																											
9	T																											
10	W																											
11	T																											
12	F																											
13	S																											
14	S																											
15	M																											
16	T																											
17	W																											
18	T																											
19	F																											
20	S																											
21	S																											
22	M																											
23	T																											
24	W																											
25	T																											
26	F																											
27	S																											
28	S																											
29	M																											
30	T																											
31	W																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

																									ADT
37	**22**	**13**	**14**	**18**	**28**	**82**	**142**	**143**	**160**	**164**	**194**	**192**	**184**	**242**	**336**	**439**	**378**	**224**	**202**	**157**	**105**	**74**	**74**	**3624**

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor
3	54	3	53	439	12%	1.000	1.089

ESTIMATED

AADT

3328

Lane Group	EBT	WBL	WBT	SBT
Lane Configurations				
Traffic Volume (vph)	314	8	290	48
Future Volume (vph)	314	8	290	48
Turn Type	NA	Perm	NA	NA
Protected Phases	2		6	4
Permitted Phases		6		
Detector Phase	2	6	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.0	15.0	15.0	10.0
Total Split (s)	42.0	42.0	42.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)	38.8		38.8	11.2
Actuated g/C Ratio	0.65		0.65	0.19
v/c Ratio	0.35		0.32	0.65
Control Delay	6.3		1.5	31.0
Queue Delay	0.0		0.0	0.0
Total Delay	6.3		1.5	31.0
LOS	A		A	C
Approach Delay	6.3		1.5	31.0
Approach LOS	A		A	C

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 10.5
Intersection LOS: B
Intersection Capacity Utilization 47.8%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: S Bertha St/Bertha St & 2nd Ave

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	129	40	185	504
Future Volume (vph)	129	40	185	504
Turn Type	NA	Perm	NA	Prot
Protected Phases	2		6	8
Permitted Phases		6		
Detector Phase	2	6	6	8
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.0	15.0	15.0	10.0
Total Split (s)	42.0	42.0	42.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)	37.0		37.0	13.0
Actuated g/C Ratio	0.62		0.62	0.22
v/c Ratio	0.44		0.28	1.54
Control Delay	3.1		6.4	281.8
Queue Delay	0.0		0.0	0.0
Total Delay	3.1		6.4	281.8
LOS	A		A	F
Approach Delay	3.1		6.4	281.8
Approach LOS	A		A	F

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow, Master Intersection
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 130.7 Intersection LOS: F
Intersection Capacity Utilization 77.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Hoffman Ave & 2nd Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	17	116	23	147	46	351	136
Future Volume (vph)	17	116	23	147	46	351	136
Turn Type	Perm	NA	Perm	NA	Perm	NA	NA
Protected Phases		2		6		8	4
Permitted Phases	2		6		8		
Detector Phase	2	2	6	6	8	8	4
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	15.0	15.0	15.0	15.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	42.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.0		5.0		5.0	5.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max	Max	Max	Max	None	None	None
Act Effct Green (s)		37.0		37.0		13.0	13.0
Actuated g/C Ratio		0.62		0.62		0.22	0.22
v/c Ratio		0.19		0.20		1.28	0.44
Control Delay		4.9		5.7		169.4	23.1
Queue Delay		0.0		0.0		0.0	0.0
Total Delay		4.9		5.7		169.4	23.1
LOS		A		A		F	C
Approach Delay		4.9		5.7		169.4	23.1
Approach LOS		A		A		F	C

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 85.6
Intersection LOS: F
Intersection Capacity Utilization 56.8%
ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Frisbee Ave & 2nd Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	7	141	5	151	11	2	13	2
Future Volume (vph)	7	141	5	151	11	2	13	2
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	42.0	18.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		50.1		50.1		6.3		6.4
Actuated g/C Ratio		0.93		0.93		0.12		0.12
v/c Ratio		0.12		0.15		0.09		0.12
Control Delay		1.4		1.4		19.2		16.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		1.4		1.4		19.2		16.7
LOS		A		A		B		B
Approach Delay		1.4		1.4		19.2		16.7
Approach LOS		A		A		B		B

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 53.6
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.15
Intersection Signal Delay: 3.1
Intersection LOS: A
Intersection Capacity Utilization 23.6%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Bogart Ter/Slingerland St & 2nd Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	44	86	3	84	11	33	2	8
Future Volume (vph)	44	86	3	84	11	33	2	8
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	42.0	18.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		44.8		44.8		7.2		7.1
Actuated g/C Ratio		0.80		0.80		0.13		0.13
v/c Ratio		0.13		0.11		0.27		0.20
Control Delay		3.2		2.9		22.0		13.3
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		3.2		2.9		22.0		13.3
LOS		A		A		C		B
Approach Delay		3.2		2.9		22.0		13.3
Approach LOS		A		A		C		B

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 55.9
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 7.3
Intersection LOS: A
Intersection Capacity Utilization 28.8%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Krank St/Elizabeth St & 2nd Ave

Lane Group	EBT	WBL	WBT	SBT
Lane Configurations				
Traffic Volume (vph)	366	20	386	110
Future Volume (vph)	366	20	386	110
Turn Type	NA	Perm	NA	NA
Protected Phases	2		6	4
Permitted Phases		6		
Detector Phase	2	6	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.0	15.0	15.0	10.0
Total Split (s)	42.0	42.0	42.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)	37.0		37.0	13.0
Actuated g/C Ratio	0.62		0.62	0.22
v/c Ratio	0.48		0.51	1.27
Control Delay	8.4		4.7	166.6
Queue Delay	0.0		0.0	0.0
Total Delay	8.4		4.7	166.6
LOS	A		A	F
Approach Delay	8.4		4.7	166.6
Approach LOS	A		A	F

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 63.8 Intersection LOS: E
Intersection Capacity Utilization 76.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: S Bertha St/Bertha St & 2nd Ave

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	162	96	254	369
Future Volume (vph)	162	96	254	369
Turn Type	NA	Perm	NA	Prot
Protected Phases	2		6	8
Permitted Phases		6		
Detector Phase	2	6	6	8
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.0	15.0	15.0	10.0
Total Split (s)	42.0	42.0	42.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)	37.0		37.0	13.0
Actuated g/C Ratio	0.62		0.62	0.22
v/c Ratio	0.67		0.56	1.10
Control Delay	7.7		11.0	103.9
Queue Delay	0.2		0.0	0.0
Total Delay	7.9		11.0	103.9
LOS	A		B	F
Approach Delay	7.9		11.0	103.9
Approach LOS	A		B	F

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow, Master Intersection
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 37.4 Intersection LOS: D
Intersection Capacity Utilization 91.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Hoffman Ave & 2nd Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	24	140	36	193	20	122	1	433
Future Volume (vph)	24	140	36	193	20	122	1	433
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	42.0	18.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		37.0		37.0		13.0		13.0
Actuated g/C Ratio		0.62		0.62		0.22		0.22
v/c Ratio		0.25		0.30		0.57		1.31
Control Delay		5.4		6.5		26.9		183.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		5.4		6.5		26.9		183.0
LOS		A		A		C		F
Approach Delay		5.4		6.5		26.9		183.0
Approach LOS		A		A		C		F

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Natural Cycle: 45
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 89.8
Intersection LOS: F
Intersection Capacity Utilization 53.7%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Frisbee Ave & 2nd Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	5	150	9	206	4	2	38	4
Future Volume (vph)	5	150	9	206	4	2	38	4
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	42.0	18.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		44.9		44.9		7.4		7.5
Actuated g/C Ratio		0.80		0.80		0.13		0.13
v/c Ratio		0.16		0.25		0.08		0.34
Control Delay		3.4		3.7		16.3		20.5
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		3.4		3.7		16.3		20.5
LOS		A		A		B		C
Approach Delay		3.4		3.7		16.3		20.5
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 56.2
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 6.1
Intersection LOS: A
Intersection Capacity Utilization 31.7%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Bogart Ter/Slingerland St & 2nd Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	39	86	3	191	21	21	8	22
Future Volume (vph)	39	86	3	191	21	21	8	22
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	42.0	18.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		40.9		40.9		7.3		7.3
Actuated g/C Ratio		0.74		0.74		0.13		0.13
v/c Ratio		0.16		0.19		0.25		0.38
Control Delay		3.9		3.8		21.2		14.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		3.9		3.8		21.2		14.7
LOS		A		A		C		B
Approach Delay		3.9		3.8		21.2		14.7
Approach LOS		A		A		C		B

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 55.2
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.38
Intersection Signal Delay: 7.8
Intersection LOS: A
Intersection Capacity Utilization 40.0%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Krank St/Elizabeth St & 2nd Ave

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 Exit Ramp
Date: Thursday, October 22nd, 2009
Counter: DT

File Name : Rt 9W at 87 Exit Ramp
Site Code : 00000000
Start Date : 10/22/2009
Page No : 1

Groups Printed- Cars - Heavy Vehicles

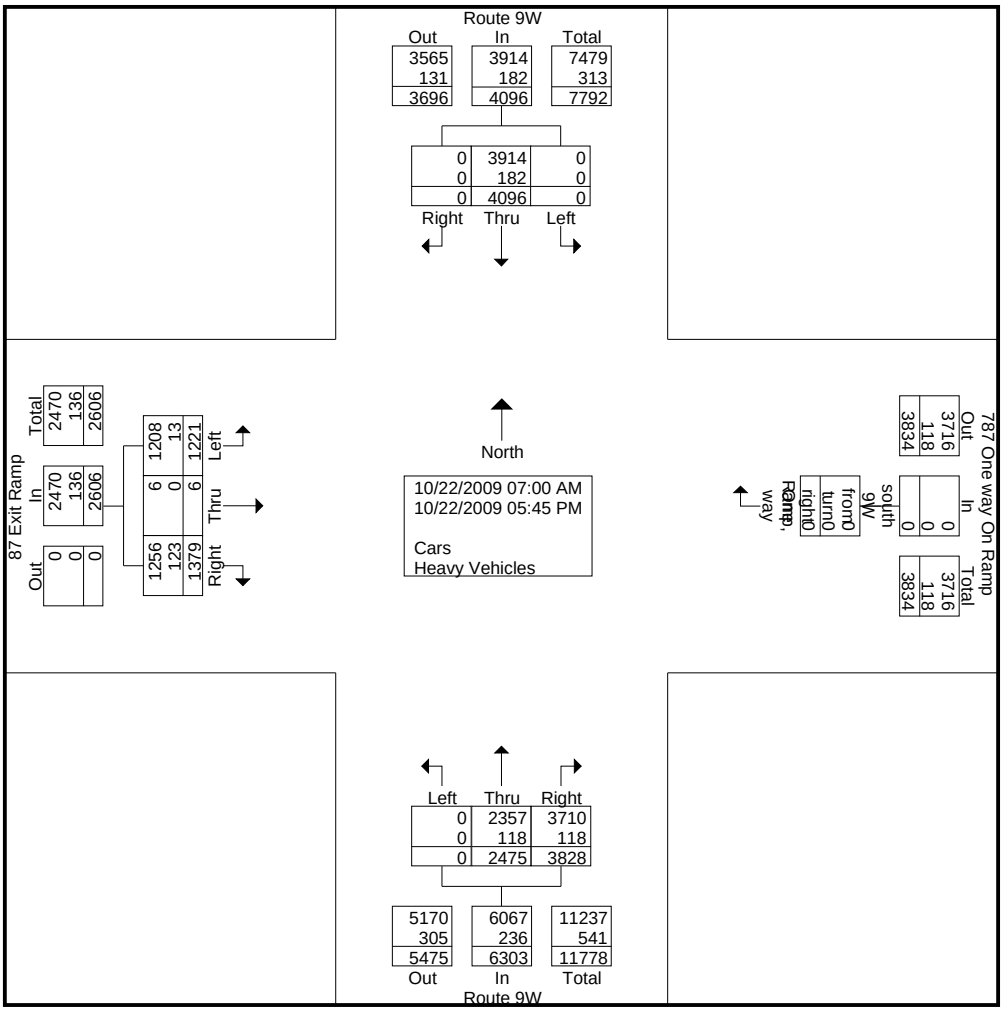
	Route 9W From North				787 One way On Ramp From East		Route 9W From South				87 Exit Ramp From West				
Start Time	Right	Thru	Left	App. Total	One way Ramp, right turn from 9W south	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	0	138	0	138	0	0	222	143	0	365	53	0	94	147	650
07:15 AM	0	177	0	177	0	0	297	165	0	462	96	0	108	204	843
07:30 AM	0	168	0	168	0	0	366	184	0	550	83	0	146	229	947
07:45 AM	0	208	0	208	0	0	363	193	0	556	114	0	113	227	991
Total	0	691	0	691	0	0	1248	685	0	1933	346	0	461	807	3431
08:00 AM	0	195	0	195	0	0	296	157	0	453	102	6	117	225	873
08:15 AM	0	226	0	226	0	0	292	183	0	475	95	0	104	199	900
08:30 AM	0	182	0	182	0	0	306	155	0	461	66	0	116	182	825
08:45 AM	0	152	0	152	0	0	292	155	0	447	65	0	99	164	763
Total	0	755	0	755	0	0	1186	650	0	1836	328	6	436	770	3361
*** BREAK ***															
04:00 PM	0	275	0	275	0	0	205	173	0	378	80	0	47	127	780
04:15 PM	0	343	0	343	0	0	156	125	0	281	80	0	38	118	742
04:30 PM	0	310	0	310	0	0	205	166	0	371	90	0	44	134	815
04:45 PM	0	363	0	363	0	0	211	143	0	354	95	0	37	132	849
Total	0	1291	0	1291	0	0	777	607	0	1384	345	0	166	511	3186
05:00 PM	0	328	0	328	0	0	171	144	0	315	72	0	33	105	748
05:15 PM	0	360	0	360	0	0	162	142	0	304	92	0	44	136	800
05:30 PM	0	367	0	367	0	0	162	125	0	287	101	0	44	145	799
05:45 PM	0	304	0	304	0	0	122	122	0	244	95	0	37	132	680
Total	0	1359	0	1359	0	0	617	533	0	1150	360	0	158	518	3027
Grand Total	0	4096	0	4096	0	0	3828	2475	0	6303	1379	6	1221	2606	13005
Apprch %	0	100	0		0		60.7	39.3	0		52.9	0.2	46.9		
Total %	0	31.5	0	31.5	0	0	29.4	19	0	48.5	10.6	0	9.4	20	
Cars	0	3914	0	3914	0	0	3710	2357	0	6067	1256	6	1208	2470	12451
% Cars	0	95.6	0	95.6	0	0	96.9	95.2	0	96.3	91.1	100	98.9	94.8	95.7
Heavy Vehicles	0	182	0	182	0	0	118	118	0	236	123	0	13	136	554
% Heavy Vehicles	0	4.4	0	4.4	0	0	3.1	4.8	0	3.7	8.9	0	1.1	5.2	4.3

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 Exit Ramp
Date: Thursday, October 22nd, 2009
Counter: DT

File Name : Rt 9W at 87 Exit Ramp
Site Code : 00000000
Start Date : 10/22/2009
Page No : 2



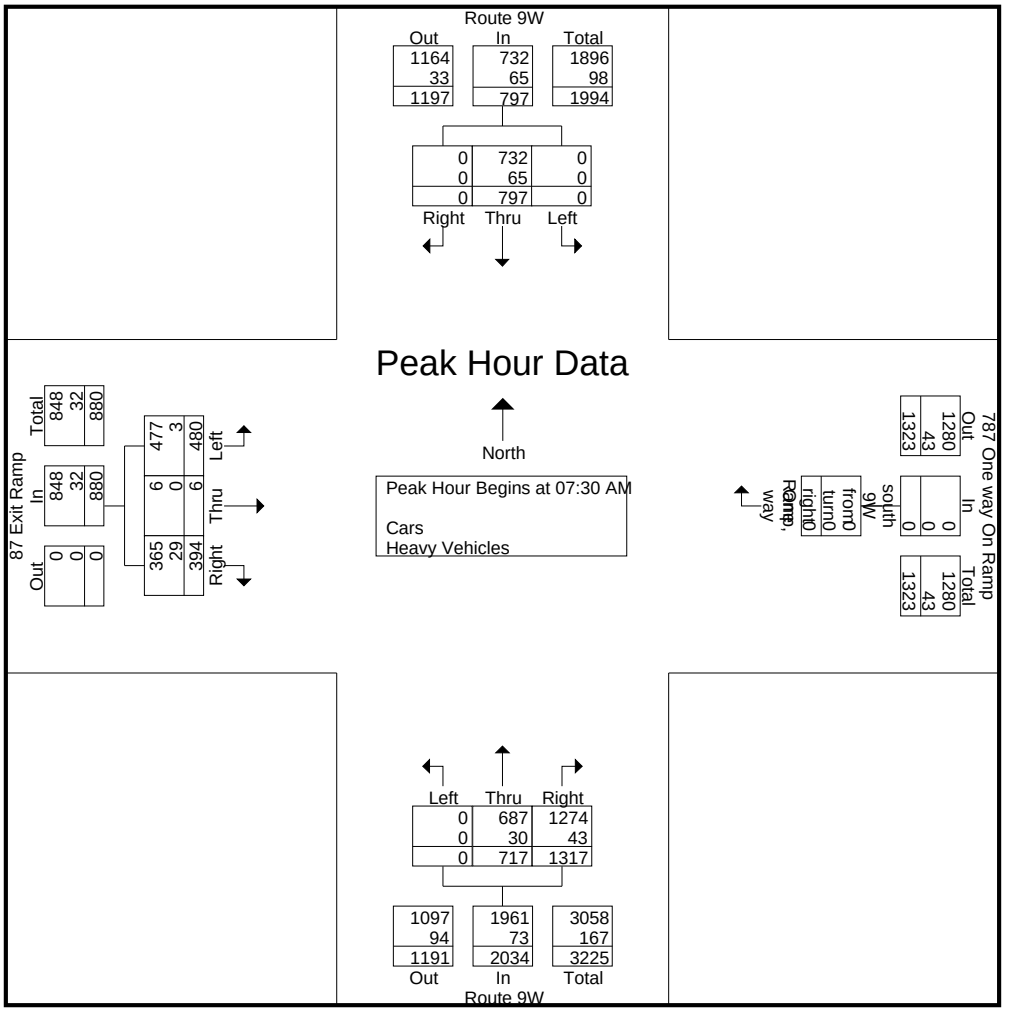
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 Exit Ramp
Date: Thursday, October 22nd, 2009
Counter: DT

File Name : Rt 9W at 87 Exit Ramp
Site Code : 00000000
Start Date : 10/22/2009
Page No : 3

	Route 9W From North				787 One way On Ramp From East		Route 9W From South				87 Exit Ramp From West				
Start Time	**Right**	**Thru**	**Left**	**App. Total**	One way Ramp, right turn from 9W south	**App. Total**	**Right**	**Thru**	**Left**	**App. Total**	**Right**	**Thru**	**Left**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 07:30 AM															
07:30 AM	0	168	0	168	0	0	**366**	184	0	550	83	0	**146**	**229**	947
07:45 AM	0	208	0	208	0	0	363	**193**	0	**556**	**114**	0	113	227	**991**
08:00 AM	0	195	0	195	0	0	296	157	0	453	102	**6**	117	225	873
08:15 AM	0	**226**	0	**226**	0	0	292	183	0	475	95	0	104	199	900
Total Volume	0	797	0	797	0	0	1317	717	0	2034	394	6	480	880	3711
% App. Total	0	100	0		0		64.7	35.3	0		44.8	0.7	54.5		
PHF	.000	.882	.000	.882	.000	.000	.900	.929	.000	.915	.864	.250	.822	.961	.936
Cars	0	732	0	732	0	0	1274	687	0	1961	365	6	477	848	3541
% Cars	0	91.8	0	91.8	0	0	96.7	95.8	0	96.4	92.6	100	99.4	96.4	95.4
Heavy Vehicles	0	65	0	65	0	0	43	30	0	73	29	0	3	32	170
% Heavy Vehicles	0	8.2	0	8.2	0	0	3.3	4.2	0	3.6	7.4	0	0.6	3.6	4.6



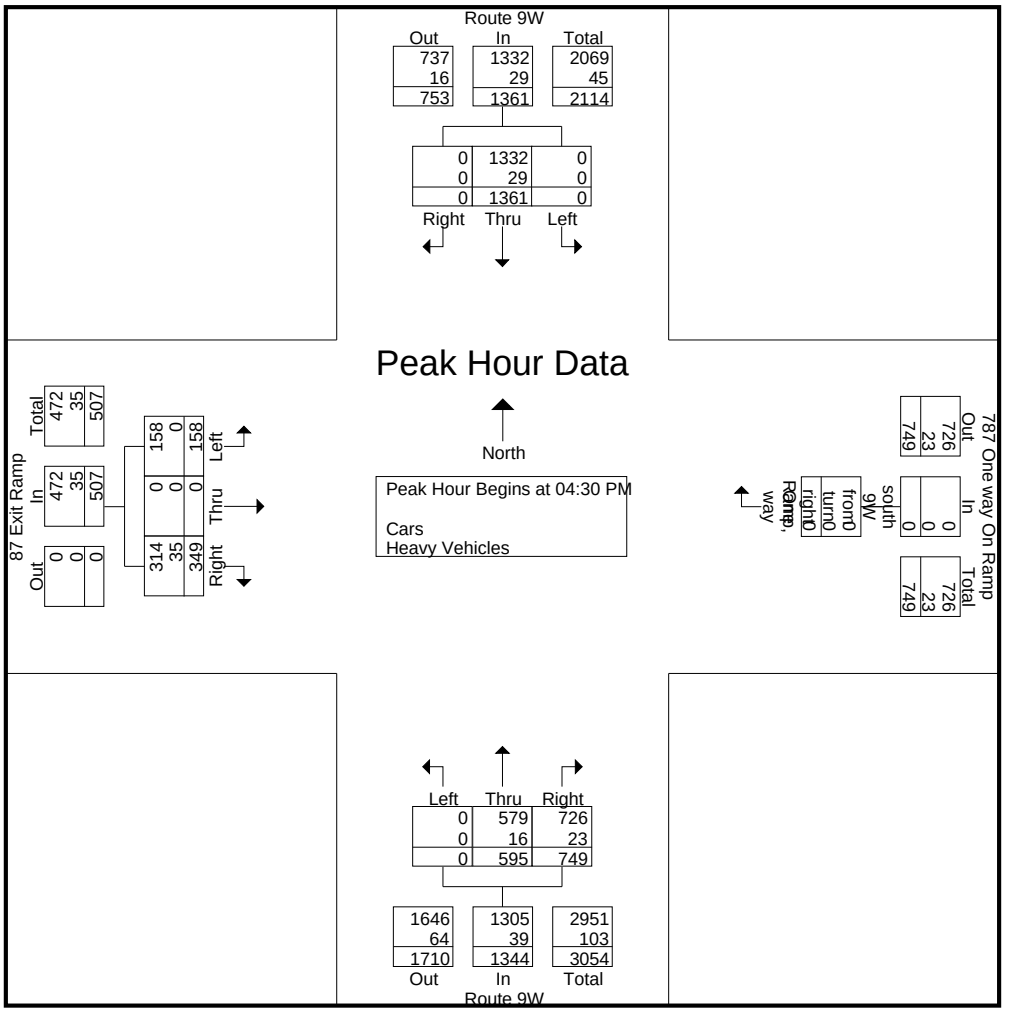
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 Exit Ramp
Date: Thursday, October 22nd, 2009
Counter: DT

File Name : Rt 9W at 87 Exit Ramp
Site Code : 00000000
Start Date : 10/22/2009
Page No : 4

	Route 9W From North				787 One way On Ramp From East		Route 9W From South				87 Exit Ramp From West				
Start Time	**Right**	**Thru**	**Left**	**App. Total**	One way Ramp, right turn from 9W south	**App. Total**	**Right**	**Thru**	**Left**	**App. Total**	**Right**	**Thru**	**Left**	**App. Total**	**Int. Total**
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 04:30 PM															
04:30 PM	0	310	0	310	0	0	205	**166**	0	**371**	90	0	**44**	134	815
04:45 PM	0	**363**	0	**363**	0	0	**211**	143	0	354	**95**	0	37	132	**849**
05:00 PM	0	328	0	328	0	0	171	144	0	315	72	0	33	105	748
05:15 PM	0	360	0	360	0	0	162	142	0	304	92	0	44	**136**	800
Total Volume	0	1361	0	1361	0	0	749	595	0	1344	349	0	158	507	3212
% App. Total	0	100	0		0		55.7	44.3	0		68.8	0	31.2		
PHF	.000	.937	.000	.937	.000	.000	.887	.896	.000	.906	.918	.000	.898	.932	.946
Cars	0	1332	0	1332	0	0	726	579	0	1305	314	0	158	472	3109
% Cars	0	97.9	0	97.9	0	0	96.9	97.3	0	97.1	90.0	0	100	93.1	96.8
Heavy Vehicles	0	29	0	29	0	0	23	16	0	39	35	0	0	35	103
% Heavy Vehicles	0	2.1	0	2.1	0	0	3.1	2.7	0	2.9	10.0	0	0	6.9	3.2

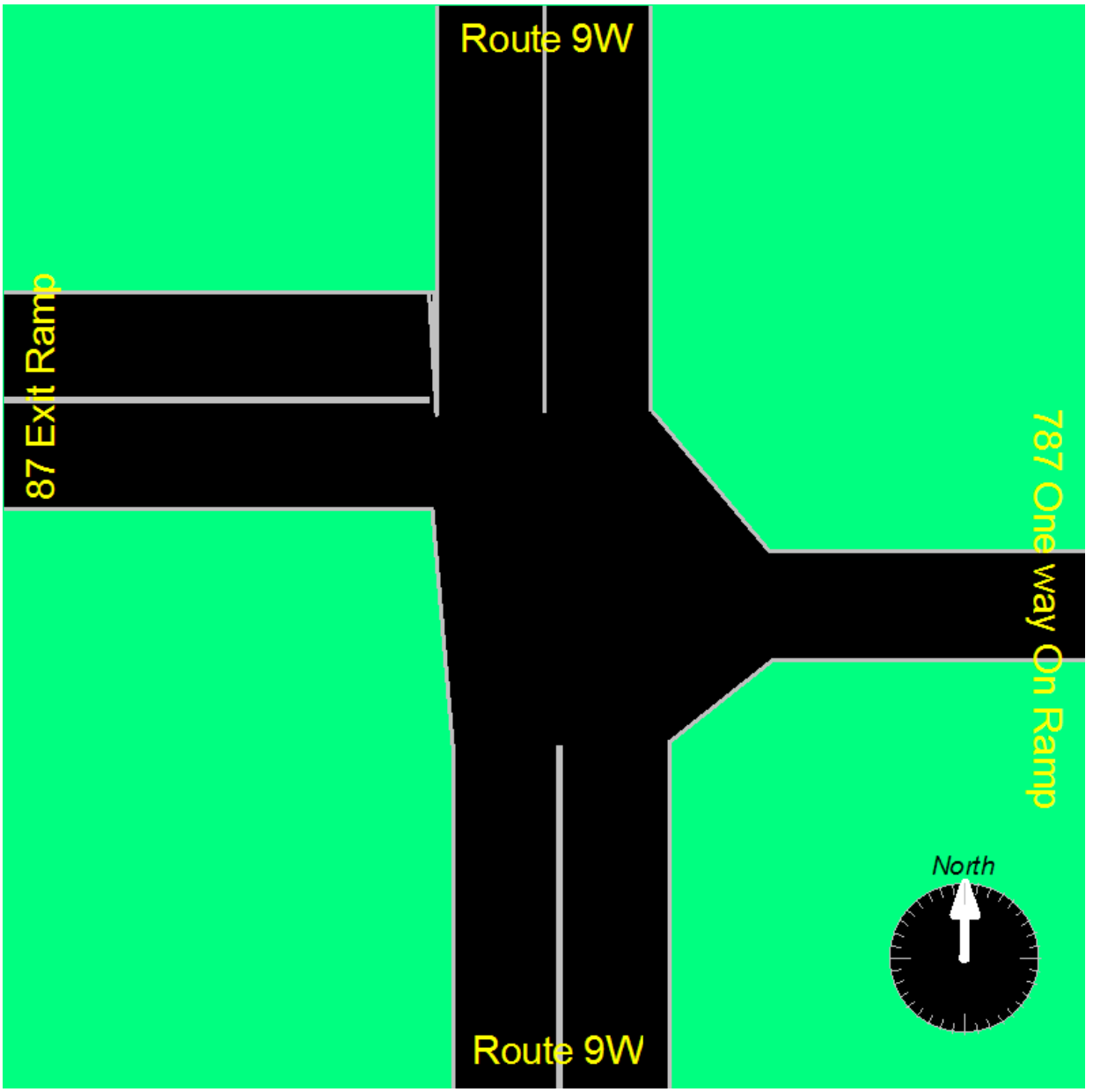


NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 Exit Ramp
Date: Thursday, October 22nd, 2009
Counter: DT

File Name : Rt 9W at 87 Exit Ramp
Site Code : 00000000
Start Date : 10/22/2009
Page No : 5



NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 On Ramp
Date: Thursday, October 29th, 2009
Counter: BF

File Name : Rt 9W at 87 On Ramp
Site Code : 00000000
Start Date : 10/29/2009
Page No : 1

Groups Printed- Cars - Heavy Vehicles

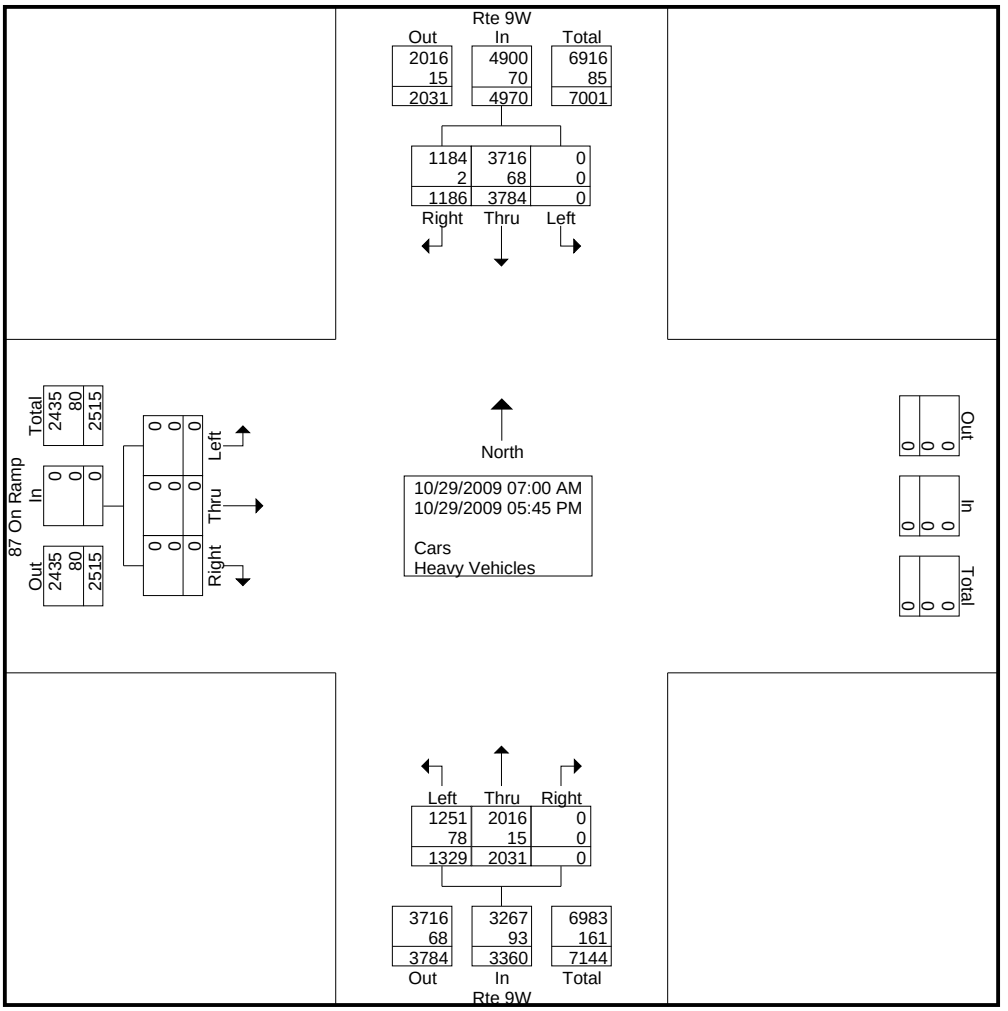
	Rte 9W From North				Rte 9W From South				87 On Ramp From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	38	133	0	171	0	158	71	229	0	0	0	0	400
07:15 AM	50	140	0	190	0	180	66	246	0	0	0	0	436
07:30 AM	38	138	0	176	0	160	106	266	0	0	0	0	442
07:45 AM	41	166	0	207	0	181	82	263	0	0	0	0	470
Total	167	577	0	744	0	679	325	1004	0	0	0	0	1748
08:00 AM	55	187	0	242	0	174	85	259	0	0	0	0	501
08:15 AM	46	212	0	258	0	166	57	223	0	0	0	0	481
08:30 AM	40	107	0	147	0	144	92	236	0	0	0	0	383
08:45 AM	24	126	0	150	0	121	54	175	0	0	0	0	325
Total	165	632	0	797	0	605	288	893	0	0	0	0	1690
*** BREAK ***													
04:00 PM	109	304	0	413	0	97	106	203	0	0	0	0	616
04:15 PM	128	313	0	441	0	99	96	195	0	0	0	0	636
04:30 PM	118	285	0	403	0	101	94	195	0	0	0	0	598
04:45 PM	118	326	0	444	0	91	110	201	0	0	0	0	645
Total	473	1228	0	1701	0	388	406	794	0	0	0	0	2495
05:00 PM	113	330	0	443	0	86	90	176	0	0	0	0	619
05:15 PM	117	348	0	465	0	87	70	157	0	0	0	0	622
05:30 PM	96	344	0	440	0	85	89	174	0	0	0	0	614
05:45 PM	55	325	0	380	0	101	61	162	0	0	0	0	542
Total	381	1347	0	1728	0	359	310	669	0	0	0	0	2397
Grand Total	1186	3784	0	4970	0	2031	1329	3360	0	0	0	0	8330
Apprch %	23.9	76.1	0		0	60.4	39.6		0	0	0		
Total %	14.2	45.4	0	59.7	0	24.4	16	40.3	0	0	0	0	
Cars	1184	3716	0	4900	0	2016	1251	3267	0	0	0	0	8167
% Cars	99.8	98.2	0	98.6	0	99.3	94.1	97.2	0	0	0	0	98
Heavy Vehicles	2	68	0	70	0	15	78	93	0	0	0	0	163
% Heavy Vehicles	0.2	1.8	0	1.4	0	0.7	5.9	2.8	0	0	0	0	2

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 On Ramp
Date: Thursday, October 29th, 2009
Counter: BF

File Name : Rt 9W at 87 On Ramp
Site Code : 00000000
Start Date : 10/29/2009
Page No : 2



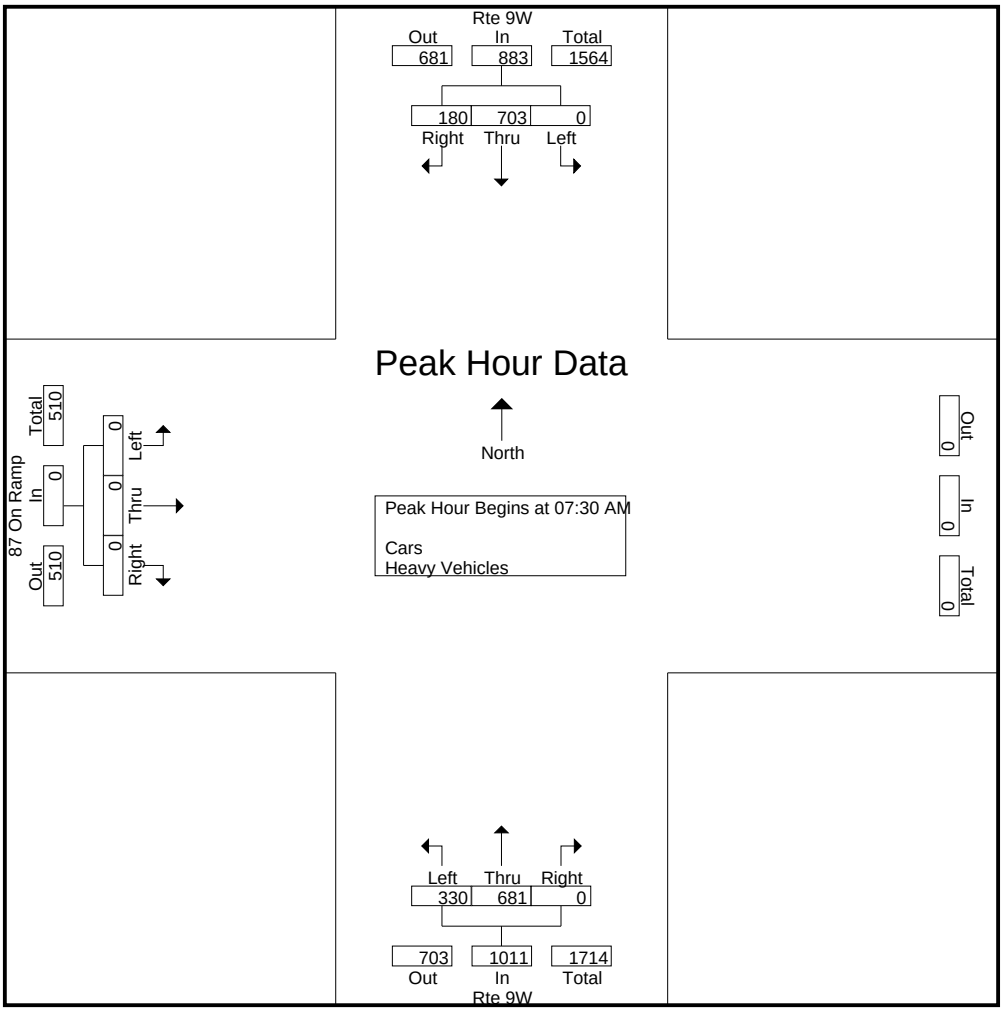
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 On Ramp
Date: Thursday, October 29th, 2009
Counter: BF

File Name : Rt 9W at 87 On Ramp
Site Code : 00000000
Start Date : 10/29/2009
Page No : 3

	Rte 9W From North				Rte 9W From South				87 On Ramp From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	38	138	0	176	0	160	**106**	**266**	0	0	0	0	442
07:45 AM	41	166	0	207	0	**181**	82	263	0	0	0	0	470
08:00 AM	**55**	187	0	242	0	174	85	259	0	0	0	0	**501**
08:15 AM	46	**212**	0	**258**	0	166	57	223	0	0	0	0	481
Total Volume	180	703	0	883	0	681	330	1011	0	0	0	0	1894
% App. Total	20.4	79.6	0		0	67.4	32.6		0	0	0		
PHF	.818	.829	.000	.856	.000	.941	.778	.950	.000	.000	.000	.000	.945



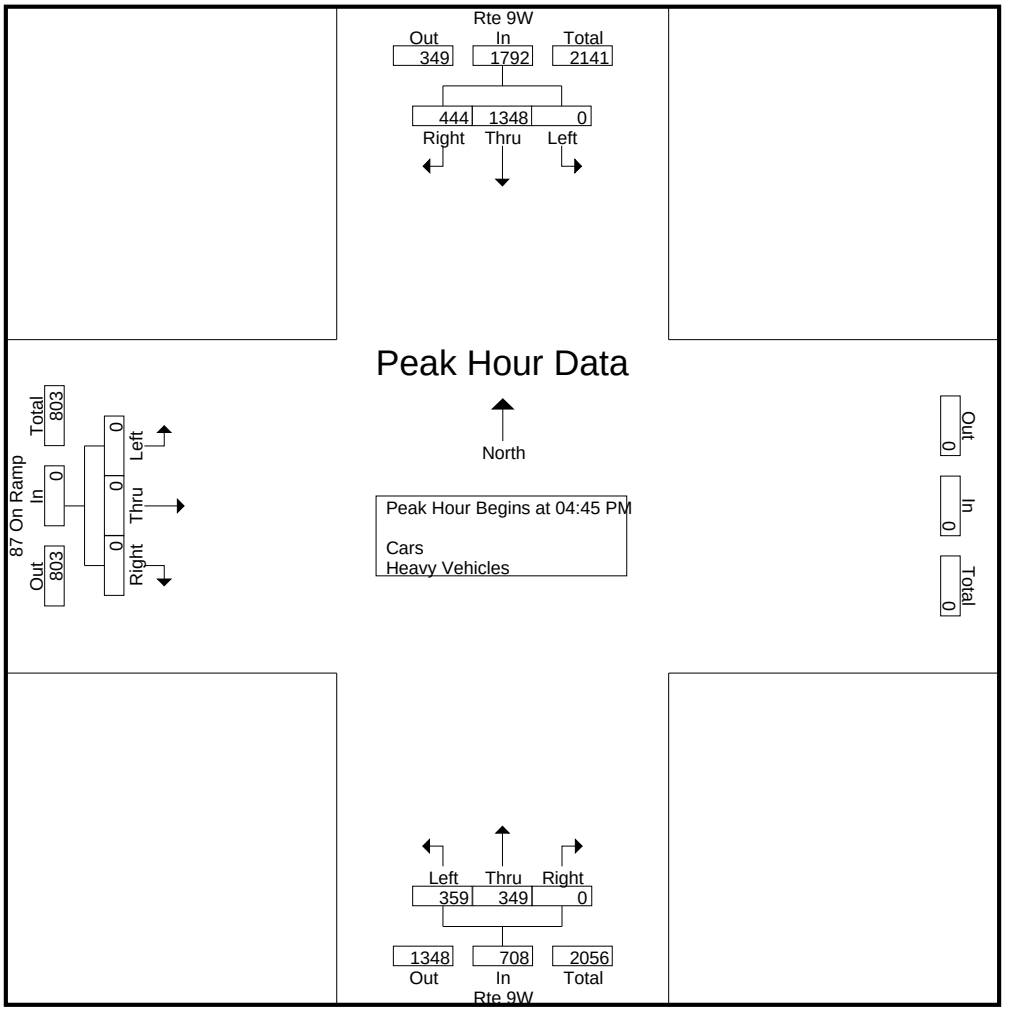
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 On Ramp
Date: Thursday, October 29th, 2009
Counter: BF

File Name : Rt 9W at 87 On Ramp
Site Code : 00000000
Start Date : 10/29/2009
Page No : 4

	Rte 9W From North				Rte 9W From South				87 On Ramp From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	**118**	326	0	444	0	**91**	**110**	**201**	0	0	0	0	**645**
05:00 PM	113	330	0	443	0	86	90	176	0	0	0	0	619
05:15 PM	117	**348**	0	**465**	0	87	70	157	0	0	0	0	622
05:30 PM	96	344	0	440	0	85	89	174	0	0	0	0	614
Total Volume	444	1348	0	1792	0	349	359	708	0	0	0	0	2500
% App. Total	24.8	75.2	0		0	49.3	50.7		0	0	0		
PHF	.941	.968	.000	.963	.000	.959	.816	.881	.000	.000	.000	.000	.969

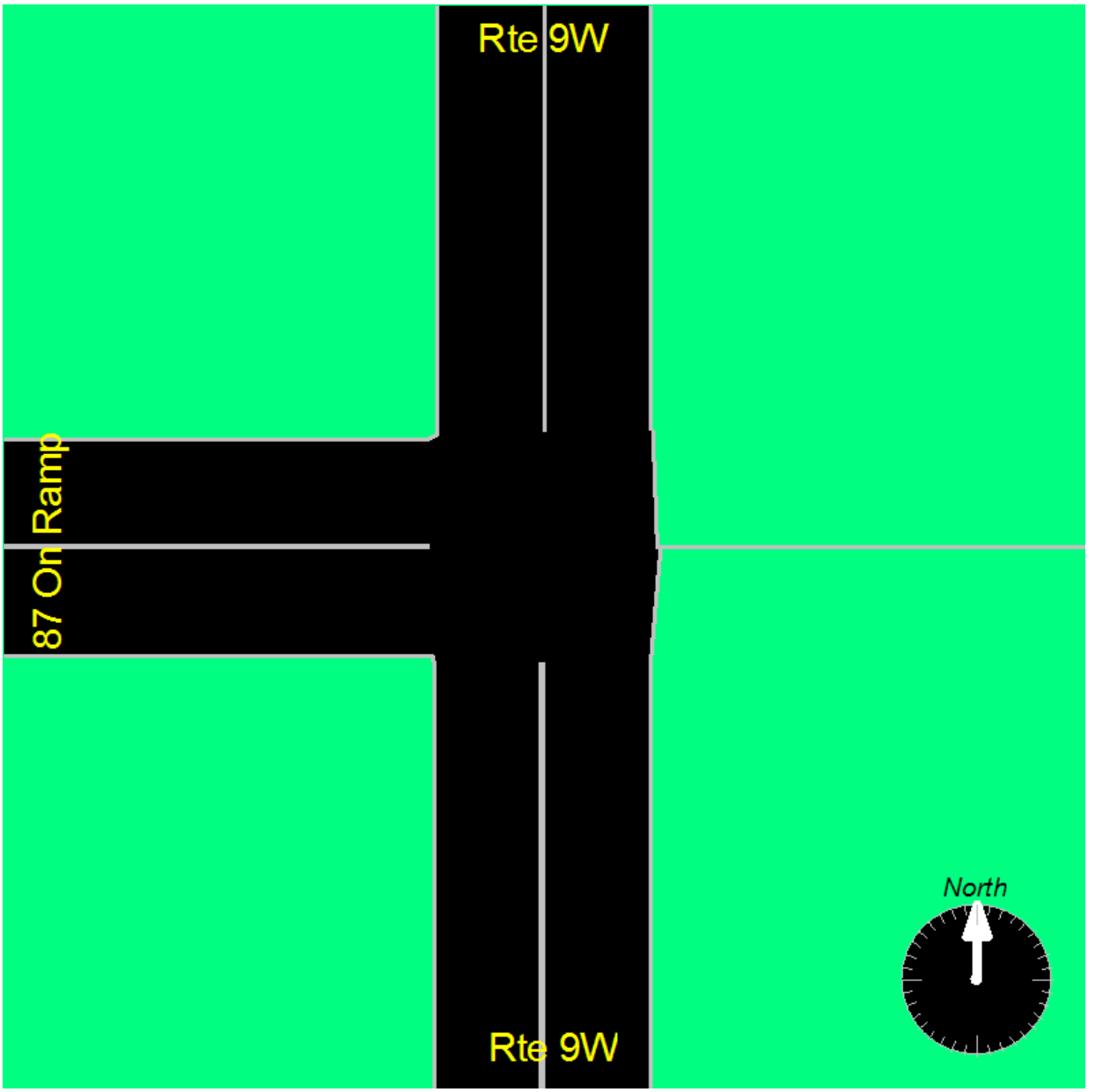


NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Location: Albany, NY
Intersection: Rte 9W/87 On Ramp
Date: Thursday, October 29th, 2009
Counter: BF

File Name : Rt 9W at 87 On Ramp
Site Code : 00000000
Start Date : 10/29/2009
Page No : 5



NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
S. Pearl @ Green & 1St Street
Counter:JSR

File Name : S. Pearl @ Green & 1St Street_10-16-09_
Site Code : 00000000
Start Date : 10/6/2009
Page No : 1

Groups Printed- Cars - Heavy Trucks

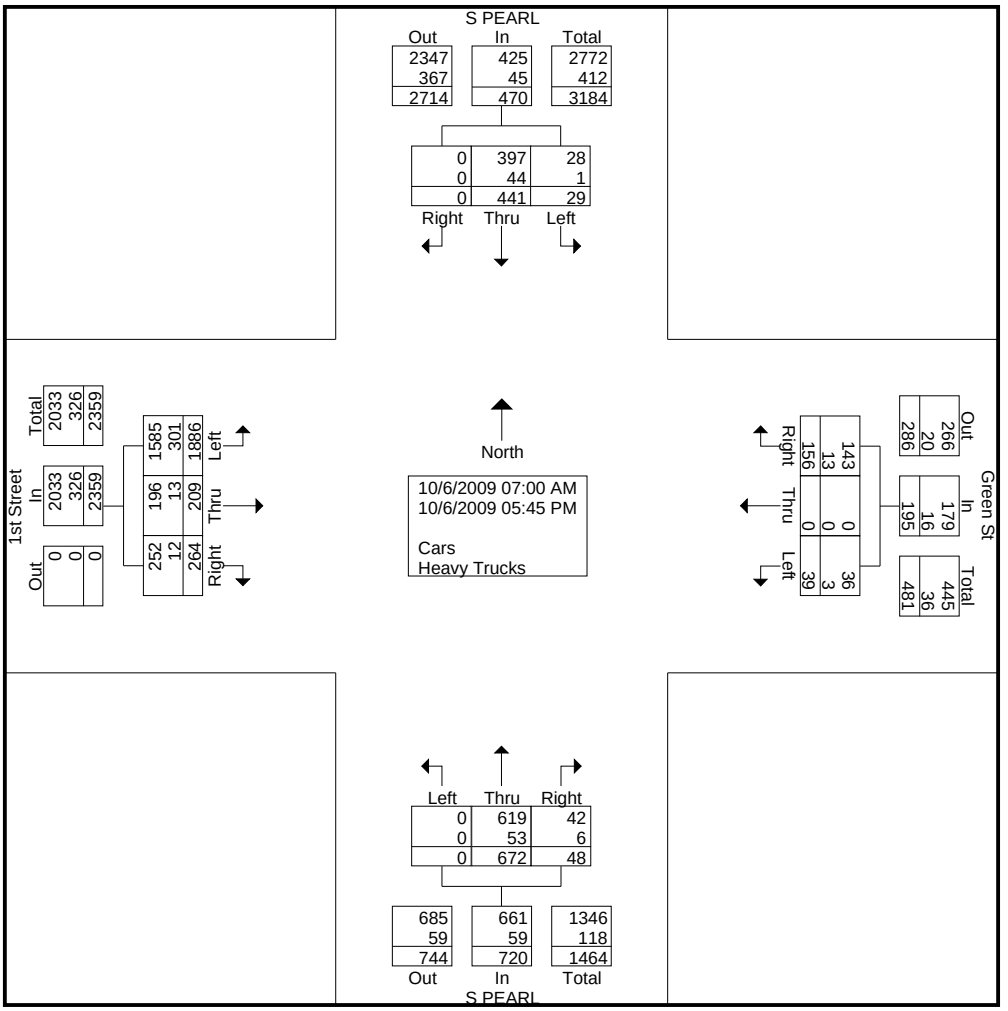
	S PEARL From North				Green St From East				S PEARL From South				1st Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	0	18	2	20	7	0	1	8	1	25	0	26	14	14	68	96	150
07:15 AM	0	36	1	37	12	0	1	13	1	15	0	16	16	9	91	116	182
07:30 AM	0	33	1	34	5	0	4	9	2	27	0	29	15	9	57	81	153
07:45 AM	0	29	1	30	10	0	2	12	2	23	0	25	16	8	80	104	171
Total	0	116	5	121	34	0	8	42	6	90	0	96	61	40	296	397	656
08:00 AM	0	44	5	49	9	0	2	11	3	29	0	32	16	6	87	109	201
08:15 AM	0	35	0	35	8	0	0	8	1	28	0	29	17	10	95	122	194
08:30 AM	0	34	2	36	5	0	2	7	3	41	0	44	28	8	87	123	210
08:45 AM	0	29	3	32	8	0	2	10	2	32	0	34	21	7	93	121	197
Total	0	142	10	152	30	0	6	36	9	130	0	139	82	31	362	475	802
****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** BREAK ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ****** ******																	
04:00 PM	0	33	2	35	12	0	7	19	3	65	0	68	20	20	140	180	302
04:15 PM	0	17	1	18	13	0	5	18	6	46	0	52	21	19	163	203	291
04:30 PM	0	34	3	37	13	0	3	16	5	56	0	61	8	21	156	185	299
04:45 PM	0	17	2	19	15	0	0	15	3	65	0	68	9	30	132	171	273
Total	0	101	8	109	53	0	15	68	17	232	0	249	58	90	591	739	1165
05:00 PM	0	27	0	27	9	0	2	11	5	51	0	56	16	14	203	233	327
05:15 PM	0	16	2	18	7	0	1	8	3	72	0	75	16	20	154	190	291
05:30 PM	0	19	3	22	14	0	4	18	4	58	0	62	22	13	152	187	289
05:45 PM	0	20	1	21	9	0	3	12	4	39	0	43	9	1	128	138	214
Total	0	82	6	88	39	0	10	49	16	220	0	236	63	48	637	748	1121
Grand Total	0	441	29	470	156	0	39	195	48	672	0	720	264	209	1886	2359	3744
Apprch %	0	93.8	6.2		80	0	20		6.7	93.3	0		11.2	8.9	79.9		
Total %	0	11.8	0.8	12.6	4.2	0	1	5.2	1.3	17.9	0	19.2	7.1	5.6	50.4	63	
Cars	0	397	28	425	143	0	36	179	42	619	0	661	252	196	1585	2033	3298
% Cars	0	90	96.6	90.4	91.7	0	92.3	91.8	87.5	92.1	0	91.8	95.5	93.8	84	86.2	88.1
Heavy Trucks	0	44	1	45	13	0	3	16	6	53	0	59	12	13	301	326	446
% Heavy Trucks	0	10	3.4	9.6	8.3	0	7.7	8.2	12.5	7.9	0	8.2	4.5	6.2	16	13.8	11.9

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
S. Pearl @ Green & 1St Street
Counter:JSR

File Name : S. Pearl @ Green & 1St Street_10-16-09_
Site Code : 00000000
Start Date : 10/6/2009
Page No : 2



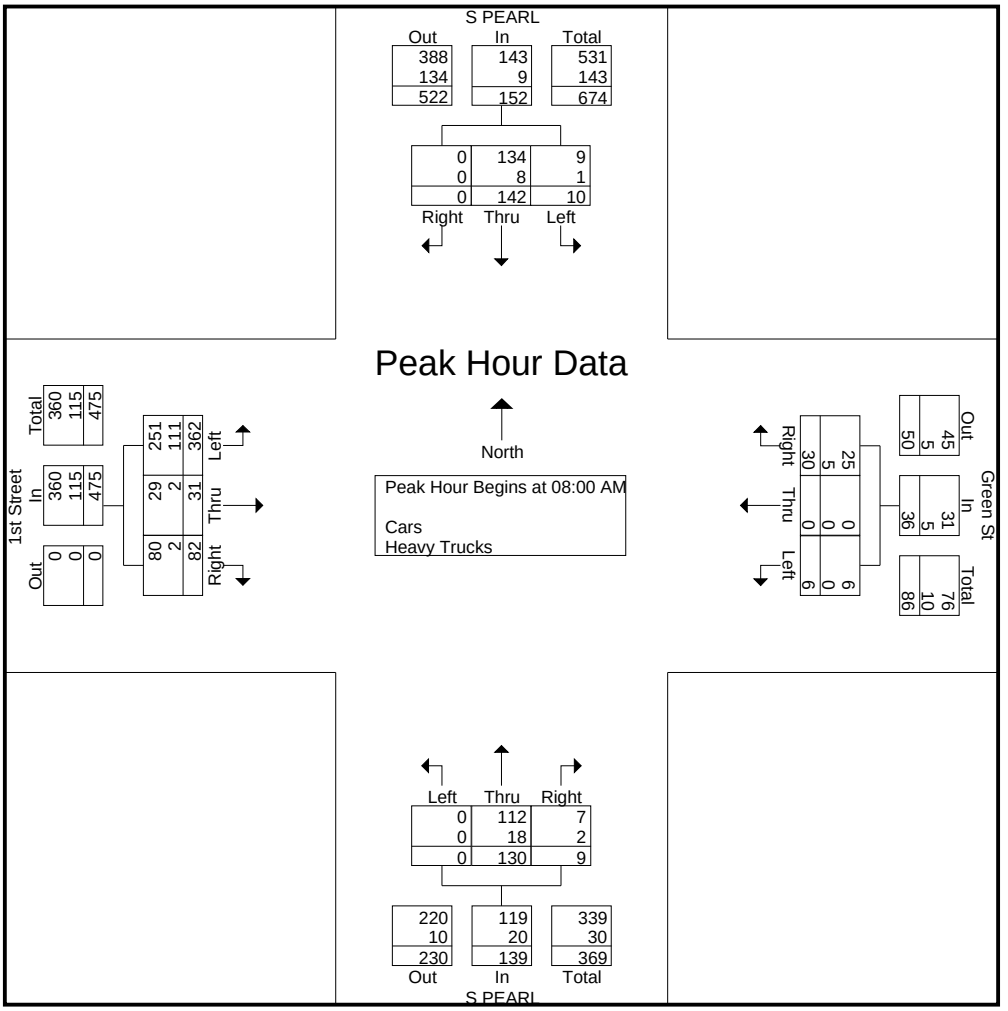
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
S. Pearl @ Green & 1St Street
Counter:JSR

File Name : S. Pearl @ Green & 1St Street_10-16-09_
Site Code : 00000000
Start Date : 10/6/2009
Page No : 3

	S PEARL From North				Green St From East				S PEARL From South				1st Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**44**	**5**	**49**	**9**	0	**2**	**11**	**3**	29	0	32	16	6	87	109	201
08:15 AM	0	35	0	35	8	0	0	8	1	28	0	29	17	**10**	**95**	122	194
08:30 AM	0	34	2	36	5	0	2	7	3	**41**	0	**44**	**28**	8	87	**123**	**210**
08:45 AM	0	29	3	32	8	0	2	10	2	32	0	34	21	7	93	121	197
Total Volume	0	142	10	152	30	0	6	36	9	130	0	139	82	31	362	475	802
% App. Total	0	93.4	6.6		83.3	0	16.7		6.5	93.5	0		17.3	6.5	76.2		
PHF	.000	.807	.500	.776	.833	.000	.750	.818	.750	.793	.000	.790	.732	.775	.953	.965	.955
Cars	0	134	9	143	25	0	6	31	7	112	0	119	80	29	251	360	653
% Cars	0	94.4	90.0	94.1	83.3	0	100	86.1	77.8	86.2	0	85.6	97.6	93.5	69.3	75.8	81.4
Heavy Trucks	0	8	1	9	5	0	0	5	2	18	0	20	2	2	111	115	149
% Heavy Trucks	0	5.6	10.0	5.9	16.7	0	0	13.9	22.2	13.8	0	14.4	2.4	6.5	30.7	24.2	18.6



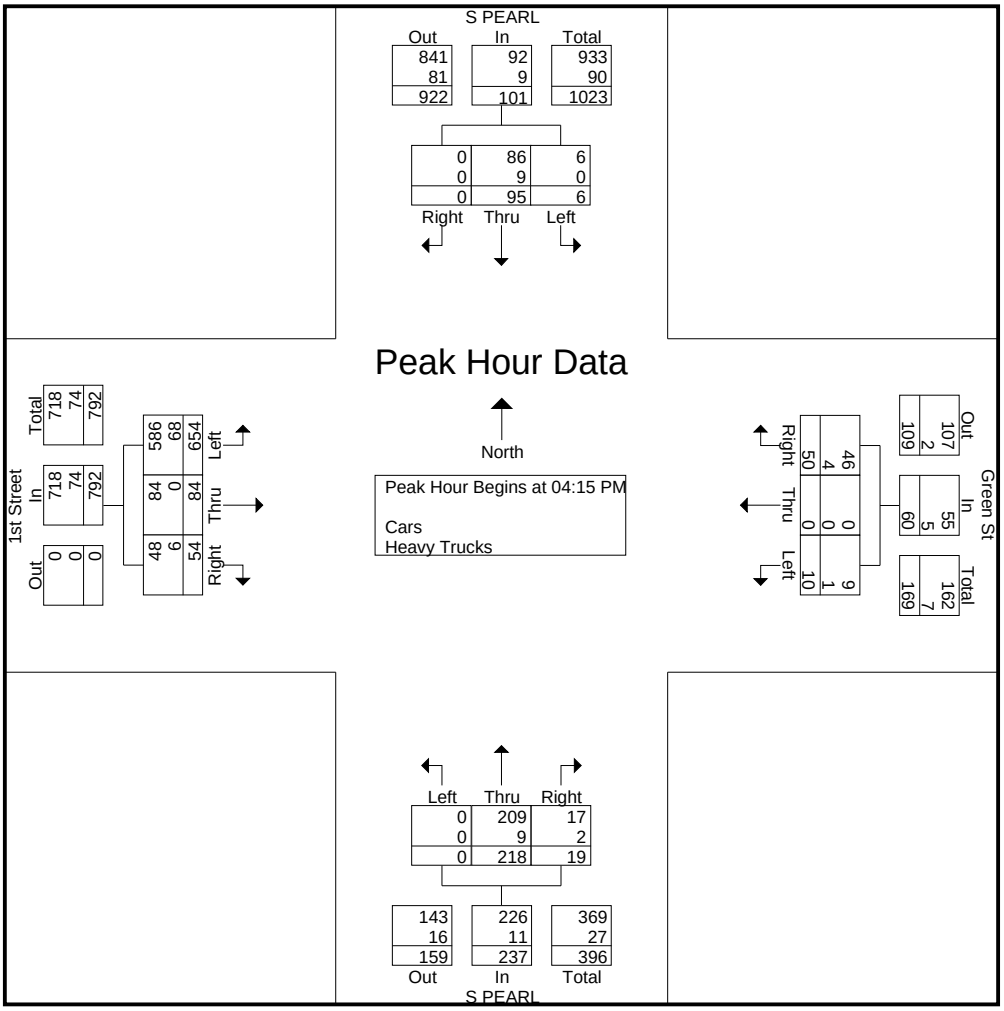
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
S. Pearl @ Green & 1St Street
Counter:JSR

File Name : S. Pearl @ Green & 1St Street_10-16-09_
Site Code : 00000000
Start Date : 10/6/2009
Page No : 4

	S PEARL From North				Green St From East				S PEARL From South				1st Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	17	1	18	13	0	**5**	**18**	**6**	46	0	52	**21**	19	163	203	291
04:30 PM	0	**34**	**3**	**37**	13	0	3	16	5	56	0	61	8	21	156	185	299
04:45 PM	0	17	2	19	**15**	0	0	15	3	**65**	0	**68**	9	**30**	132	171	273
05:00 PM	0	27	0	27	9	0	2	11	5	51	0	56	16	14	**203**	**233**	**327**
Total Volume	0	95	6	101	50	0	10	60	19	218	0	237	54	84	654	792	1190
% App. Total	0	94.1	5.9		83.3	0	16.7		8	92	0		6.8	10.6	82.6		
PHF	.000	.699	.500	.682	.833	.000	.500	.833	.792	.838	.000	.871	.643	.700	.805	.850	.910
Cars	0	86	6	92	46	0	9	55	17	209	0	226	48	84	586	718	1091
% Cars	0	90.5	100	91.1	92.0	0	90.0	91.7	89.5	95.9	0	95.4	88.9	100	89.6	90.7	91.7
Heavy Trucks	0	9	0	9	4	0	1	5	2	9	0	11	6	0	68	74	99
% Heavy Trucks	0	9.5	0	8.9	8.0	0	10.0	8.3	10.5	4.1	0	4.6	11.1	0	10.4	9.3	8.3



NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
Rte South Pearl @ 787 Access ramp
Counter: JSR

File Name : South pearl @ 787 Access north10-22-09_
Site Code : 00000000
Start Date : 10/21/2009
Page No : 1

Groups Printed- Cars - Heavy Trucks

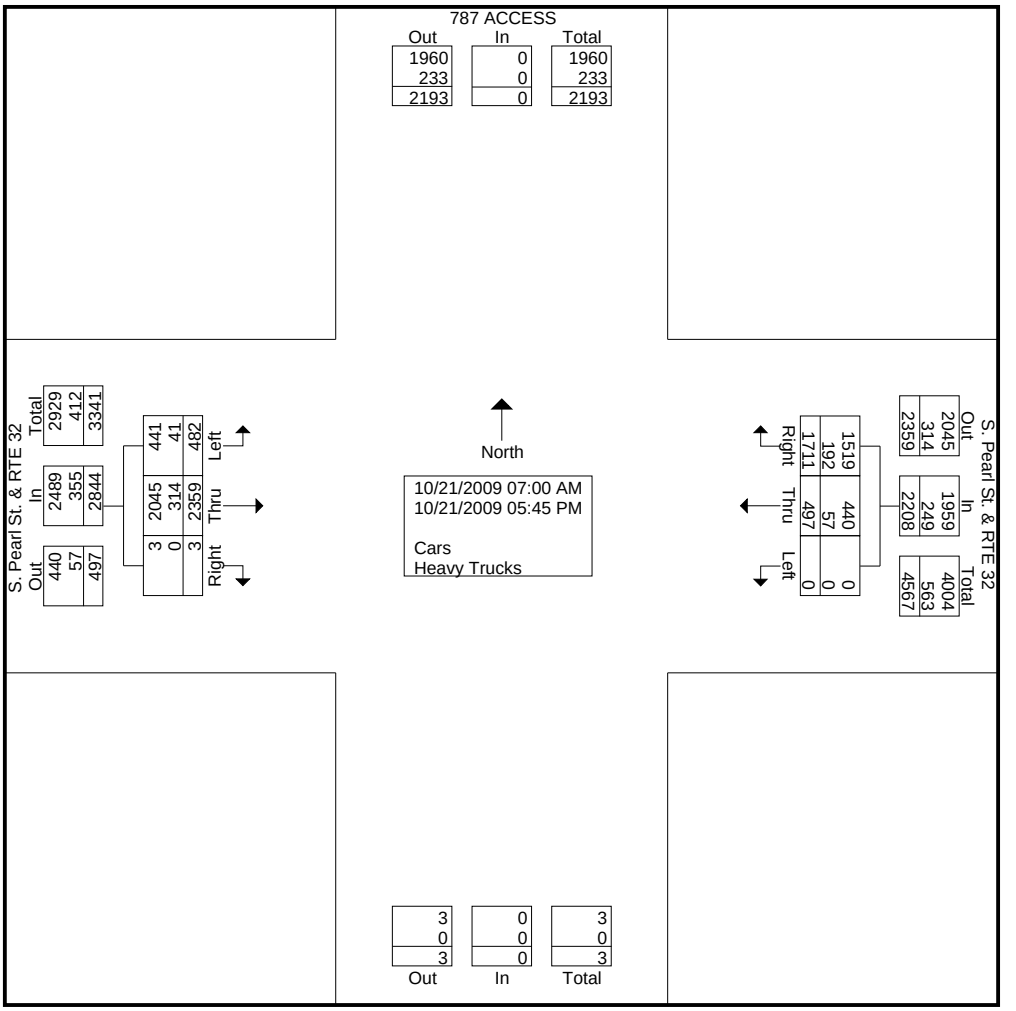
	From North	S. Pearl St. & RTE 32 From East				From South	S. Pearl St. & RTE 32 From West				
Start Time	App. Total	Right	Thru	Left	App. Total	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor		1.0	1.0	1.0			1.0	1.0	1.0		
07:00 AM	0	104	33	0	137	0	0	66	30	96	233
07:15 AM	0	134	39	0	173	0	0	95	30	125	298
07:30 AM	0	160	34	0	194	0	0	89	36	125	319
07:45 AM	0	178	30	0	208	0	1	99	23	123	331
Total	0	576	136	0	712	0	1	349	119	469	1181
08:00 AM	0	158	47	0	205	0	0	120	30	150	355
08:15 AM	0	142	47	0	189	0	0	97	18	115	304
08:30 AM	0	127	33	0	160	0	0	97	35	132	292
08:45 AM	0	92	35	0	127	0	0	123	25	148	275
Total	0	519	162	0	681	0	0	437	108	545	1226
******* ******* ******* ******* ******* ******* ******* ******* ******* ******* ******* ******* BREAK ******* ******* ******* ******* ******* ******* ******* *******											
04:00 PM	0	84	25	0	109	0	2	193	33	228	337
04:15 PM	0	99	23	0	122	0	0	200	35	235	357
04:30 PM	0	101	25	0	126	0	0	213	30	243	369
04:45 PM	0	86	26	0	112	0	0	226	33	259	371
Total	0	370	99	0	469	0	2	832	131	965	1434
05:00 PM	0	71	25	0	96	0	0	218	36	254	350
05:15 PM	0	61	21	0	82	0	0	213	24	237	319
05:30 PM	0	64	27	0	91	0	0	170	35	205	296
05:45 PM	0	50	27	0	77	0	0	140	29	169	246
Total	0	246	100	0	346	0	0	741	124	865	1211
Grand Total	0	1711	497	0	2208	0	3	2359	482	2844	5052
Apprch %		77.5	22.5	0			0.1	82.9	16.9		
Total %	0	33.9	9.8	0	43.7	0	0.1	46.7	9.5	56.3	
Cars	0	1519	440	0	1959	0	3	2045	441	2489	4448
% Cars	0	88.8	88.5	0	88.7	0	100	86.7	91.5	87.5	88
Heavy Trucks	0	192	57	0	249	0	0	314	41	355	604
% Heavy Trucks	0	11.2	11.5	0	11.3	0	0	13.3	8.5	12.5	12

NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
Rte South Pearl @ 787 Access ramp
Counter: JSR

File Name : South pearl @ 787 Access north10-22-09_
Site Code : 00000000
Start Date : 10/21/2009
Page No : 2



NYSDOT

328 State St.
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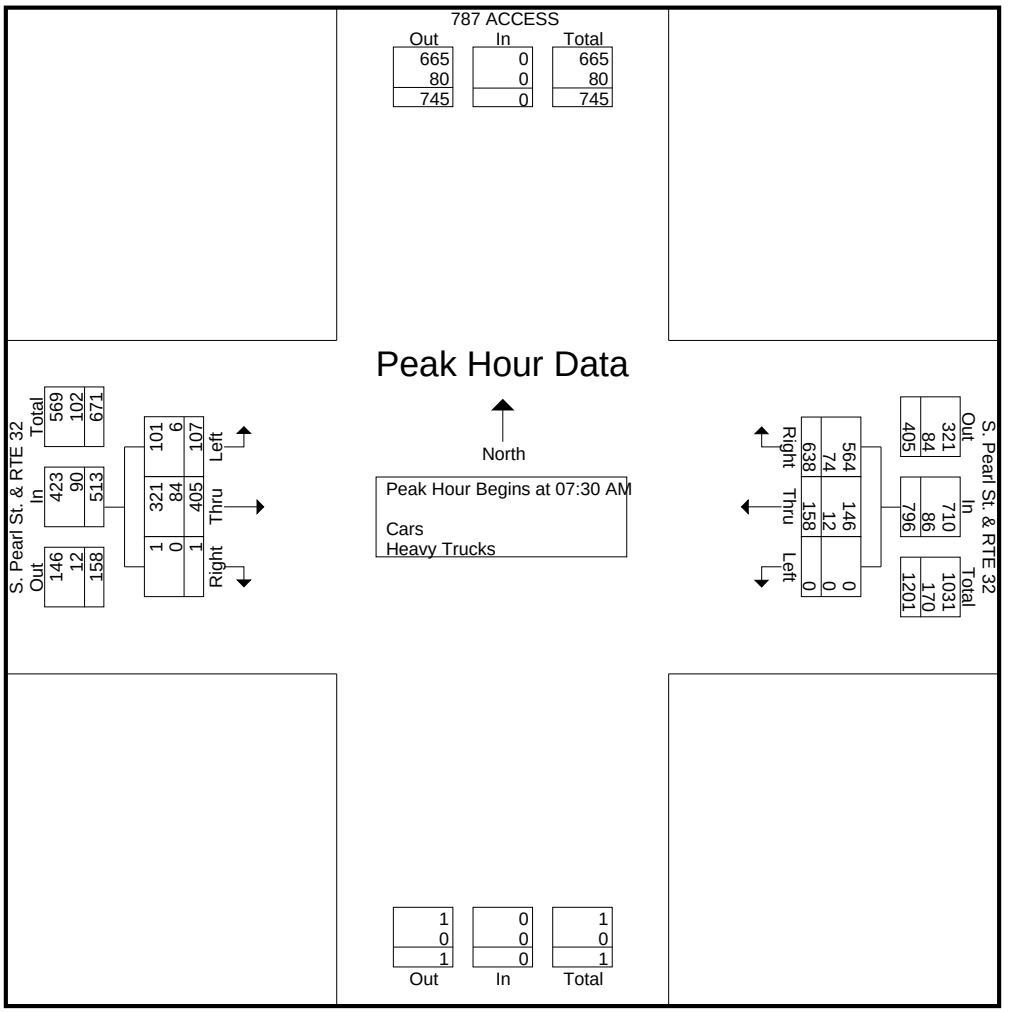
Albany, NY
Rte South Pearl @ 787 Access ramp
Counter: JSR

File Name : South pearl @ 787 Access north10-22-09_
Site Code : 00000000
Start Date : 10/21/2009
Page No : 3

	From North	S. Pearl St. & RTE 32 From East				From South	S. Pearl St. & RTE 32 From West				
Start Time	App. Total	Right	Thru	Left	App. Total	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 07:30 AM											
07:30 AM	0	160	34	0	194	0	0	89	**36**	125	319
07:45 AM	0	**178**	30	0	**208**	0	**1**	99	23	123	331
08:00 AM	0	158	**47**	0	205	0	0	**120**	30	**150**	**355**
08:15 AM	0	142	47	0	189	0	0	97	18	115	304
Total Volume	0	638	158	0	796	0	1	405	107	513	1309
% App. Total		80.2	19.8	0			0.2	78.9	20.9		
PHF	.000	.896	.840	.000	.957	.000	.250	.844	.743	.855	.922
Cars	0	564	146	0	710	0	1	321	101	423	1133
% Cars	0	88.4	92.4	0	89.2	0	100	79.3	94.4	82.5	86.6
Heavy Trucks	0	74	12	0	86	0	0	84	6	90	176
% Heavy Trucks	0	11.6	7.6	0	10.8	0	0	20.7	5.6	17.5	13.4



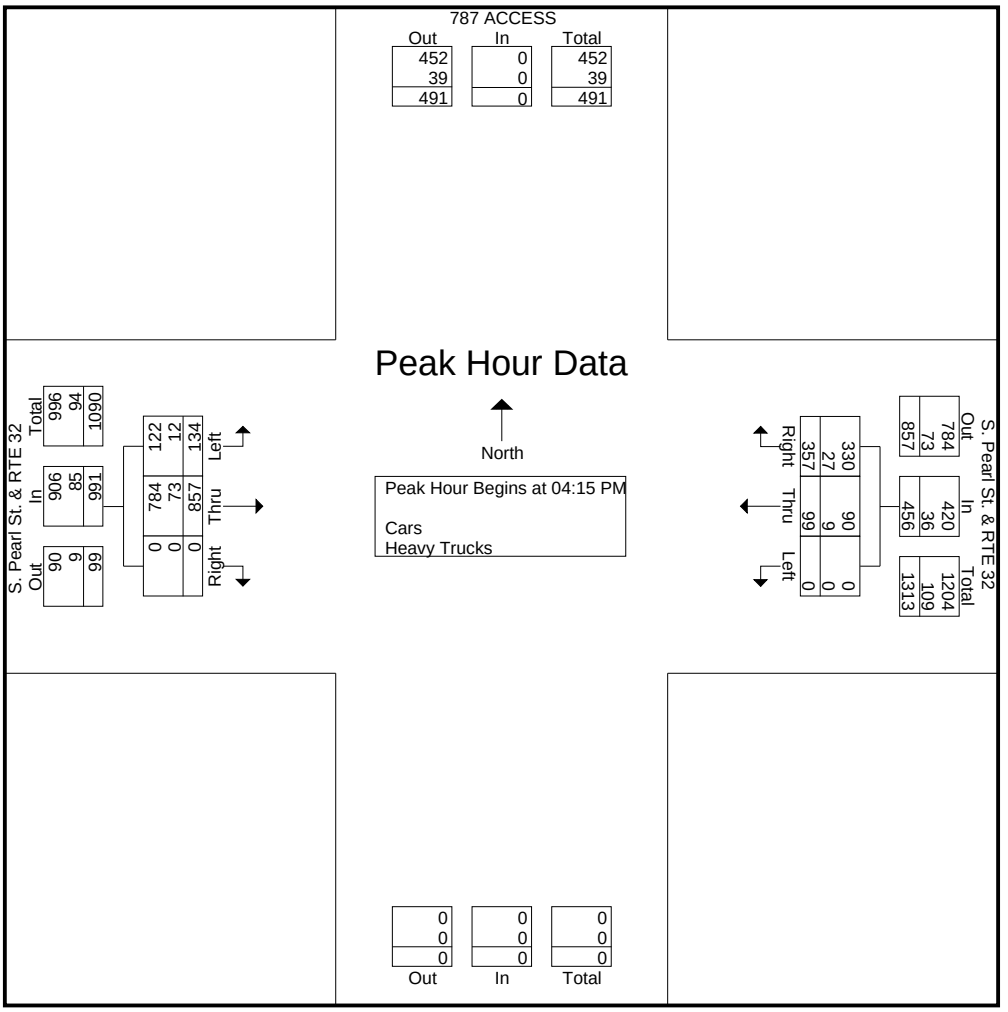
NYSDOT

328 State St.
Schenectady, NY 12305
Region 1 Planning

Albany County
Albany, NY
Rte South Pearl @ 787 Access ramp
Counter: JSR

File Name : South pearl @ 787 Access north10-22-09_
Site Code : 00000000
Start Date : 10/21/2009
Page No : 4

	From North	S. Pearl St. & RTE 32 From East				From South	S. Pearl St. & RTE 32 From West				
Start Time	App. Total	Right	Thru	Left	App. Total	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 04:15 PM											
04:15 PM	0	99	23	0	122	0	0	200	35	235	357
04:30 PM	0	**101**	25	0	**126**	0	0	213	30	243	369
04:45 PM	0	86	**26**	0	112	0	0	**226**	33	**259**	**371**
05:00 PM	0	71	25	0	96	0	0	218	**36**	254	350
Total Volume	0	357	99	0	456	0	0	857	134	991	1447
% App. Total		78.3	21.7	0			0	86.5	13.5		
PHF	.000	.884	.952	.000	.905	.000	.000	.948	.931	.957	.975
Cars	0	330	90	0	420	0	0	784	122	906	1326
% Cars	0	92.4	90.9	0	92.1	0	0	91.5	91.0	91.4	91.6
Heavy Trucks	0	27	9	0	36	0	0	73	12	85	121
% Heavy Trucks	0	7.6	9.1	0	7.9	0	0	8.5	9.0	8.6	8.4



STATION: 112031

New York State Department of Transportation
Roadway Traffic Count Hourly Report

ROUTE/ROAD:	PEARL ST S	FROM:	SCHUYLER ST	TO:	MCCARTY AVE	REGION-COUNTY:	1-ALBANY
FED DIR CODE:	1, 5	REF. MARKER:		FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Albany-City-2001
ST DIR CODE:	6	END MILEPOST:	1.26	FACTOR GROUP:	30	BIN:	
DOT ID:	104501	LANES BY DIR:	1 North 1 South	CC STN:		RR CROSSING:	
BEGIN DATE:	5/1/2014	WEEK OF YEAR:	18	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:	NB travel lane	PLACEMENT:	200' N of Gansevoort St î	JURISDICTION:	04-City or village	1 WAY CODE:	
NOTES 2:	SB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	R01-TDB	BATCH ID:	DOT-R01R1 WW1	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
5/01, Thu										**279**	**341**	**293**	**344**	**295**	**356**	**443**	**450**	**476**	**348**	**305**	**244**	**214**	**148**	**106**	4642		
5/02, Fri	**66**	**44**	**20**	**21**	**23**	**49**	**164**	**276**	**420**	**326**	**325**	**324**	**350**	**394**	**338**	**438**	**457**	**477**	**366**	**317**	**273**	**270**	**170**	**175**	6083	477	17-18
5/03, Sat	**113**	**97**	**59**	**56**	**29**	**23**	**64**	**130**	**168**	**204**	**250**	**265**	**267**	**293**	**287**	**308**	**287**	**294**	**279**	**236**	**227**	**188**	**171**	**134**	4429	308	15-16
5/04, Sun	**96**	**104**	**85**	**62**	**33**	**18**	**32**	**55**	**86**	**151**	**178**	**216**	**268**	**286**	**287**	**276**	**241**	**227**	**185**	**218**	**156**	**138**	**108**	**85**	3591	287	14-15
5/05, Mon	**53**	**32**	**10**	**14**	**16**	**51**	**164**	**253**	**399**	**289**	**267**	**292**	**305**	**336**	**335**	**394**	**458**	**421**	**343**	**293**	**243**	**148**	**123**	**142**	5381	458	16-17
5/06, Tue	**79**	**30**	**16**	**15**	**20**	**46**	**173**	**306**	**354**	**258**	**264**	**301**	**285**	**340**	**332**	**397**	**464**	**459**	**301**	**241**	**200**	**153**	**106**	**79**	5219	464	16-17
5/07, Wed	**64**	**13**	**14**	**10**	**12**	**50**	**158**	**275**	**381**	**288**	**263**	**279**													1807		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	70	**29**	**17**	**15**	**18**	**48**	**165**	**278**	**389**	**288**	**292**	**298**	**311**	**324**	**341**	**411**	**457**	**452**	**331**	**280**	**229**	**172**	**126**	**109**	5448		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day
6	147	3	81	457	8.4	253	9.8	289	10

ESTIMATED AADT Roadway	North	South
5056	2229	2464

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
5	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 112031

New York State Department of Transportation
NB Traffic Count Hourly Report

ROUTE/ROAD:	PEARL ST S	FROM:	SCHUYLER ST	TO:	MCCARTY AVE	REGION-COUNTY:	1-ALBANY
FED DIR CODE:	1	REF. MARKER:		FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Albany-City-2001
ST DIR CODE:	6	END MILEPOST:	1.26	FACTOR GROUP:	30	BIN:	
DOT ID:	104501	LANES BY DIR:	1 North	CC STN:		RR CROSSING:	
BEGIN DATE:	5/1/2014	WEEK OF YEAR:	18	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:	NB travel lane	PLACEMENT:	200' N of Gansevoort St î	JURISDICTION:	04-City or village	1 WAY CODE:	
NOTES 2:	SB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	R01-TDB	BATCH ID:	DOT-R01R1 WW1	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
5/01, Thu										**166**	**172**	**152**	**173**	**128**	**158**	**212**	**167**	**185**	**125**	**104**	**107**	**67**	**41**	**36**	1993		
5/02, Fri	**32**	**16**	**6**	**8**	**10**	**28**	**86**	**184**	**280**	**196**	**172**	**175**	**178**	**192**	**172**	**197**	**172**	**203**	**181**	**134**	**118**	**105**	**61**	**74**	2980	280	08-09
5/03, Sat	**53**	**40**	**25**	**15**	**12**	**11**	**28**	**75**	**83**	**107**	**133**	**134**	**130**	**136**	**139**	**157**	**134**	**132**	**132**	**113**	**104**	**79**	**84**	**54**	2110	157	15-16
5/04, Sun	**45**	**44**	**34**	**23**	**12**	**11**	**18**	**28**	**49**	**76**	**93**	**108**	**125**	**123**	**141**	**139**	**125**	**112**	**90**	**105**	**78**	**64**	**51**	**33**	1727	141	14-15
5/05, Mon	**21**	**15**	**6**	**8**	**6**	**23**	**88**	**169**	**262**	**136**	**123**	**126**	**148**	**176**	**158**	**183**	**181**	**160**	**192**	**162**	**94**	**64**	**52**	**57**	2610	262	08-09
5/06, Tue	**35**	**7**	**5**	**6**	**9**	**20**	**89**	**205**	**233**	**118**	**140**	**144**	**137**	**143**	**163**	**165**	**156**	**183**	**122**	**114**	**91**	**60**	**39**	**41**	2425	233	08-09
5/07, Wed	**24**	**7**	**8**	**3**	**8**	**27**	**79**	**185**	**236**	**146**	**123**	**133**													979		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	30	**10**	**6**	**6**	**9**	**25**	**86**	**186**	**253**	**152**	**146**	**146**	**153**	**149**	**160**	**187**	**168**	**176**	**146**	**127**	**97**	**64**	**44**	**45**	2569		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day
6	147	3	81	457	8.4	253	9.8	289	10

ESTIMATED AADT Roadway	North	South
5056	2229	2464

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
5	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

New York State Department of Transportation

SB Traffic Count Hourly Report

STATION: 112031

ROUTE/ROAD:	PEARL ST S	FROM:	SCHUYLER ST	TO:	MCCARTY AVE	REGION-COUNTY:	1-ALBANY
FED DIR CODE:	5	REF. MARKER:		FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Albany-City-2001
ST DIR CODE:	6	END MILEPOST:	1.26	FACTOR GROUP:	30	BIN:	
DOT ID:	104501	LANES BY DIR:	1 South	CC STN:		RR CROSSING:	
BEGIN DATE:	5/1/2014	WEEK OF YEAR:	18	ADDL DATA:		HPMS SAMPLE:	
NOTES 1:	NB travel lane	PLACEMENT:	200' N of Gansevoort St î	JURISDICTION:	04-City or village	1 WAY CODE:	
NOTES 2:	SB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	R01-TDB	BATCH ID:	DOT-R01R1 WW1	SPEED LIMIT:	

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
5/01, Thu										**113**	**169**	**141**	**171**	**167**	**198**	**231**	**283**	**291**	**223**	**201**	**137**	**147**	**107**	**70**	2649		
5/02, Fri	**34**	**28**	**14**	**13**	**13**	**21**	**78**	**92**	**140**	**130**	**153**	**149**	**172**	**202**	**166**	**241**	**285**	**274**	**185**	**183**	**155**	**165**	**109**	**101**	3103	285	16-17
5/03, Sat	**60**	**57**	**34**	**41**	**17**	**12**	**36**	**55**	**85**	**97**	**117**	**131**	**137**	**157**	**148**	**151**	**153**	**162**	**147**	**123**	**123**	**109**	**87**	**80**	2319	162	17-18
5/04, Sun	**51**	**60**	**51**	**39**	**21**	**7**	**14**	**27**	**37**	**75**	**85**	**108**	**143**	**163**	**146**	**137**	**116**	**115**	**95**	**113**	**78**	**74**	**57**	**52**	1864	163	13-14
5/05, Mon	**32**	**17**	**4**	**6**	**10**	**28**	**76**	**84**	**137**	**153**	**144**	**166**	**157**	**160**	**177**	**211**	**277**	**261**	**151**	**131**	**149**	**84**	**71**	**85**	2771	277	16-17
5/06, Tue	**44**	**23**	**11**	**9**	**11**	**26**	**84**	**101**	**121**	**140**	**124**	**157**	**148**	**197**	**169**	**232**	**308**	**276**	**179**	**127**	**109**	**93**	**67**	**38**	2794	308	16-17
5/07, Wed	**40**	**6**	**6**	**7**	**4**	**23**	**79**	**90**	**145**	**142**	**140**	**146**													828		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	39	**19**	**10**	**10**	**9**	**23**	**79**	**92**	**136**	**136**	**146**	**152**	**159**	**175**	**181**	**225**	**289**	**276**	**184**	**153**	**132**	**108**	**82**	**64**	2879		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day	ESTIMATED AADT Roadway	North	South
6	147	3	81	457	8.4	253	9.8	289	10	5056	2229	2464

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
5	1.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX C

DETAIL CAPACITY ANALYSIS REPORTS

Appendix C1 – Current Conditions

Appendix C2 - Future Conditions

DETAIL CAPACITY ANALYSIS REPORT
APPENDIX C1 - CURRENT CONDITIONS

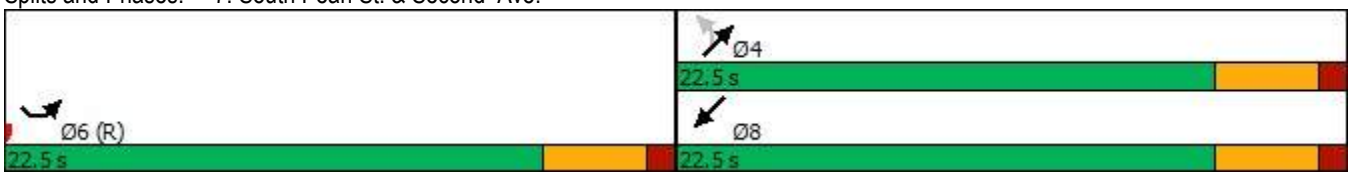
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	85	15	5	190	5	21	20	12	10	25	10
Future Volume (vph)	42	105	15	5	252	5	21	20	12	10	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.998			0.970			0.964	
Flt Protected		0.987			0.999			0.981			0.990	
Satd. Flow (prot)	0	1816	0	0	1857	0	0	1773	0	0	1778	0
Flt Permitted		0.881			0.997			0.884			0.943	
Satd. Flow (perm)	0	1621	0	0	1853	0	0	1597	0	0	1693	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			3			13			14	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		226			199			321			521	
Travel Time (s)		5.0			4.4			7.1			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	114	16	5	274	5	23	22	13	11	27	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	284	0	0	58	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Minimum Split (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Total Split (s)	42.0	42.0		42.0	42.0		18.0	18.0		18.0	18.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	37.0	37.0		37.0	37.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		37.0			37.0			13.0			13.0	
Actuated g/C Ratio		0.62			0.62			0.22			0.22	
v/c Ratio		0.18			0.25			0.16			0.14	
Control Delay		5.0			5.8			17.2			16.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.0			5.8			17.2			16.2	

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	50	50	50	150	100	45
Future Volume (vph)	50	50	50	150	100	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.958	
Flt Protected	0.976			0.988		
Satd. Flow (prot)	1694	0	0	1840	1785	0
Flt Permitted	0.976			0.900		
Satd. Flow (perm)	1694	0	0	1676	1785	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	54				49	
Link Speed (mph)	31			31	31	
Link Distance (ft)	191			422	731	
Travel Time (s)	4.2			9.3	16.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	54	54	163	109	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	0	0	217	158	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	48			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16	9	16			9
Turn Type	Prot		Perm	NA	NA	
Protected Phases	6			4	8	
Permitted Phases			4			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	22.5		22.5	22.5	22.5	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.5			4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	18.0			18.0	18.0	
Actuated g/C Ratio	0.40			0.40	0.40	
v/c Ratio	0.15			0.32	0.21	
Control Delay	5.8			12.2	7.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	5.8			12.2	7.3	

Lane Group	SEL	SER	NEL	NET	SWT	SWR
LOS	A			B	A	
Approach Delay	5.8			12.2	7.3	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2: and 6:SEL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: South Pearl St. & Second Ave.

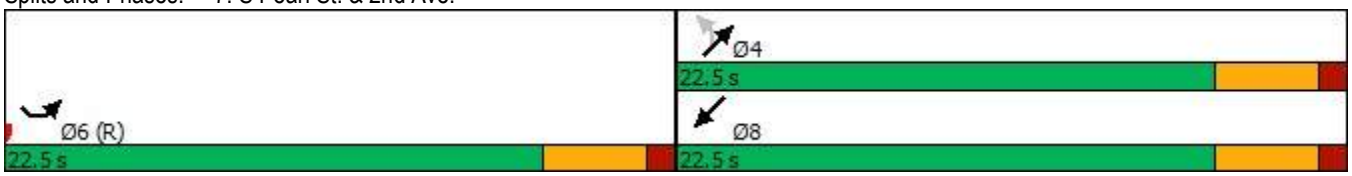


Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	50	55	100	115	100	180
Future Volume (vph)	70	55	100	115	100	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.940				0.905	
Flt Protected	0.973			0.977		
Satd. Flow (prot)	1704	0	0	1820	1686	0
Flt Permitted	0.973			0.684		
Satd. Flow (perm)	1704	0	0	1274	1686	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	60				263	
Link Speed (mph)	31			31	31	
Link Distance (ft)	577			422	365	
Travel Time (s)	12.7			9.3	8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	60	109	125	109	263
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	234	372	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	48			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16	9	16			9
Turn Type	Prot		Perm	NA	NA	
Protected Phases	6			4	8	
Permitted Phases			4			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	22.5		22.5	22.5	22.5	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.5			4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	18.0			18.0	18.0	
Actuated g/C Ratio	0.40			0.40	0.40	
v/c Ratio	0.19			0.46	0.45	
Control Delay	6.3			13.6	5.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	6.3			13.6	5.2	

Lane Group	SEL	SER	NEL	NET	SWT	SWR
LOS	A			B	A	
Approach Delay	6.3			13.6	5.2	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2: and 6:SEL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: S Pearl St. & 2nd Ave.

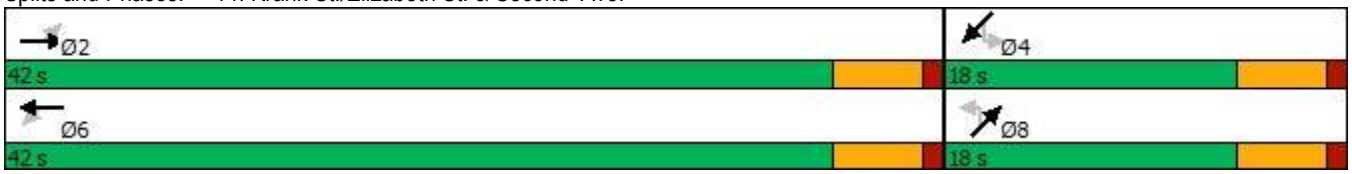


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	45	85	12	5	85	5	11	35	11	5	10	10
Future Volume (vph)	45	85	12	5	85	5	11	35	11	5	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.993			0.974			0.945	
Flt Protected		0.984			0.998			0.990			0.991	
Satd. Flow (prot)	0	1813	0	0	1846	0	0	1796	0	0	1744	0
Flt Permitted		0.907			0.992			0.926			0.920	
Satd. Flow (perm)	0	1671	0	0	1835	0	0	1680	0	0	1619	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			5			12			11	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		226			199			321			521	
Travel Time (s)		5.0			4.4			7.1			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	92	13	5	92	5	12	38	12	5	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	154	0	0	102	0	0	62	0	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Minimum Split (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Total Split (s)	42.0	42.0		42.0	42.0		18.0	18.0		18.0	18.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	37.0	37.0		37.0	37.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.6			48.6			7.3			7.2	
Actuated g/C Ratio		0.82			0.82			0.12			0.12	
v/c Ratio		0.11			0.07			0.29			0.13	
Control Delay		2.8			2.8			22.9			18.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.8			2.8			22.9			18.0	
LOS		A			A			C			B	
Approach Delay		2.8			2.8			22.9			18.0	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 59.4			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 7.6		Intersection LOS: A	
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

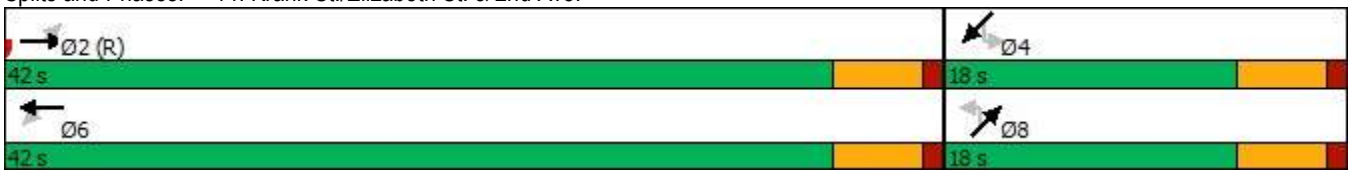
Splits and Phases: 14: Krank St./Elizabeth St. & Second Ave.

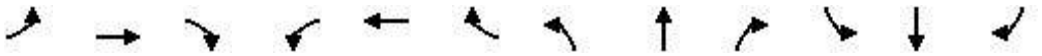


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
LOS		A			A			B			B	
Approach Delay		5.0			5.8			17.2			16.2	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.25			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 36.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Krank St./Elizabeth St. & 2nd Ave.

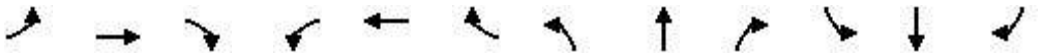




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	130	30	5	95	5	35	5	5	5	5	10
Future Volume (Veh/h)	5	130	30	5	95	5	35	5	5	5	5	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	141	33	5	103	5	38	5	5	5	5	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					445							
pX, platoon unblocked												
vC, conflicting volume	108			174			296	286	158	290	300	106
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	108			174			296	286	158	290	300	106
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	99	99	99	99	99
cM capacity (veh/h)	1483			1403			641	620	888	650	609	949

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	179	113	48	21
Volume Left	5	5	38	5
Volume Right	33	5	5	11
cSH	1483	1403	657	764
Volume to Capacity	0.00	0.00	0.07	0.03
Queue Length 95th (ft)	0	0	6	2
Control Delay (s)	0.2	0.4	10.9	9.8
Lane LOS	A	A	B	A
Approach Delay (s)	0.2	0.4	10.9	9.8
Approach LOS			B	A

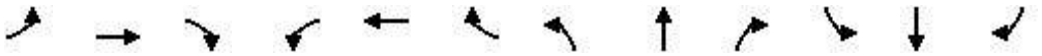
Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	23.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	125	45	10	200	10	10	10	5	5	10	10
Future Volume (Veh/h)	10	125	147	75	200	10	114	14	27	5	13	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	136	160	82	217	11	124	15	29	5	14	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					453							
pX, platoon unblocked	0.96						0.96	0.96		0.96	0.96	0.96
vC, conflicting volume	228			296			642	630	216	661	704	222
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	173			296			606	593	216	625	670	167
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			94			65	96	96	99	96	99
cM capacity (veh/h)	1346			1265			354	372	824	337	336	840

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	307	310	168	30
Volume Left	11	82	124	5
Volume Right	160	11	29	11
cSH	1346	1265	395	431
Volume to Capacity	0.01	0.06	0.43	0.07
Queue Length 95th (ft)	1	5	54	6
Control Delay (s)	0.3	2.6	20.7	14.0
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	2.6	20.7	14.0
Approach LOS			C	B

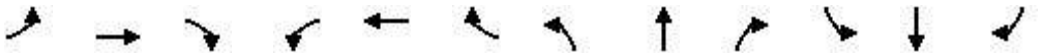
Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	24.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	140	5	5	150	5	10	5	5	15	5	5
Future Volume (Veh/h)	5	140	5	5	150	5	10	5	5	15	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	152	5	5	163	5	11	5	5	16	5	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	168			157			348	342	154	348	342	166
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	168			157			348	342	154	348	342	166
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	99	99	97	99	99
cM capacity (veh/h)	1410			1423			596	576	891	596	576	879

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	162	173	21	26
Volume Left	5	5	11	16
Volume Right	5	5	5	5
cSH	1410	1423	641	631
Volume to Capacity	0.00	0.00	0.03	0.04
Queue Length 95th (ft)	0	0	3	3
Control Delay (s)	0.3	0.2	10.8	11.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.3	0.2	10.8	11.0
Approach LOS			B	B

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	20.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	150	10	10	205	10	5	5	5	10	5	40
Future Volume (Veh/h)	5	249	10	10	305	14	5	5	5	13	5	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	271	11	11	332	15	5	5	5	14	5	43
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		492										
pX, platoon unblocked												
vC, conflicting volume	347			282			694	656	276	656	654	340
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	347			282			694	656	276	656	654	340
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	99	99	96	99	94
cM capacity (veh/h)	1212			1280			329	381	762	369	382	703

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	287	358	15	62
Volume Left	5	11	5	14
Volume Right	11	15	5	43
cSH	1212	1280	430	553
Volume to Capacity	0.00	0.01	0.03	0.11
Queue Length 95th (ft)	0	1	3	10
Control Delay (s)	0.2	0.3	13.7	12.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	0.3	13.7	12.3
Approach LOS			B	B

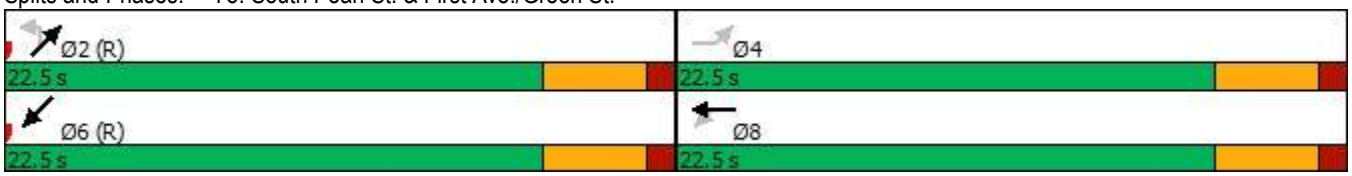
Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	26.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	0	30	362	31	82	10	142	0	0	130	9
Future Volume (vph)	6	0	30	362	31	82	10	142	0	0	130	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.977						0.991	
Flt Protected	0.950				0.963			0.997				
Satd. Flow (prot)	1770	0	0	0	1753	0	0	1857	0	0	1846	0
Flt Permitted	0.593				0.963			0.982				
Satd. Flow (perm)	1105	0	0	0	1753	0	0	1829	0	0	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		145			28						9	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		153			125			434			401	
Travel Time (s)		3.4			2.7			9.5			8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	0	33	393	34	89	11	154	0	0	141	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	33	0	0	516	0	0	165	0	0	151	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Turn Type	Perm			Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases	4			8			2					
Minimum Split (s)	22.5			22.5	22.5		22.5	22.5			22.5	
Total Split (s)	22.5			22.5	22.5		22.5	22.5			22.5	
Total Split (%)	50.0%			50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)	18.0			18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)	3.5			3.5	3.5		3.5	3.5			3.5	
All-Red Time (s)	1.0			1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)	0.0				0.0			0.0			0.0	
Total Lost Time (s)	4.5				4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0			7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0			11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0			0	0		0	0			0	
Act Effct Green (s)	18.0	0.0			18.0			18.0			18.0	
Actuated g/C Ratio	0.40	0.00			0.40			0.40			0.40	
v/c Ratio	0.02	0.23			0.72			0.23			0.20	
Control Delay	8.3	0.0			18.4			10.0			9.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	8.3	0.0			18.4			10.0			9.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
LOS	A	A			B			A			A	
Approach Delay		1.5			18.4			10.0			9.4	
Approach LOS		A			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NETL and 6:SWT, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.5		Intersection LOS: B	
Intersection Capacity Utilization Err%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 78: South Pearl St. & First Ave./Green St.

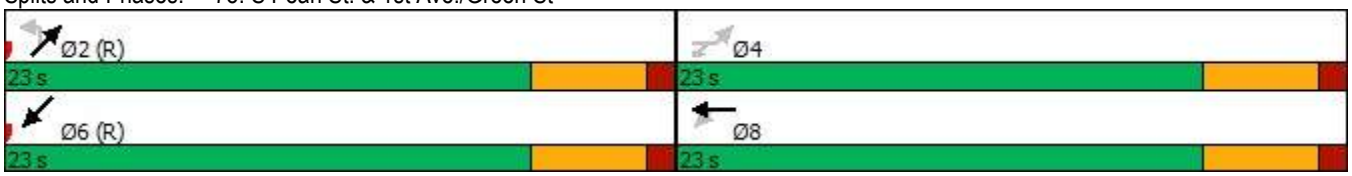


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	0	50	653	84	54	6	95	0	0	218	19
Future Volume (vph)	10	0	247	653	113	54	6	95	0	0	218	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.951						0.989	
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	0	1583	1770	1771	0	0	1857	0	0	1842	0
Flt Permitted	0.643			0.950				0.978				
Satd. Flow (perm)	1198	0	1583	1770	1771	0	0	1822	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			268		59						11	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		153			125			414			401	
Travel Time (s)		3.4			2.7			9.1			8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	268	710	123	59	7	103	0	0	237	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	0	268	710	182	0	0	110	0	0	258	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Turn Type	Perm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2					
Minimum Split (s)	23.0		23.0	23.0	23.0		23.0	23.0			23.0	
Total Split (s)	23.0		23.0	23.0	23.0		23.0	23.0			23.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)	4.0		4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0		5.0	5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0		7.0	7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0		0	0	0		0	0			0	
Act Effct Green (s)	18.0		18.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.39		0.39	0.39	0.39			0.39			0.39	
v/c Ratio	0.02		0.34	1.03	0.25			0.15			0.35	
Control Delay	8.9		3.1	60.2	7.7			9.8			11.2	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	8.9		3.1	60.2	7.7			9.8			11.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
LOS	A		A	E	A			A			B	
Approach Delay		3.3			49.4			9.8			11.2	
Approach LOS		A			D			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 46			
Actuated Cycle Length: 46			
Offset: 0 (0%), Referenced to phase 2:NETL and 6:SWT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 31.8		Intersection LOS: C	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 78: S Pearl St. & 1st Ave./Green St



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	35	5	5	5	40	50	5	0	20	5
Future Volume (vph)	0	5	35	5	5	5	40	50	5	0	20	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	38	5	5	5	43	54	5	0	22	5

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total (vph)	43	15	102	27
Volume Left (vph)	0	5	43	0
Volume Right (vph)	38	5	5	5
Hadj (s)	-0.50	-0.10	0.09	-0.08
Departure Headway (s)	3.7	4.1	4.1	4.0
Degree Utilization, x	0.04	0.02	0.12	0.03
Capacity (veh/h)	936	841	849	870
Control Delay (s)	6.9	7.2	7.7	7.2
Approach Delay (s)	6.9	7.2	7.7	7.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.4			
Level of Service	A			
Intersection Capacity Utilization	23.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	10	55	5	5	5	20	45	5	5	35	5
Future Volume (vph)	0	17	252	5	12	5	49	45	5	5	35	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	18	274	5	13	5	53	49	5	5	38	5

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total (vph)	292	23	107	48
Volume Left (vph)	0	5	53	5
Volume Right (vph)	274	5	5	5
Hadj (s)	-0.53	-0.05	0.11	-0.01
Departure Headway (s)	3.8	4.5	4.7	4.7
Degree Utilization, x	0.31	0.03	0.14	0.06
Capacity (veh/h)	920	746	715	709
Control Delay (s)	8.4	7.6	8.5	8.0
Approach Delay (s)	8.4	7.6	8.5	8.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.4			
Level of Service	A			
Intersection Capacity Utilization	19.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	4	3	6	0	5	0	12	4	17	14
Future Volume (vph)	0	13	4	3	6	0	5	0	12	4	17	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	4	3	7	0	5	0	13	4	18	15

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1
Volume Total (vph)	18	10	5	13	37
Volume Left (vph)	0	3	5	0	4
Volume Right (vph)	4	0	0	13	15
Hadj (s)	-0.10	0.09	0.53	-0.67	-0.19
Departure Headway (s)	3.9	4.1	5.1	3.9	3.9
Degree Utilization, x	0.02	0.01	0.01	0.01	0.04
Capacity (veh/h)	898	856	689	909	914
Control Delay (s)	7.0	7.2	7.0	5.8	7.1
Approach Delay (s)	7.0	7.2	6.1		7.1
Approach LOS	A	A	A		A

Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	14	2	0	8	0	12	0	18	0	8	2
Future Volume (vph)	0	20	3	0	11	0	16	0	18	0	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	22	3	0	12	0	17	0	20	0	9	2

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1
Volume Total (vph)	25	12	17	20	11
Volume Left (vph)	0	0	17	0	0
Volume Right (vph)	3	0	0	20	2
Hadj (s)	-0.04	0.03	0.53	-0.67	-0.08
Departure Headway (s)	4.0	4.1	5.1	3.9	4.0
Degree Utilization, x	0.03	0.01	0.02	0.02	0.01
Capacity (veh/h)	887	870	688	897	877
Control Delay (s)	7.1	7.1	7.0	5.8	7.1
Approach Delay (s)	7.1	7.1	6.4		7.1
Approach LOS	A	A	A		A

Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

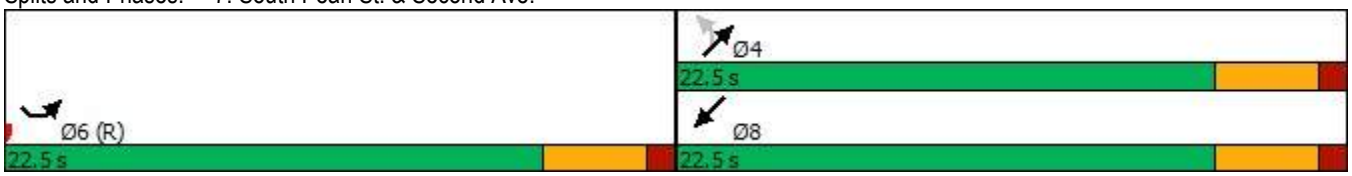
DETAIL CAPACITY ANALYSIS REPORT
APPENDIX C2 - FUTURE CONDITIONS

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	67	65	68	150	100	70
Future Volume (vph)	67	65	68	150	100	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.933				0.945	
Flt Protected	0.975			0.985		
Satd. Flow (prot)	1694	0	0	1835	1760	0
Flt Permitted	0.975			0.860		
Satd. Flow (perm)	1694	0	0	1602	1760	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	71				76	
Link Speed (mph)	31			31	31	
Link Distance (ft)	191			422	731	
Travel Time (s)	4.2			9.3	16.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	71	74	163	109	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	237	185	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	48			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16	9	16			9
Turn Type	Prot		Perm	NA	NA	
Protected Phases	6			4	8	
Permitted Phases			4			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	22.5		22.5	22.5	22.5	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.5			4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	18.0			18.0	18.0	
Actuated g/C Ratio	0.40			0.40	0.40	
v/c Ratio	0.20			0.37	0.25	
Control Delay	6.0			14.4	6.6	
Queue Delay	0.0			0.0	0.0	
Total Delay	6.0			14.4	6.6	

Lane Group	SEL	SER	NEL	NET	SWT	SWR
LOS	A			B	A	
Approach Delay	6.0			14.4	6.6	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2: and 6:SEL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.37			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 40.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: South Pearl St. & Second Ave.

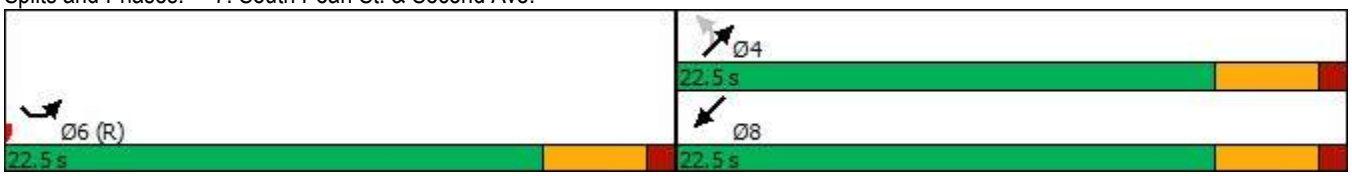


Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	63	68	113	115	180	119
Future Volume (vph)	83	68	113	115	180	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.939				0.932	
Flt Protected	0.973			0.976		
Satd. Flow (prot)	1702	0	0	1818	1736	0
Flt Permitted	0.973			0.617		
Satd. Flow (perm)	1702	0	0	1149	1736	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	74				134	
Link Speed (mph)	31			31	31	
Link Distance (ft)	781			422	365	
Travel Time (s)	17.2			9.3	8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	74	123	125	196	197
Shared Lane Traffic (%)						
Lane Group Flow (vph)	164	0	0	248	393	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	48			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16	9	16			9
Turn Type	Prot		Perm	NA	NA	
Protected Phases	6			4	8	
Permitted Phases			4			
Minimum Split (s)	22.5		22.5	22.5	22.5	
Total Split (s)	22.5		22.5	22.5	22.5	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.5			4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	18.0			18.0	18.0	
Actuated g/C Ratio	0.40			0.40	0.40	
v/c Ratio	0.23			0.54	0.51	
Control Delay	6.3			15.8	9.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	6.3			15.8	9.3	

Lane Group	SEL	SER	NEL	NET	SWT	SWR
LOS	A			B	A	
Approach Delay	6.3			15.8	9.3	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2: and 6:SEL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: South Pearl St. & Second Ave.

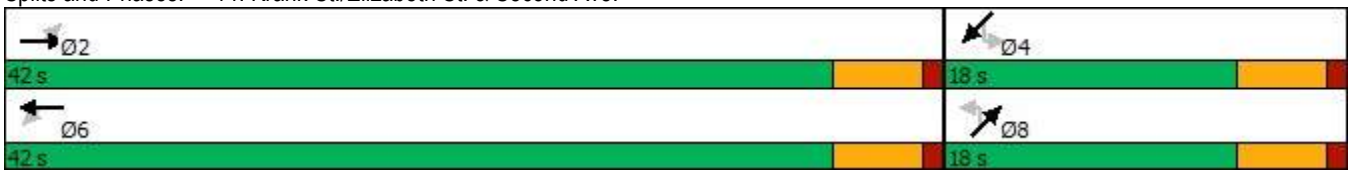


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	45	97	30	20	99	5	27	55	31	5	32	10
Future Volume (vph)	45	97	30	20	99	5	27	55	31	5	32	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.995			0.963			0.971	
Flt Protected		0.987			0.992			0.988			0.995	
Satd. Flow (prot)	0	1794	0	0	1839	0	0	1772	0	0	1800	0
Flt Permitted		0.913			0.952			0.904			0.970	
Satd. Flow (perm)	0	1660	0	0	1764	0	0	1622	0	0	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			5			29			11	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		226			199			321			521	
Travel Time (s)		5.0			4.4			7.1			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	105	33	22	108	5	29	60	34	5	35	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	0	0	135	0	0	123	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Minimum Split (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Total Split (s)	42.0	42.0		42.0	42.0		18.0	18.0		18.0	18.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	37.0	37.0		37.0	37.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.1			43.1			8.8			8.8	
Actuated g/C Ratio		0.73			0.73			0.15			0.15	
v/c Ratio		0.15			0.10			0.46			0.19	
Control Delay		3.6			3.9			22.9			18.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.6			3.9			22.9			18.6	
LOS		A			A			C			B	
Approach Delay		3.6			3.9			22.9			18.6	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.8			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 10.0		Intersection LOS: B	
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Krank St./Elizabeth St. & Second Ave.

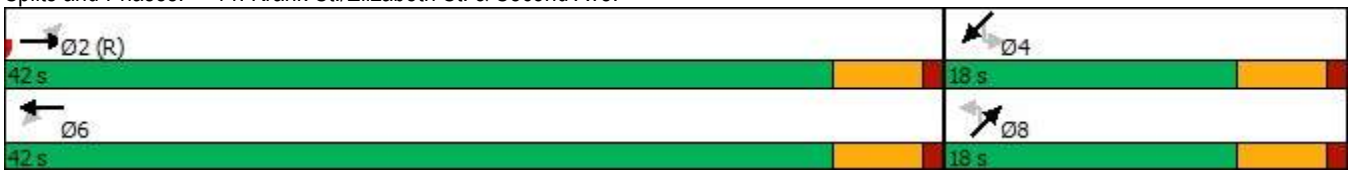


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	95	29	22	200	5	34	36	28	10	41	10
Future Volume (vph)	42	115	29	22	262	5	34	36	28	10	41	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979			0.998			0.962			0.973	
Flt Protected		0.989			0.996			0.983			0.992	
Satd. Flow (prot)	0	1804	0	0	1852	0	0	1761	0	0	1798	0
Flt Permitted		0.889			0.974			0.877			0.950	
Satd. Flow (perm)	0	1621	0	0	1811	0	0	1572	0	0	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			3			30			14	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		226			199			321			521	
Travel Time (s)		5.0			4.4			7.1			11.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	125	32	24	285	5	37	39	30	11	45	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	314	0	0	106	0	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Minimum Split (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Total Split (s)	42.0	42.0		42.0	42.0		18.0	18.0		18.0	18.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	37.0	37.0		37.0	37.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		37.0			37.0			13.0			13.0	
Actuated g/C Ratio		0.62			0.62			0.22			0.22	
v/c Ratio		0.20			0.28			0.29			0.18	
Control Delay		4.9			6.1			17.4			17.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.9			6.1			17.4			17.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
LOS		A			A			B			B	
Approach Delay		4.9			6.1			17.4			17.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 36.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Krank St./Elizabeth St. & Second Ave.



Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	148	42	19	111	5	46	17	17	5	19	10
Future Vol, veh/h	5	148	42	19	111	5	46	17	17	5	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	161	46	21	121	5	50	18	18	5	21	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	126	0	0	207	0	0	376	362	184	378	383	124
Stage 1	-	-	-	-	-	-	194	194	-	166	166	-
Stage 2	-	-	-	-	-	-	182	168	-	212	217	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1460	-	-	1364	-	-	581	565	858	580	550	927
Stage 1	-	-	-	-	-	-	808	740	-	836	761	-
Stage 2	-	-	-	-	-	-	820	759	-	790	723	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1460	-	-	1364	-	-	548	553	858	544	538	927
Mov Cap-2 Maneuver	-	-	-	-	-	-	548	553	-	544	538	-
Stage 1	-	-	-	-	-	-	805	737	-	833	748	-
Stage 2	-	-	-	-	-	-	775	746	-	751	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.1	12.1	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	595	1460	-	-	1364	-	-	615
HCM Lane V/C Ratio	0.146	0.004	-	-	0.015	-	-	0.06
HCM Control Delay (s)	12.1	7.5	0	-	7.7	0	-	11.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.2

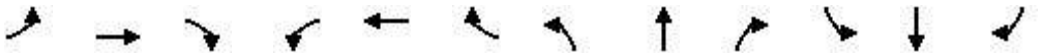
Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	139	53	20	213	10	19	20	15	5	21	10
Future Vol, veh/h	10	139	155	85	213	10	123	24	37	5	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	151	168	92	232	11	134	26	40	5	26	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	243	0	0	319	0	0	697	684	235	712	763	238
Stage 1	-	-	-	-	-	-	257	257	-	422	422	-
Stage 2	-	-	-	-	-	-	440	427	-	290	341	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1323	-	-	1241	-	-	356	371	804	347	334	801
Stage 1	-	-	-	-	-	-	748	695	-	609	588	-
Stage 2	-	-	-	-	-	-	596	585	-	718	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1323	-	-	1241	-	-	304	336	804	288	302	801
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	336	-	288	302	-
Stage 1	-	-	-	-	-	-	741	688	-	603	537	-
Stage 2	-	-	-	-	-	-	511	535	-	650	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2.2	27.9	16.4
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	352	1323	-	-	1241	-	-	357
HCM Lane V/C Ratio	0.568	0.008	-	-	0.074	-	-	0.119
HCM Control Delay (s)	27.9	7.7	0	-	8.1	0	-	16.4
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.4	0	-	-	0.2	-	-	0.4

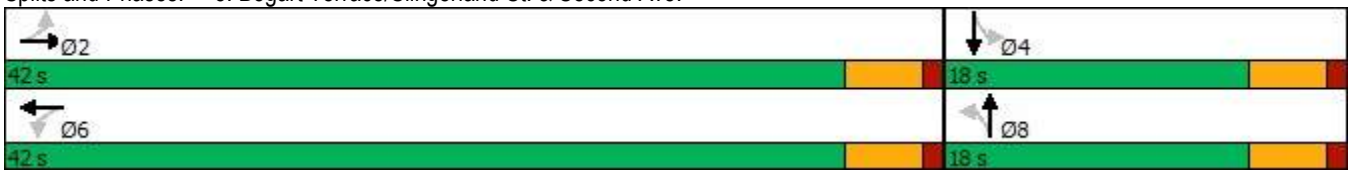


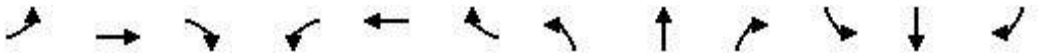
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	163	10	5	160	13	10	5	5	26	5	15
Future Volume (vph)	5	163	10	5	160	13	10	5	5	26	5	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.990			0.968			0.956	
Flt Protected		0.999			0.999			0.974			0.972	
Satd. Flow (prot)	0	1846	0	0	1842	0	0	1756	0	0	1731	0
Flt Permitted		0.995			0.995			0.810			0.812	
Satd. Flow (perm)	0	1839	0	0	1835	0	0	1461	0	0	1446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			13			5			16	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		80			645			289			419	
Travel Time (s)		1.8			14.2			6.4			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	177	11	5	174	14	11	5	5	28	5	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	193	0	0	193	0	0	21	0	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Total Split (s)	42.0	42.0		42.0	42.0		18.0	18.0		18.0	18.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	37.5	37.5		37.5	37.5		13.5	13.5		13.5	13.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		50.0			50.0			6.9			6.9	
Actuated g/C Ratio		0.83			0.83			0.12			0.12	
v/c Ratio		0.13			0.13			0.12			0.27	
Control Delay		2.4			2.4			21.1			21.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.4			2.4			21.1			21.4	
LOS		A			A			C			C	
Approach Delay		2.4			2.4			21.1			21.4	
Approach LOS		A			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 59.9			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.27			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 23.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Bogart Terrace/Slingerland St. & Second Ave.



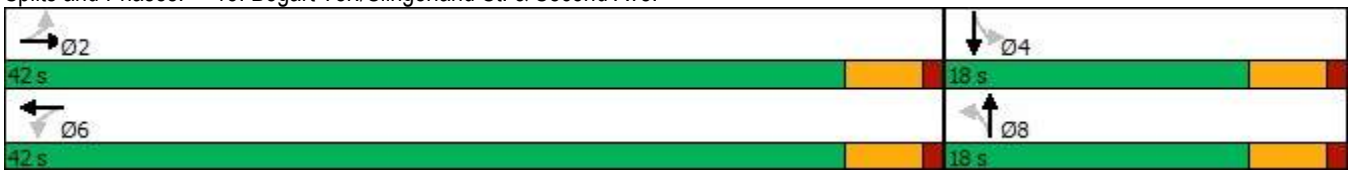


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	185	10	10	220	20	5	5	5	26	5	40
Future Volume (vph)	5	284	10	10	320	24	5	5	5	29	5	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.991			0.955			0.927	
Flt Protected		0.999			0.999			0.984			0.980	
Satd. Flow (prot)	0	1852	0	0	1844	0	0	1750	0	0	1692	0
Flt Permitted		0.996			0.991			0.922			0.863	
Satd. Flow (perm)	0	1846	0	0	1829	0	0	1640	0	0	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			12			5			43	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		185			72			215			118	
Travel Time (s)		4.1			1.6			4.7			2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	309	11	11	348	26	5	5	5	32	5	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	325	0	0	385	0	0	15	0	0	80	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Total Split (s)	42.0	42.0		42.0	42.0		18.0	18.0		18.0	18.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	37.5	37.5		37.5	37.5		13.5	13.5		13.5	13.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.5			48.5			7.2			7.2	
Actuated g/C Ratio		0.82			0.82			0.12			0.12	
v/c Ratio		0.21			0.25			0.07			0.36	
Control Delay		2.9			3.1			18.6			17.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.9			3.1			18.6			17.6	
LOS		A			A			B			B	
Approach Delay		2.9			3.1			18.6			17.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.8			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 4.7		Intersection LOS: A	
Intersection Capacity Utilization 30.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 18: Bogart Ter./Slingerland St. & Second Ave.

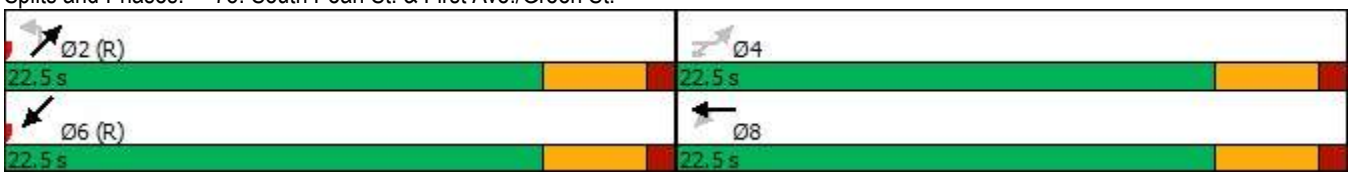


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	14	0	38	362	37	82	19	142	0	0	145	26
Future Volume (vph)	14	0	38	362	37	82	19	142	0	0	145	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.897						0.980	
Flt Protected	0.950			0.950				0.994				
Satd. Flow (prot)	1770	0	1583	1770	1671	0	0	1852	0	0	1825	0
Flt Permitted	0.674			0.950				0.958				
Satd. Flow (perm)	1255	0	1583	1770	1671	0	0	1785	0	0	1825	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)											24	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		153			125			566			401	
Travel Time (s)		3.4			2.7			12.4			8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	0	41	393	40	89	21	154	0	0	158	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	0	41	393	129	0	0	175	0	0	186	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Turn Type	Perm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2					
Minimum Split (s)	22.5		22.5	22.5	22.5		22.5	22.5			22.5	
Total Split (s)	22.5		22.5	22.5	22.5		22.5	22.5			22.5	
Total Split (%)	50.0%		50.0%	50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)	3.5		3.5	3.5	3.5		3.5	3.5			3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0		7.0	7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0		0	0	0		0	0			0	
Act Effct Green (s)	18.0		18.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.40		0.40	0.40	0.40			0.40			0.40	
v/c Ratio	0.03		0.06	0.56	0.19			0.25			0.25	
Control Delay	8.5		8.7	14.1	9.8			10.2			10.2	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	8.5		8.7	14.1	9.8			10.2			10.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
LOS	A		A	B	A			B			B	
Approach Delay		8.7			13.1			10.2			10.2	
Approach LOS		A			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NETL and 6:SWT, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 78: South Pearl St. & First Ave./Green St.

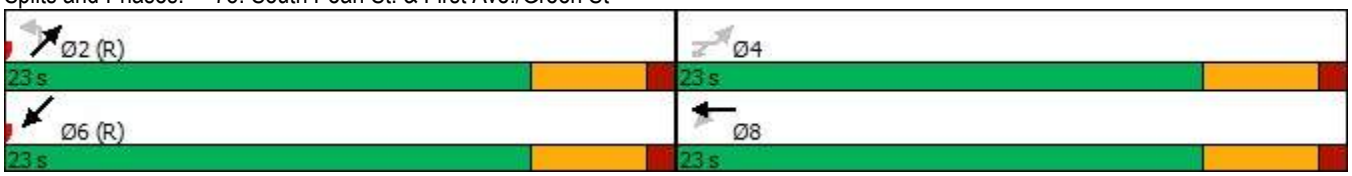


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	16	0	57	653	88	54	11	95	0	0	218	24
Future Volume (vph)	16	0	254	653	117	54	11	95	0	0	218	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.952						0.987	
Flt Protected	0.950			0.950				0.995				
Satd. Flow (prot)	1770	0	1583	1770	1773	0	0	1853	0	0	1839	0
Flt Permitted	0.640			0.950				0.960				
Satd. Flow (perm)	1192	0	1583	1770	1773	0	0	1788	0	0	1839	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			276		59						14	
Link Speed (mph)		31			31			31			31	
Link Distance (ft)		153			125			414			401	
Travel Time (s)		3.4			2.7			9.1			8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	0	276	710	127	59	12	103	0	0	237	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	0	276	710	186	0	0	115	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		48			48			48			48	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	16		9	16		9	16		9	16		9
Turn Type	Perm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2					
Minimum Split (s)	23.0		23.0	23.0	23.0		23.0	23.0			23.0	
Total Split (s)	23.0		23.0	23.0	23.0		23.0	23.0			23.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)	18.0		18.0	18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)	4.0		4.0	4.0	4.0		4.0	4.0			4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0		5.0	5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0		7.0	7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0		0	0	0		0	0			0	
Act Effct Green (s)	18.0		18.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.39		0.39	0.39	0.39			0.39			0.39	
v/c Ratio	0.04		0.35	1.03	0.26			0.16			0.36	
Control Delay	9.0		3.1	60.2	7.7			9.9			11.2	
Queue Delay	0.0		0.0	0.0	0.0			0.0			0.0	
Total Delay	9.0		3.1	60.2	7.7			9.9			11.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
LOS	A		A	E	A			A			B	
Approach Delay		3.4			49.3			9.9			11.2	
Approach LOS		A			D			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 46			
Actuated Cycle Length: 46			
Offset: 0 (0%), Referenced to phase 2:NETL and 6:SWT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 31.4		Intersection LOS: C	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 78: South Pearl St. & First Ave./Green St



Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	6	41	5	6	7	45	60	5	7	27	5
Future Vol, veh/h	4	6	41	5	6	7	45	60	5	7	27	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	7	45	5	7	8	49	65	5	8	29	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.9	7.4
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	41%	28%	8%	18%
Vol Thru, %	55%	33%	12%	69%
Vol Right, %	5%	39%	80%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	18	51	39
LT Vol	45	5	4	7
Through Vol	60	6	6	27
RT Vol	5	7	41	5
Lane Flow Rate	120	20	55	42
Geometry Grp	1	1	1	1
Degree of Util (X)	0.138	0.022	0.058	0.048
Departure Headway (Hd)	4.15	4.079	3.761	4.113
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	864	937	864
Service Time	2.186	2.169	1.846	2.169
HCM Lane V/C Ratio	0.139	0.023	0.059	0.049
HCM Control Delay	7.9	7.3	7.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.2	0.2

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	11	59	5	7	7	24	50	5	7	41	5
Future Vol, veh/h	2	18	256	5	14	7	53	50	5	7	41	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	20	278	5	15	8	58	54	5	8	45	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	7.7	8.6	8.1
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	49%	19%	1%	13%
Vol Thru, %	46%	54%	7%	77%
Vol Right, %	5%	27%	93%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	26	276	53
LT Vol	53	5	2	7
Through Vol	50	14	18	41
RT Vol	5	7	256	5
Lane Flow Rate	117	28	300	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.155	0.036	0.32	0.075
Departure Headway (Hd)	4.741	4.532	3.84	4.717
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	756	791	939	759
Service Time	2.77	2.555	1.853	2.748
HCM Lane V/C Ratio	0.155	0.035	0.319	0.076
HCM Control Delay	8.6	7.7	8.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	1.4	0.2

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT
Lane Configurations												
Traffic Vol, veh/h	0	5	8	0	3	1	0	8	0	18	4	17
Future Vol, veh/h	0	5	8	0	3	1	0	8	0	18	4	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	9	0	3	1	0	9	0	20	4	18
Number of Lanes	0	1	0	0	0	1	0	1	0	1	0	1

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	6.8	7.3	7.1	7
HCM LOS	A	A	A	A

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1
Vol Left, %	100%	0%	75%	0%	11%
Vol Thru, %	0%	0%	25%	38%	49%
Vol Right, %	0%	100%	0%	62%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	18	4	13	35
LT Vol	8	0	3	0	4
Through Vol	0	0	1	5	17
RT Vol	0	18	0	8	14
Lane Flow Rate	9	20	4	14	38
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.012	0.021	0.005	0.014	0.041
Departure Headway (Hd)	5.086	3.886	4.209	3.681	3.871
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	707	925	850	970	928
Service Time	2.794	1.594	2.238	1.711	1.881
HCM Lane V/C Ratio	0.013	0.022	0.005	0.014	0.041
HCM Control Delay	7.9	6.7	7.3	6.8	7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0	0.1	0	0	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWR
Lane Configurations	
Traffic Vol, veh/h	14
Future Vol, veh/h	14
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	15
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	5	3	1	1	0	12	0	18	0	8	2
Future Vol, veh/h	0	11	4	1	4	0	16	0	18	0	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	4	1	4	0	17	0	20	0	9	2
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	7	7.1	7.3	7
HCM LOS	A	A	A	A

Lane	NELn1	NELn2	NWLn1	SELn1	SWLn1
Vol Left, %	100%	0%	20%	0%	0%
Vol Thru, %	0%	0%	80%	73%	80%
Vol Right, %	0%	100%	0%	27%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	18	5	15	10
LT Vol	16	0	1	0	0
Through Vol	0	0	4	11	8
RT Vol	0	18	0	4	2
Lane Flow Rate	17	20	5	16	11
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.025	0.021	0.006	0.017	0.012
Departure Headway (Hd)	5.077	3.877	4.067	3.859	3.978
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	708	927	878	926	901
Service Time	2.786	1.586	2.1	1.89	1.997
HCM Lane V/C Ratio	0.024	0.022	0.006	0.017	0.012
HCM Control Delay	7.9	6.7	7.1	7	7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0	0.1	0

APPENDIX D

ITE TRIP GENERATION MANUAL EXCERPTS

Multifamily Housing (Mid-Rise)
(221)

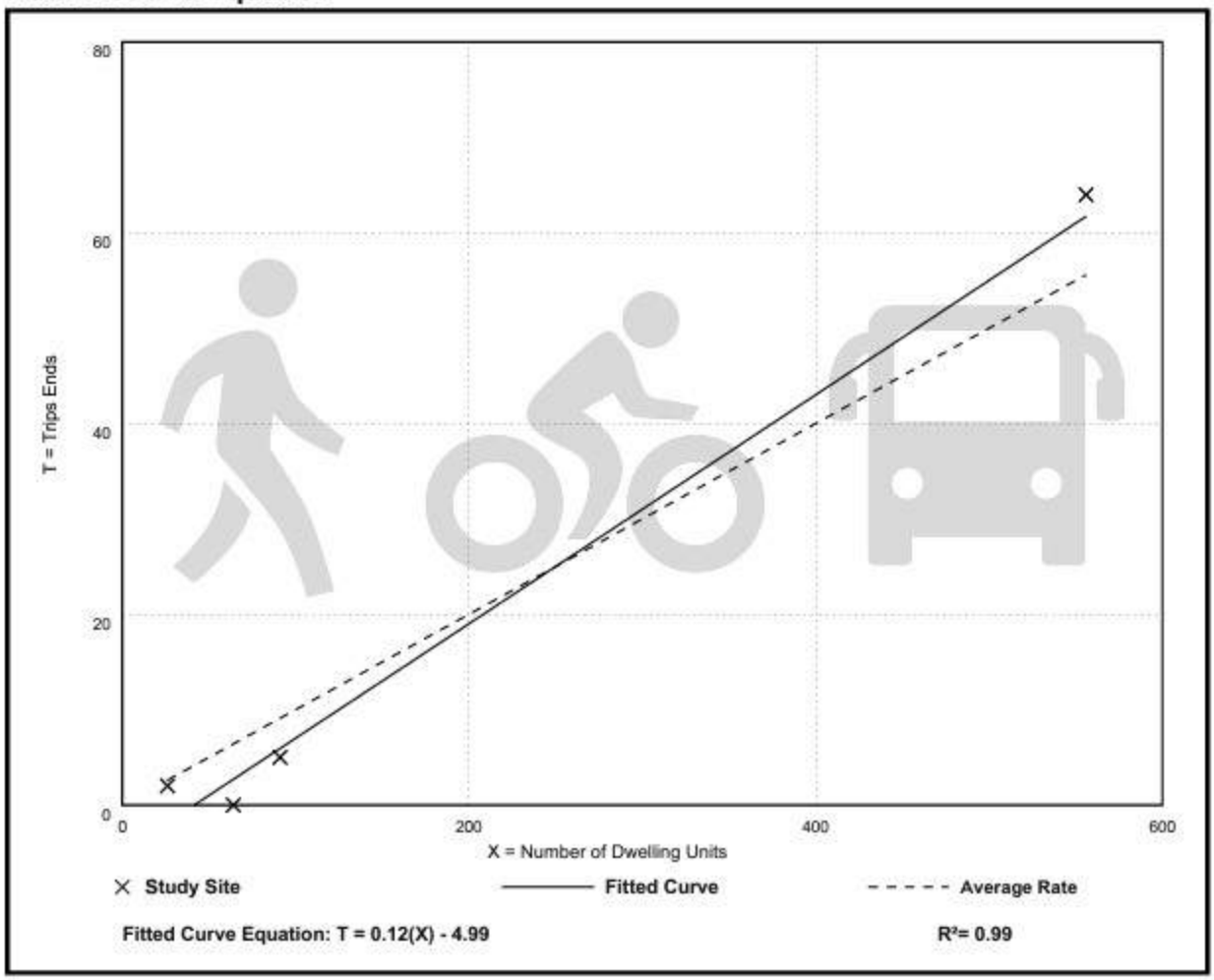
Walk+Bike+Transit Trip Ends vs: Dwelling Units
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. Num. of Dwelling Units: 184
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.10	0.00 - 0.12	0.04

Data Plot and Equation



Fitted Curve Equation: T = 0.12(X) - 4.99

R^2= 0.99

Multifamily Housing (Mid-Rise)
(221)

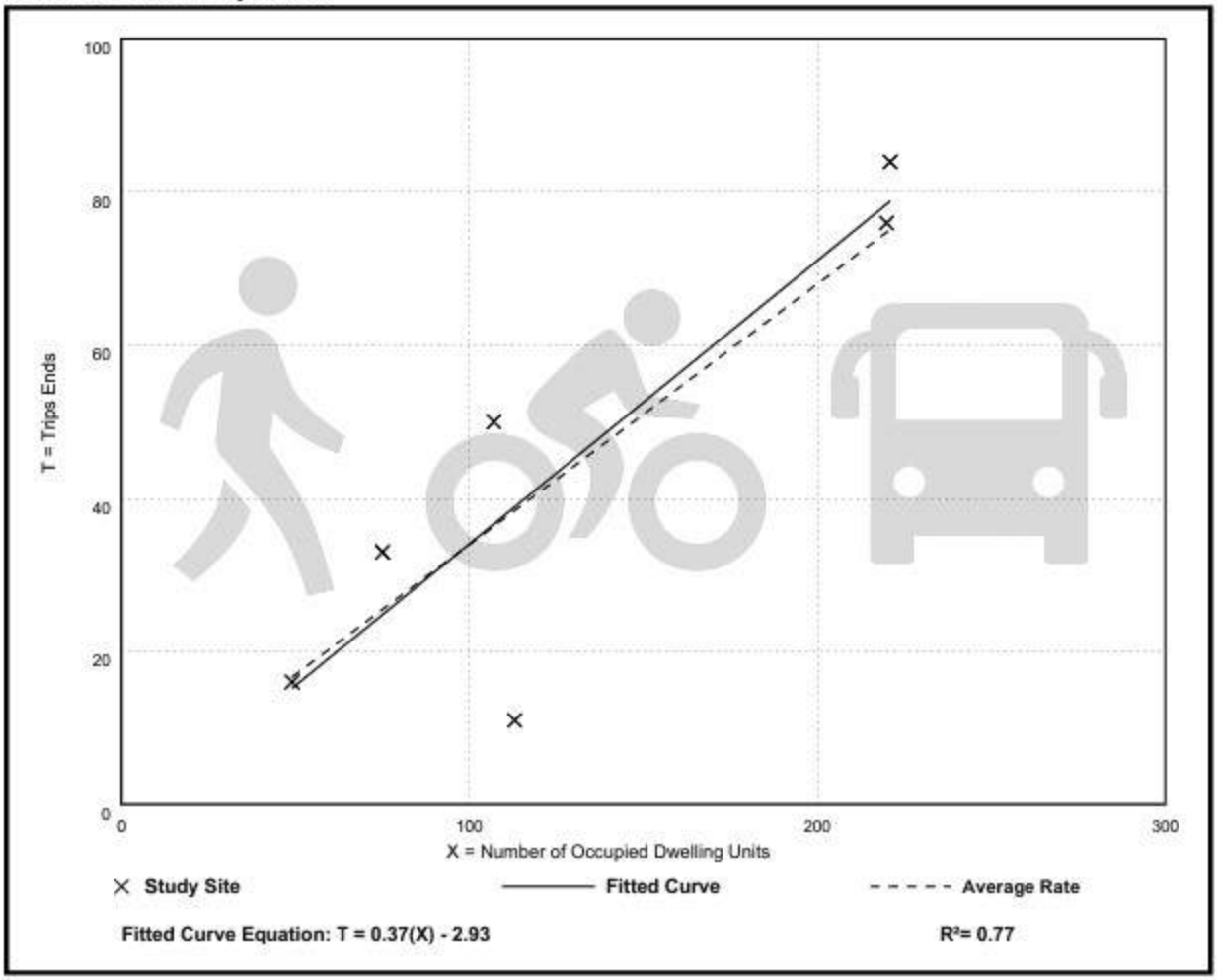
Walk+Bike+Transit Trip Ends vs: Occupied Dwelling Units
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: Center City Core
Number of Studies: 6
Avg. Num. of Occupied Dwelling Units: 131
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Occupied Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.34	0.10 - 0.47	0.12

Data Plot and Equation



Fitted Curve Equation: T = 0.37(X) - 2.93

R^2= 0.77

General Office Building
(710)

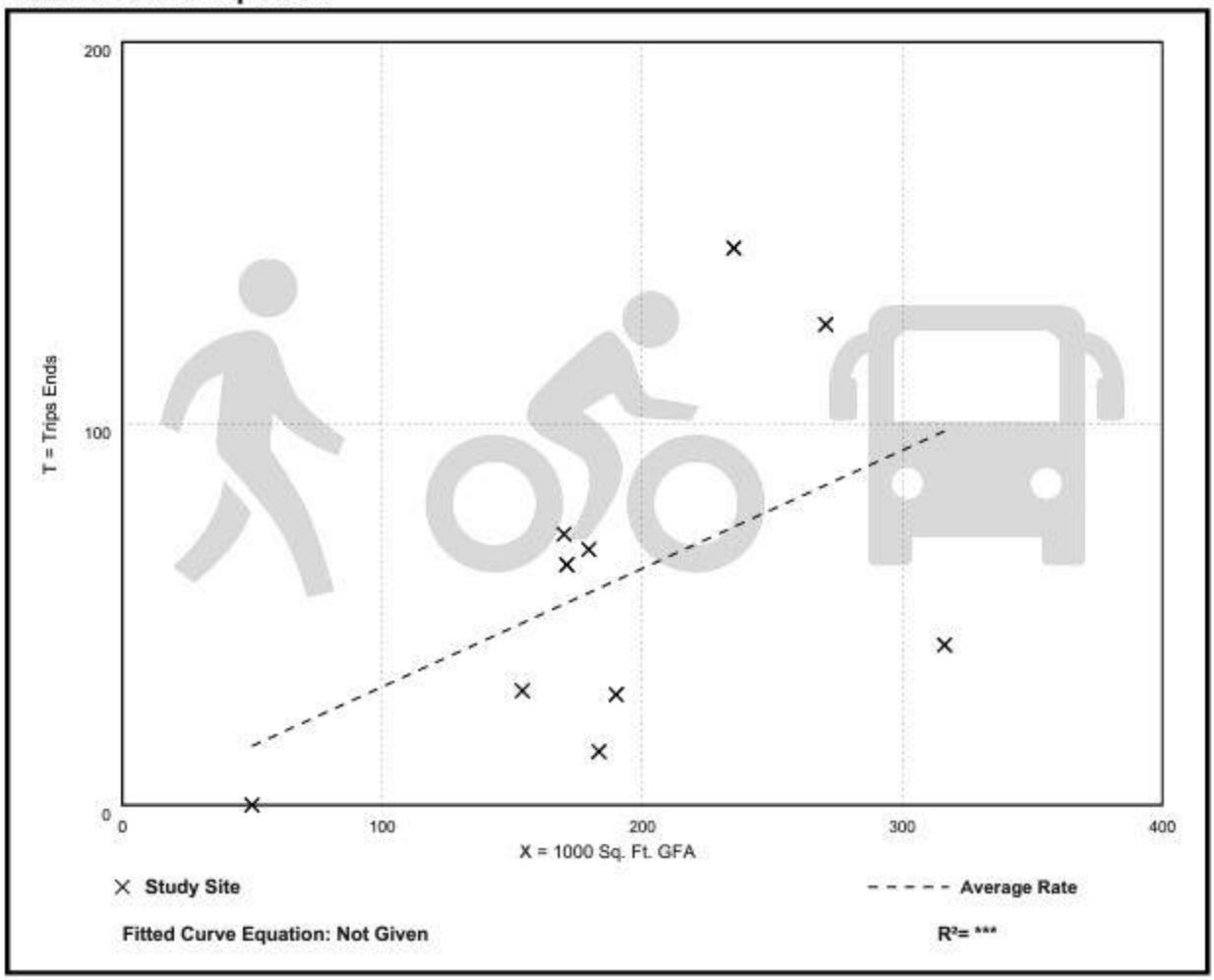
Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: Dense Multi-Use Urban
Number of Studies: 10
Avg. 1000 Sq. Ft. GFA: 192
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.31	0.00 - 0.62	0.19

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

General Office Building
(710)

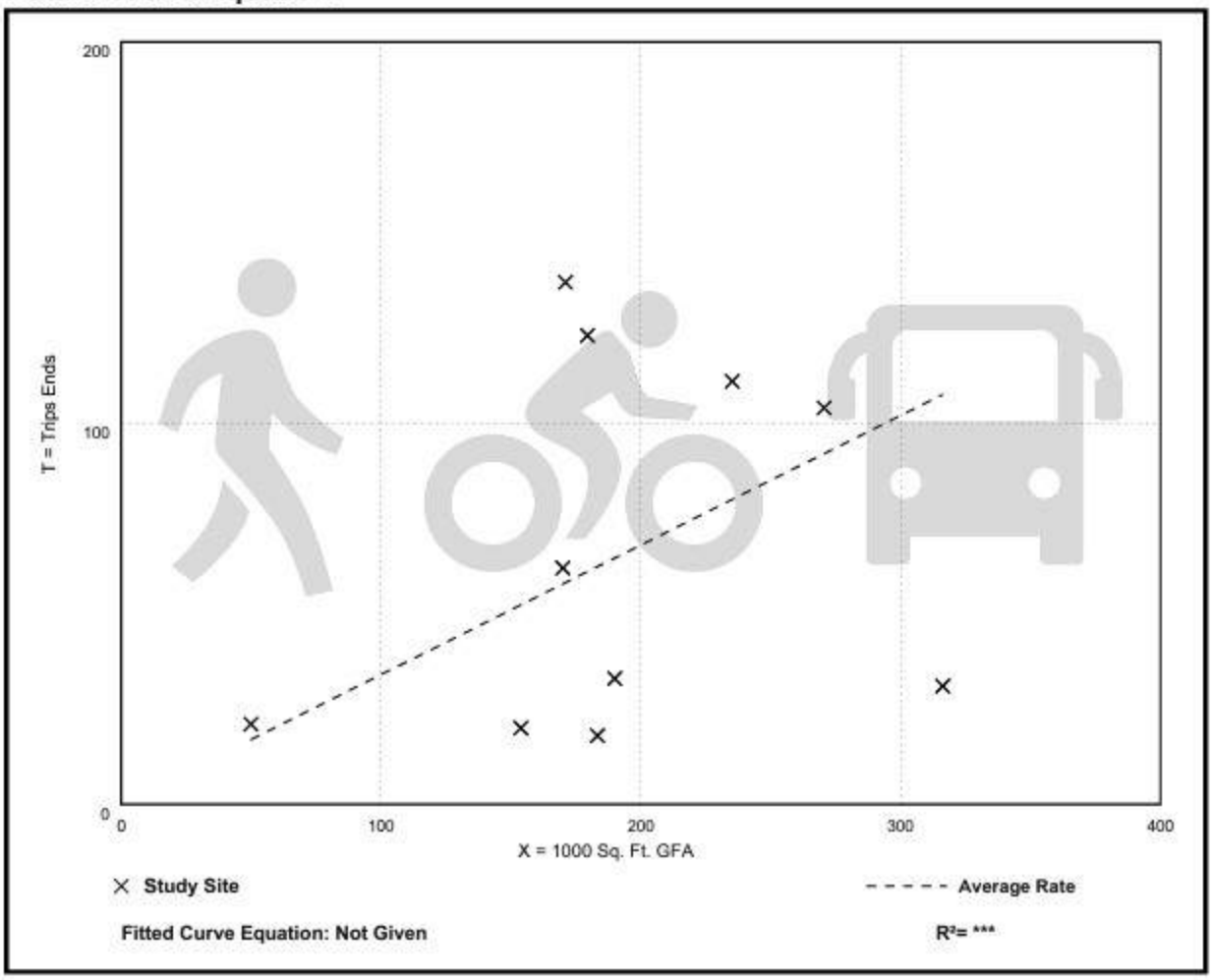
Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: Dense Multi-Use Urban
Number of Studies: 10
Avg. 1000 Sq. Ft. GFA: 192
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.34	0.10 - 0.80	0.25

Data Plot and Equation



Day Care Center
(565)

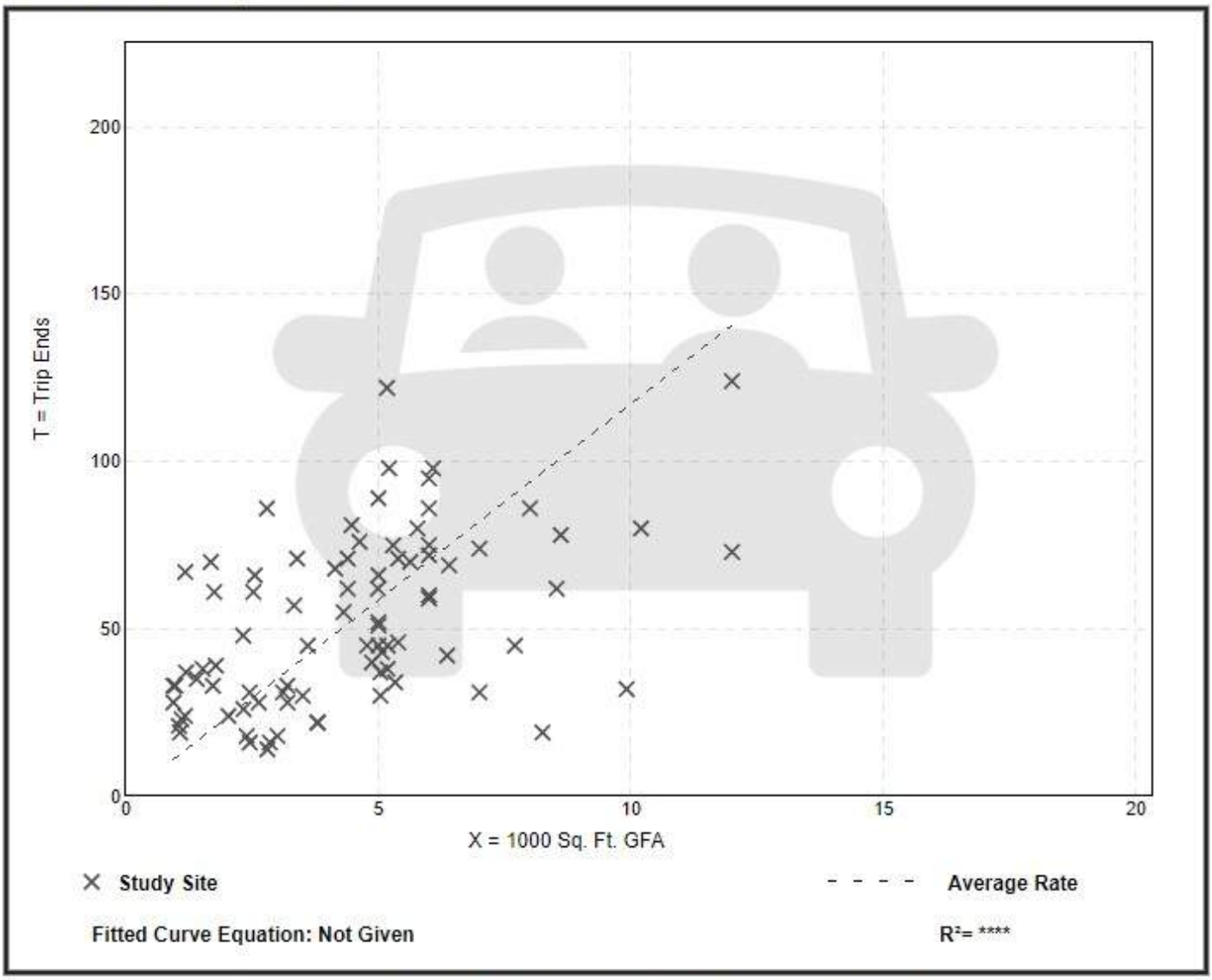
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 84
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.73	2.30 - 57.02	6.78

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

Day Care Center
(565)

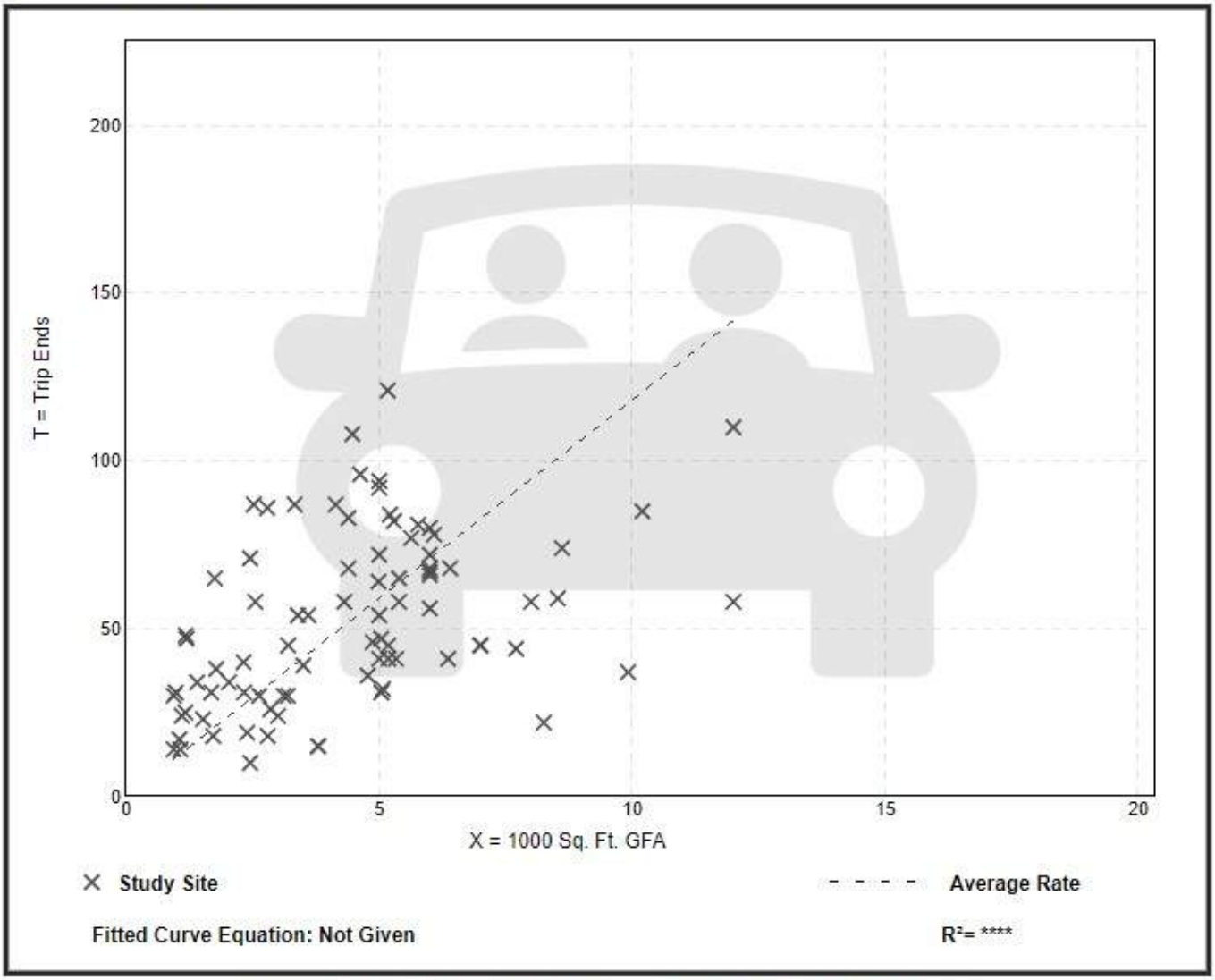
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 84
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.82	2.67 - 40.85	6.80

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

Shopping Center
(820)

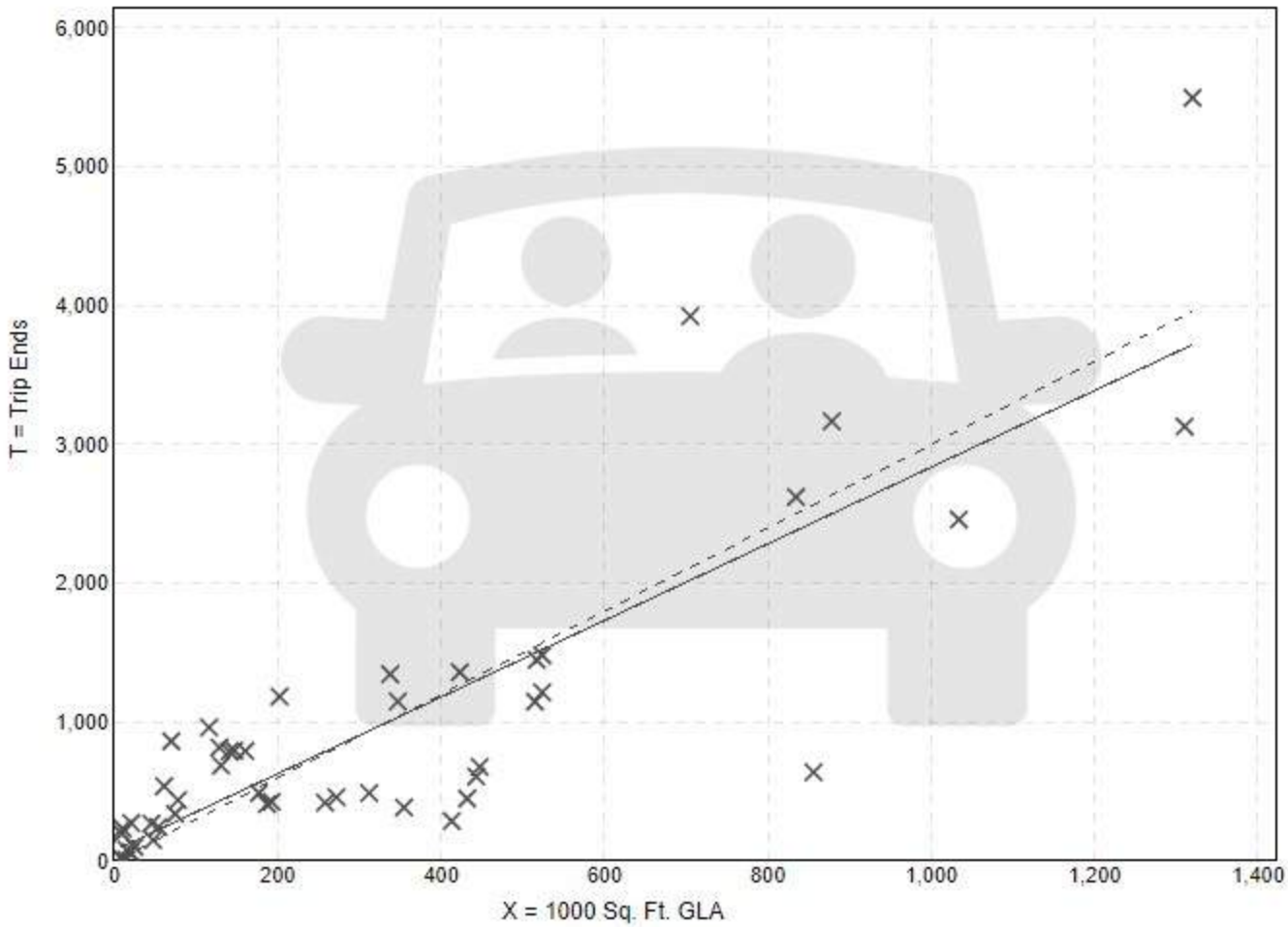
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 47
Avg. 1000 Sq. Ft. GLA: 323
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.00	0.70 - 23.74	1.85

Data Plot and Equation



Fitted Curve Equation: T = 2.76(X) + 77.28

R^2= 0.71

Shopping Center
(820)

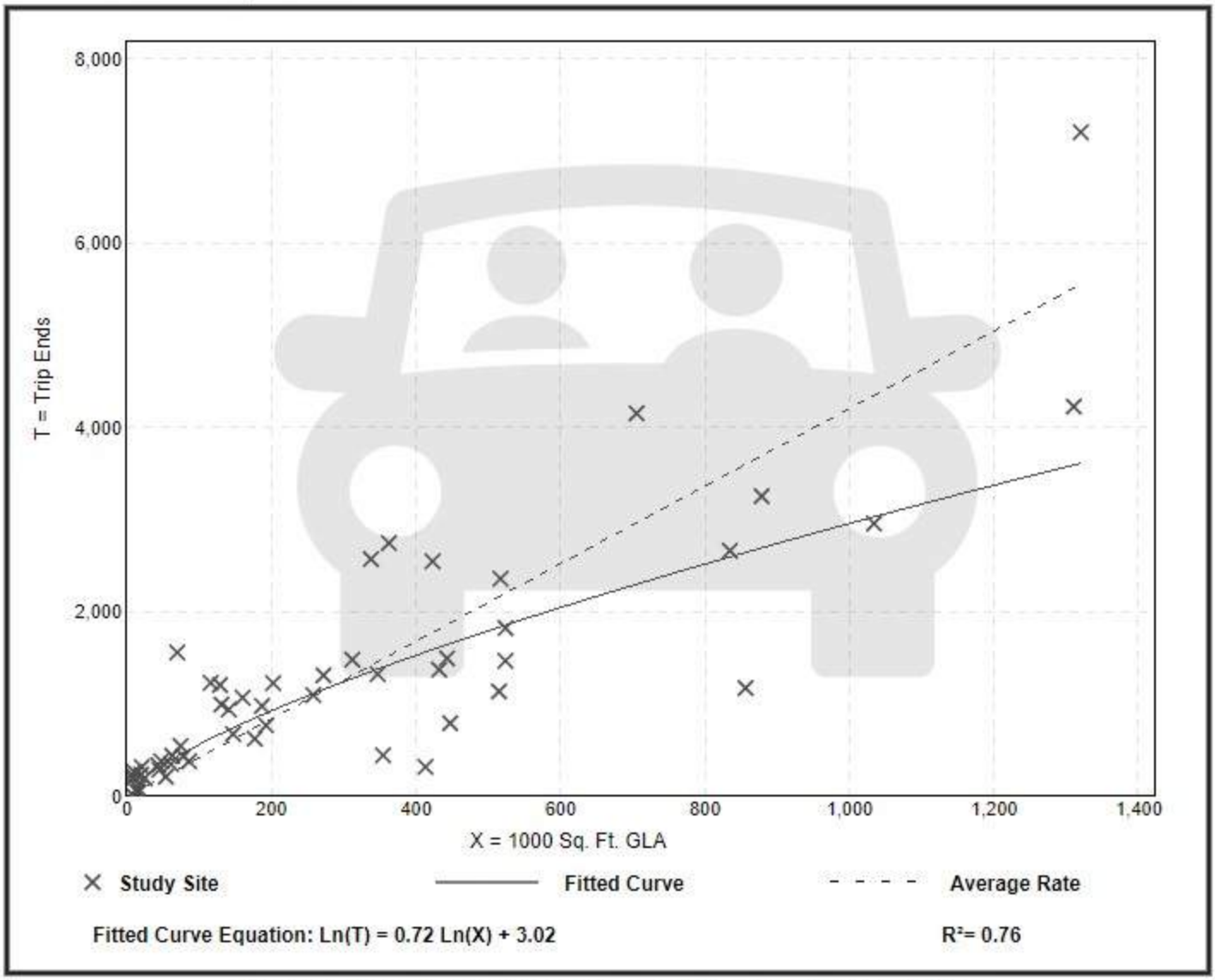
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 53
Avg. 1000 Sq. Ft. GLA: 298
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.21	0.78 - 27.27	2.47

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant
(932)

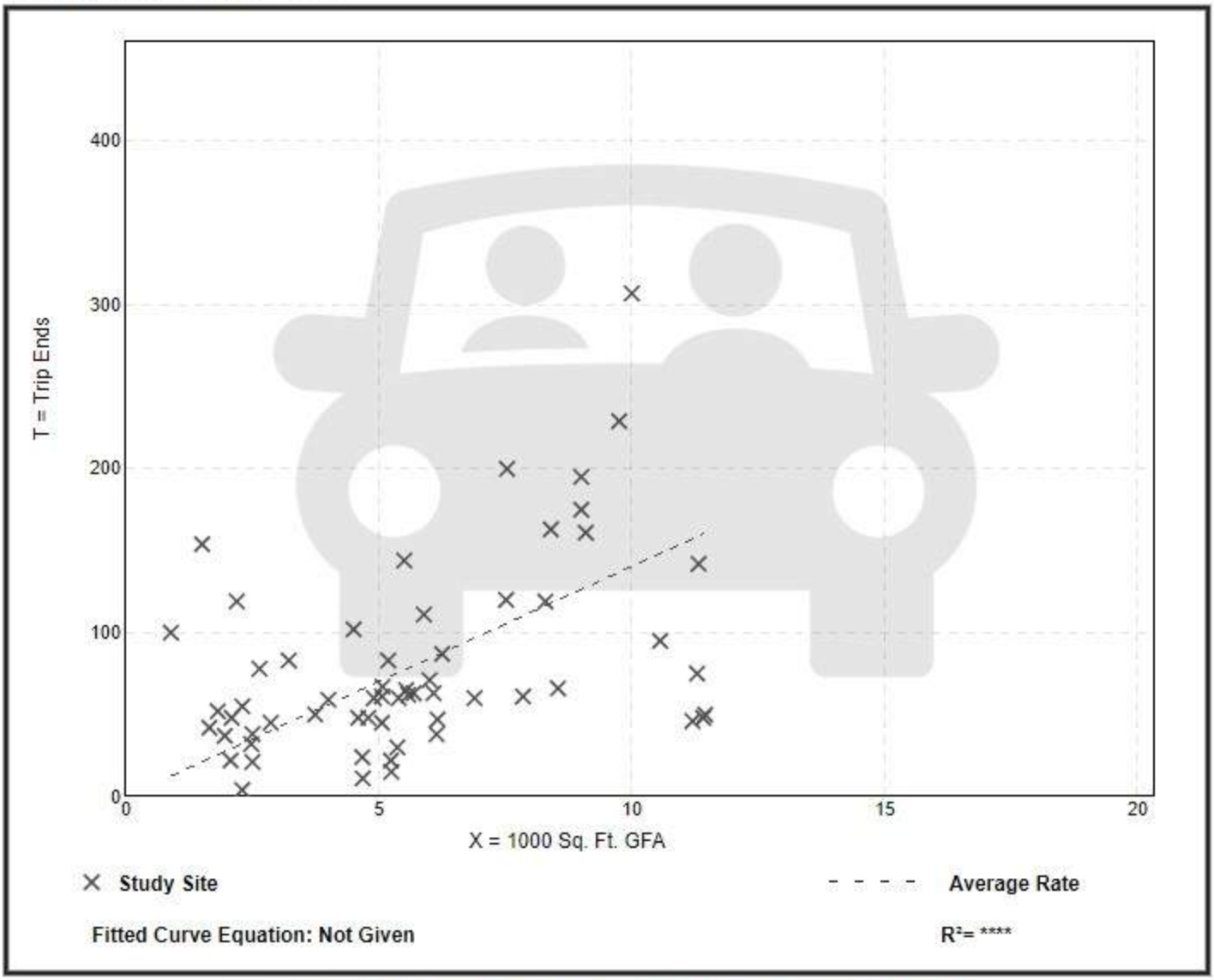
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 60
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.04	1.74 - 112.49	11.29

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

High-Turnover (Sit-Down) Restaurant
(932)

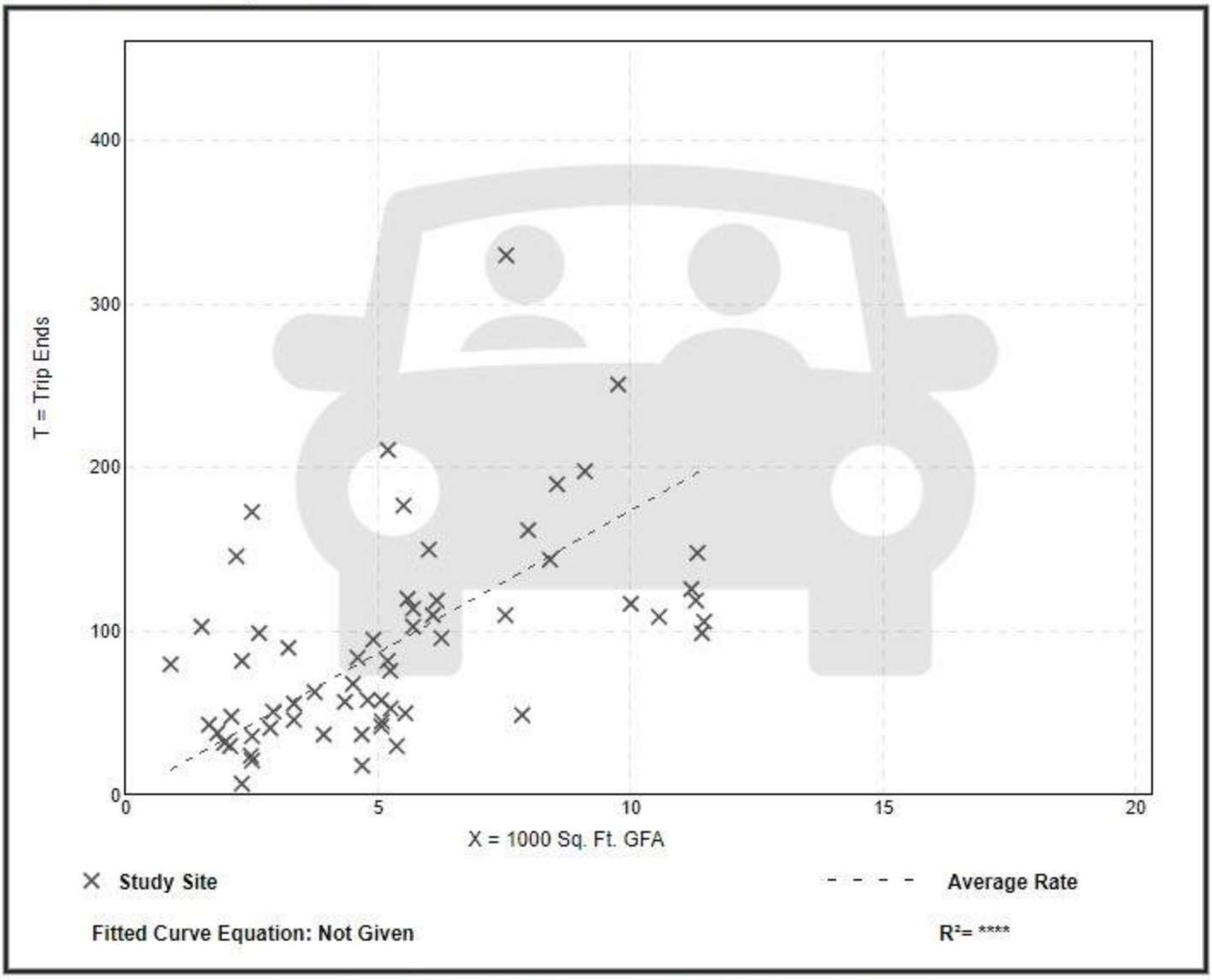
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 61
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
17.41	3.04 - 89.99	11.71

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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Fast-Food Restaurant without Drive-Through Window
(933)

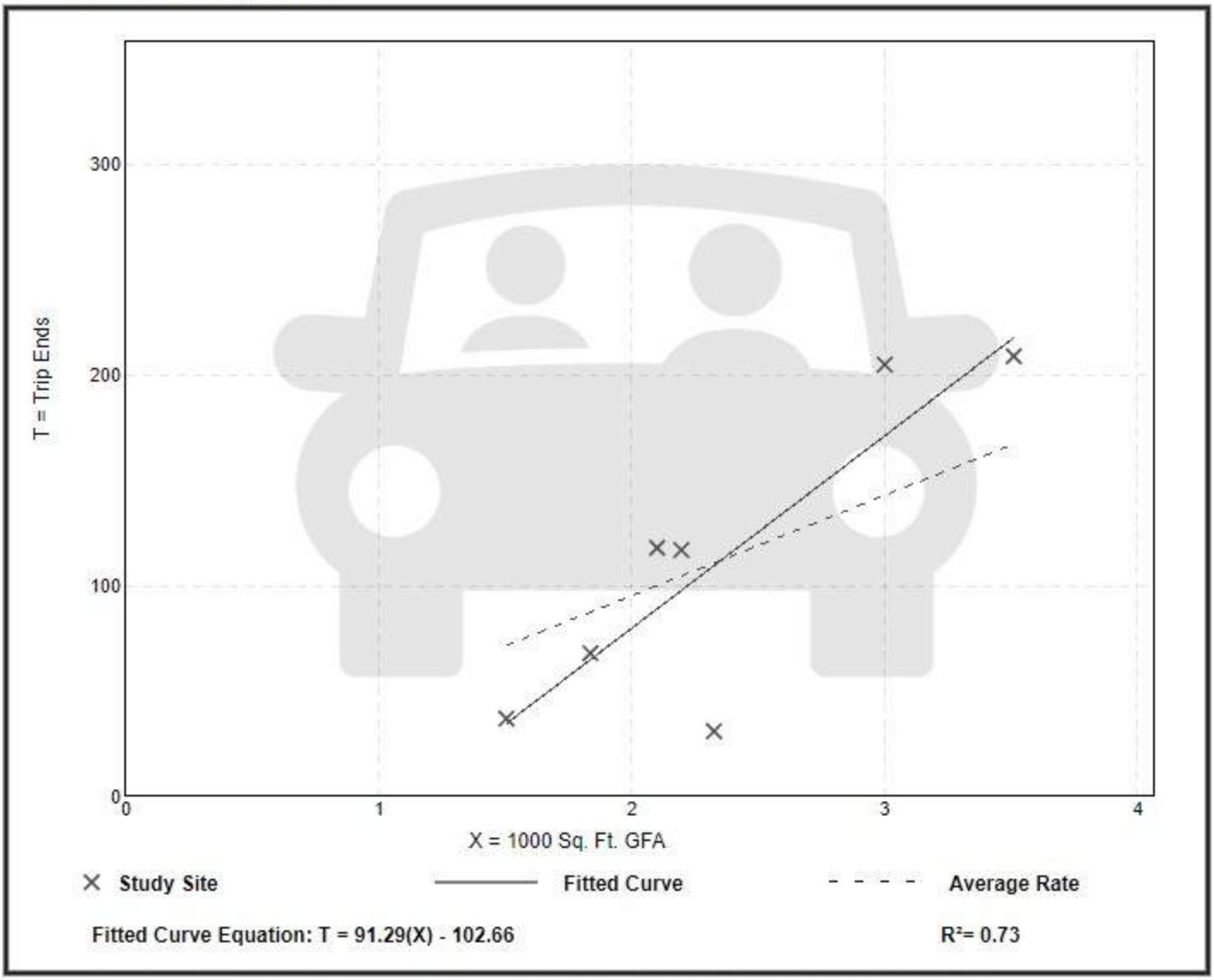
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
47.66	13.33 - 68.33	20.18

Data Plot and Equation



Fitted Curve Equation: T = 91.29(X) - 102.66

R^2= 0.73

Fast-Food Restaurant without Drive-Through Window
(933)

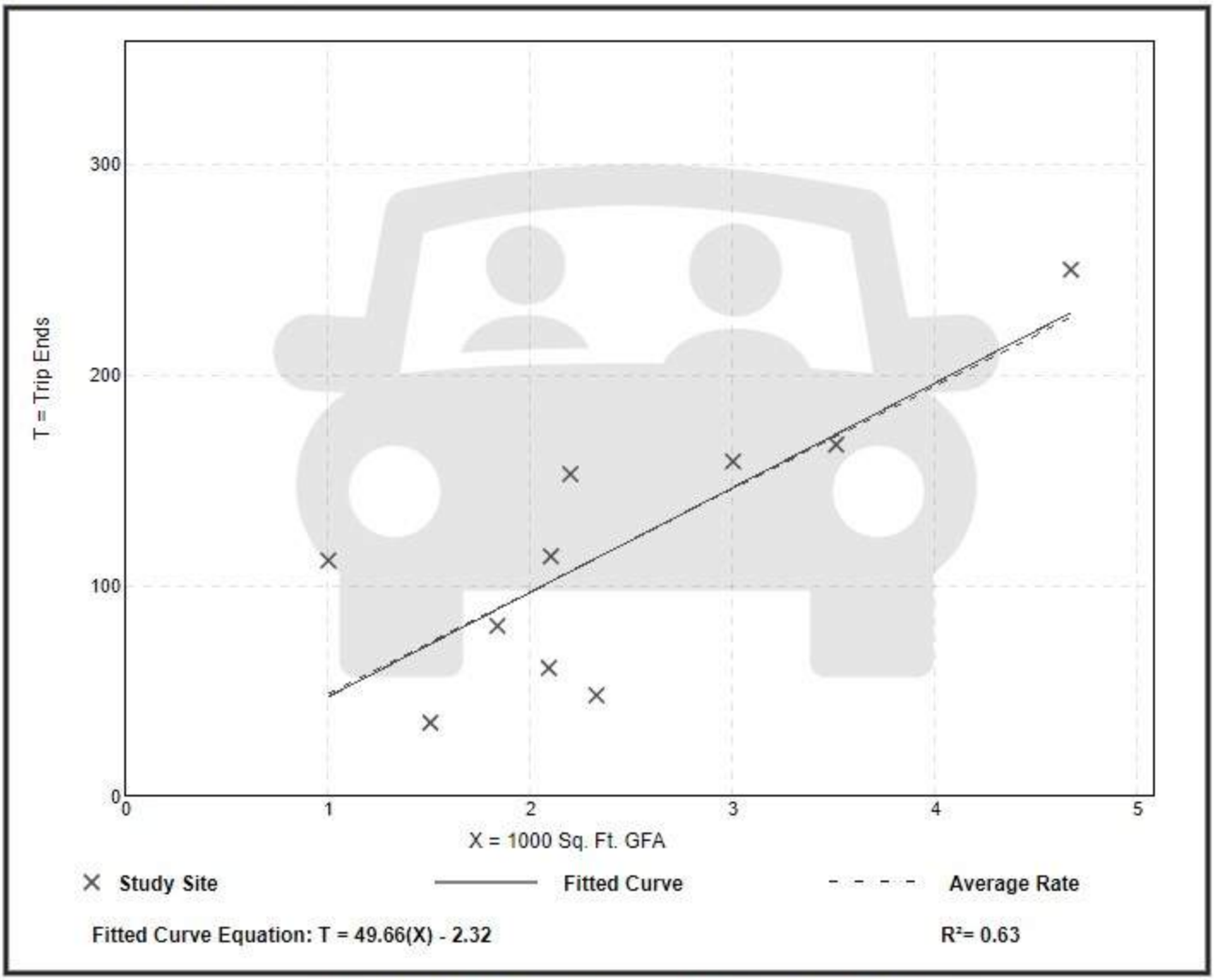
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
48.70	20.65 - 112.00	20.14

Data Plot and Equation



Fitted Curve Equation: T = 49.66(X) - 2.32

R^2= 0.63

Supermarket
(850)

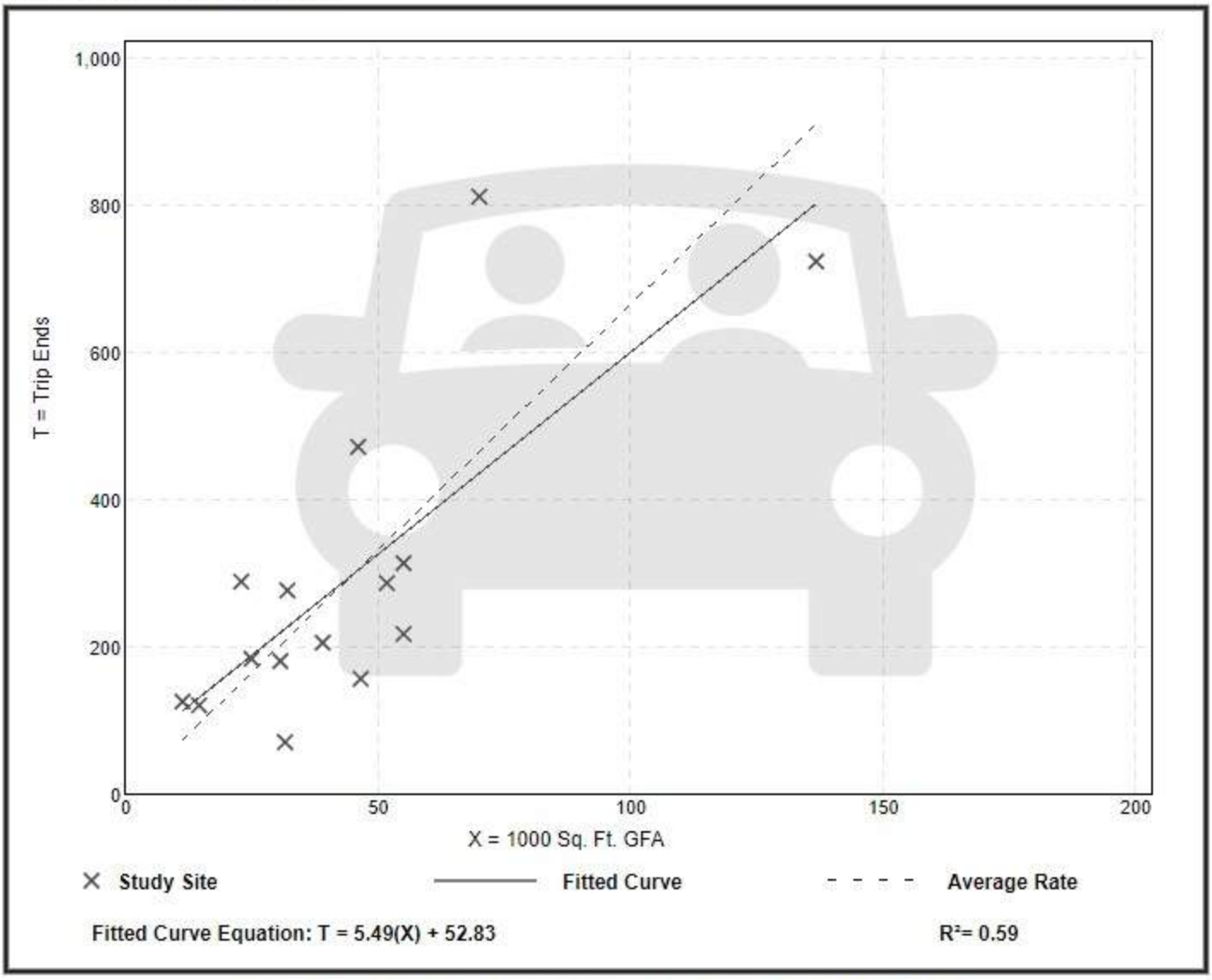
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 15
Avg. 1000 Sq. Ft. GFA: 45
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.67	2.28 - 12.68	2.98

Data Plot and Equation



Fitted Curve Equation: T = 5.49(X) + 52.83

R^2= 0.59

Supermarket
(850)

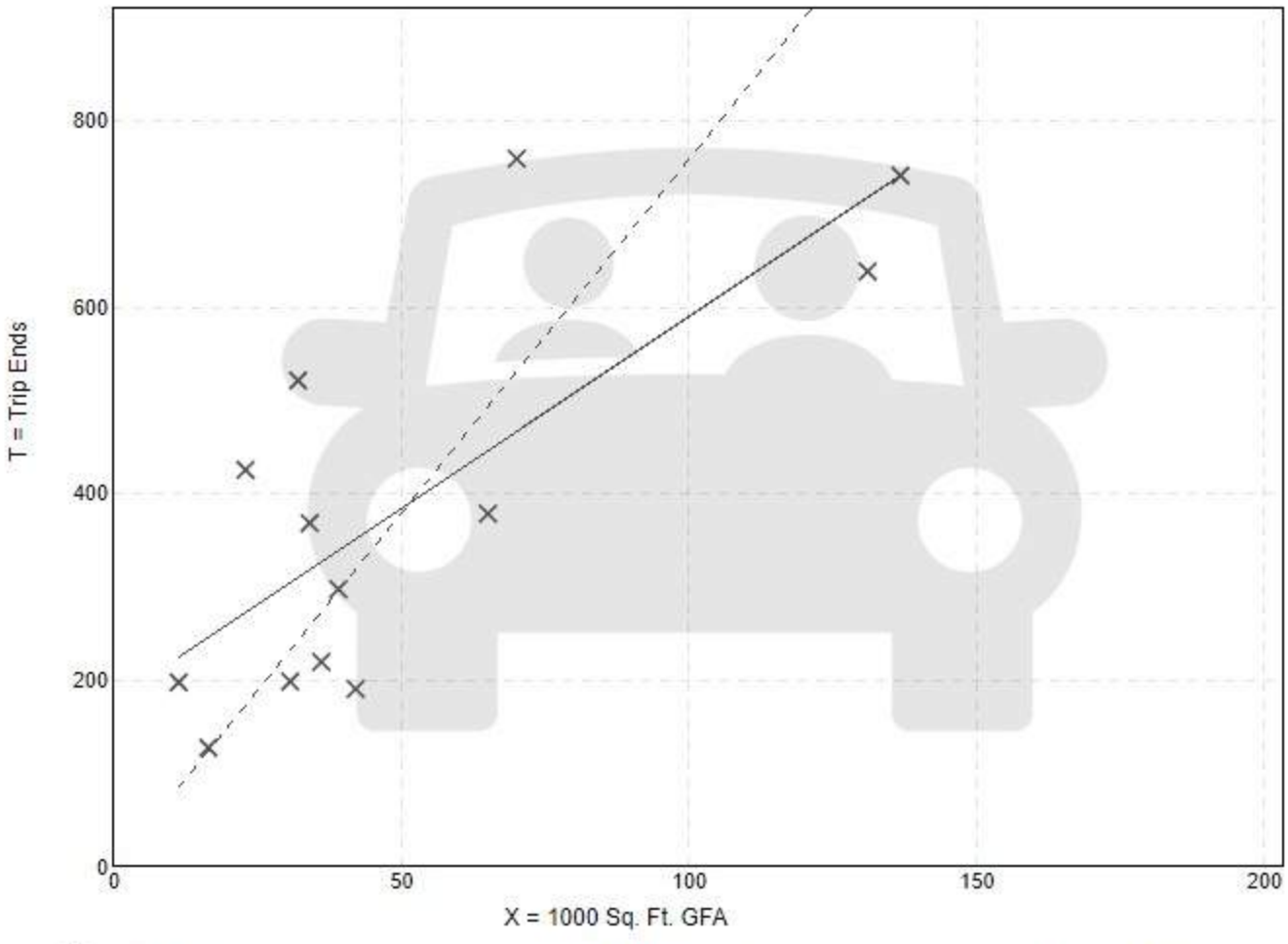
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. 1000 Sq. Ft. GFA: 51
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.60	4.55 - 18.63	3.98

Data Plot and Equation



Fitted Curve Equation: T = 4.12(X) + 178.83

R^2= 0.59

APPENDIX E

INTERNAL CREDITS

RA Engineering Inc.
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Phone:(905)235-9105

20040801 The Seventy Six for SED
Trip Generation Estimates (10th Ed.)
Calculation Sheet - AM Street Peak Hour_VER0

Prepared By: Ian Reynolds
Checked By: Ragu Nathan, P.Eng.
Revision Date: June 19, 2020

		AM			PM		
		In	Out	Total	In	Out	Total
A	Residential (LUC 221: Multi-family, mid rise)						
	246 Units	22	61	83	64	41	105
B	Commercial Space - 51 KSF						
B.1	Office (LUC 710: General Office)						
	17.5 KSF (use average rate)	17	3	20	3	17	20
B.2	Commercial Center/Day Care (LUC 565)						
	5.4 KSF	31	28	59	28	32	60
B.3	General/Specialty Retail (LUC 820: Shopping Center)						
	8.0 KSF (use average rate)	5	3	8	14	16	30
B.4	Restaurant/Supermarket (20 KSF)						
B.4.a	Restaurant (LUC 932: High Turnover/Sit-down)						
	5.0 KSF (use average rate)	27	23	50	30	19	49
B.4.b	Restaurant (LUC 933: Fast-Food w/o Drive Thru)						
	2.0 KSF (use average rate)	30	20	50	28	29	57
B.4.c	Supermarket (LUC 850)						
	13.0 KSF	30	20	50	61	59	120
	Commercial Sub-total	140	97	237	164	172	336
	Total	162	158	320	228	213	441

C Credits

1. Subtract trips from # of existing units (occupied & unoccupied)
2. Subtract multi-use internal trips ↔ external trips
3. Subtract transit trips from external trips
4. Subtract walking trips from external trips
5. Subtract other? (i.e. lower car ownership, urban/infill, transit-friendly)

	AM			PM		
	In	Out	Total	In	Out	Total
Total Unadjusted	162	158	320	228	213	441
- (Internal Trips)	23	26	49	93	92	185
= (External Trips)	139	132	271	135	121	256

*Note: Internal/external calculated using NCHRP 684 Internal Trip Capture Tool

Adjust for Urban Infill/Redevelopment

Step 1: Baseline Mode Share & Vehicle Occupancy (Appendix B)
AM Mode Share: 96%/98% PM mode share: 97%/96%
AM Vehicle Occupancy: 1.13/1.09 PM Vehicle Occupancy: 1.15/1.21

Step 2: Study Site Mode Shares & Vehicle Occupancy (Appendix C)
Various multi-use land uses → use 80% as vehicle trips for AM/PM inbound/outbound
Vehicle occupancy: use 1.10 for AM & 1.40 for PM

Step 3: Vehicle Trips for Site

AM Peak Hour		PM Peak Hour	
Inbound =	139 x (80/96) x (1.13/1.10)	Inbound =	135 x (80/97) x (1.15/1.40)
=	119 trips	=	91 trips
Outbound =	132 x (80/98) x (1.09/1.10)	Outbound =	121 x (80/96) x (1.21/1.40)
=	107 trips	=	87 trips
Total =	**226 trips**	**Total =**	**178 trips**

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NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	The Seventy-Six	**Organization:**	RA Engineering Inc.
Project Location:	Albany	**Performed By:**	Ian Reynolds
Scenario Description:	Proposed Project	**Date:**	2020-06-05
Analysis Year:	2020	**Checked By:**	Ragu Nathan, P.Eng.
Analysis Period:	**AM Street Peak Hour**	**Date:**	2020-06-19

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	17.5	ksf	20	17	3
Retail	820/850	21	ksf	58	35	23
Restaurant	932/933	7	ksf	100	57	43
Cinema/Entertainment	---			0		
Residential	221	246	units	83	22	61
Hotel	---			0		
All Other Land Uses[2]	565	5.4	ksf	59	31	28
				320	162	158

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.06	0%	0%	1.06	0%	0%
Retail	1.17	0%	0%	1.16	0%	0%
Restaurant	1.52	0%	0%	1.52	0%	0%
Cinema/Entertainment						
Residential	1.13	0%	0%	1.09	0%	0%
Hotel						
All Other Land Uses[2]	2.50	0%	0%	1.20	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	1		4	0	1	0
Restaurant	3	3		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	13	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	444	249	195
Internal Capture Percentage	14%	12%	15%
External Vehicle-Trips[5]	271	139	132
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	28%	67%
Retail	12%	22%
Restaurant	21%	11%
Cinema/Entertainment	N/A	N/A
Residential	8%	23%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

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Project Name:	The Seventy-Six
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.06	17	18	1.06	3	3
Retail	1.17	35	41	1.16	23	27
Restaurant	1.52	57	87	1.52	43	65
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.13	22	25	1.09	61	66
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	2	0	0	0
Retail	8		4	0	4	0
Restaurant	20	9		0	3	2
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	13	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		13	20	0	0	0
Retail	1		44	0	1	0
Restaurant	3	3		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	7	17	0		0
Hotel	1	2	5	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	5	13	18	12	0	0
Retail	5	36	41	31	0	0
Restaurant	18	69	87	45	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	23	25	20	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	78	78	31	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	2	1	3	1	0	0
Retail	6	21	27	18	0	0
Restaurant	7	58	65	38	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	15	51	66	47	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	34	34	28	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

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NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	The Seventy-Six	**Organization:**	RA Engineering Inc.
Project Location:	Albany	**Performed By:**	Ian Reynolds
Scenario Description:	Proposed Project	**Date:**	2020-06-05
Analysis Year:	2020	**Checked By:**	Ragu Nathan, P.Eng.
Analysis Period:	**PM Street Peak Hour**	**Date:**	2020-06-19

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	17.5	ksf	20	3	17
Retail	820/850	21	ksf	150	75	75
Restaurant	932/933	7	ksf	106	58	48
Cinema/Entertainment	---			0		
Residential	221	246	units	105	64	41
Hotel	---			0		
All Other Land Uses[2]	565	5.4	ksf	60	28	32
				441	228	213

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.11	0%	0%	1.07	0%	0%
Retail	1.21	0%	0%	1.18	0%	0%
Restaurant	1.52	0%	0%	1.52	0%	0%
Cinema/Entertainment						
Residential	1.15	0%	0%	1.21	0%	0%
Hotel						
All Other Land Uses[2]	1.20	0%	0%	2.50	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	1	0	0	0
Retail	1		26	0	23	0
Restaurant	1	30		0	12	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	9	11	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	600	290	310
Internal Capture Percentage	40%	41%	38%
External Vehicle-Trips[5]	256	135	121
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	100%	28%
Retail	47%	56%
Restaurant	43%	59%
Cinema/Entertainment	N/A	N/A
Residential	47%	42%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
[6]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

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Project Name:	The Seventy-Six
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.11	3	3	1.07	17	18
Retail	1.21	75	91	1.18	75	89
Restaurant	1.52	58	88	1.52	48	73
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.15	64	74	1.21	41	50
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	1	0	0	0
Retail	2		26	4	23	4
Restaurant	2	30		6	13	5
Cinema/Entertainment	0	0	0		0	0
Residential	2	21	11	0		2
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	2	0	3	0
Retail	1		26	0	34	0
Restaurant	1	46		0	12	0
Cinema/Entertainment	0	4	3		3	0
Residential	2	9	12	0		0
Hotel	0	2	4	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	3	0	3	0	0	0
Retail	43	48	91	40	0	0
Restaurant	38	50	88	33	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	35	39	74	34	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	34	34	28	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	5	13	18	12	0	0
Retail	50	39	89	33	0	0
Restaurant	43	30	73	20	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	21	29	50	24	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	80	80	32	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
[2]Person-Trips
[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

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Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

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Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

APPENDIX F

USDO EXCERPTS

after consultation with other City officials regarding potential parking needs, or a combination of those methods.

(f) ACCESSIBLE PARKING

Within the requirements of Table 375-4-6 and 375-4-7 (not in addition to those requirements), accessible parking shall be provided for all multi-family and nonresidential uses as required by the International Building Code, the Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities, and New York state statues, as amended.

(2) REQUIRED OFF-STREET PARKING

(a) MINIMUM REQUIRED PARKING

In all zoning districts, off-street parking shall be provided in accordance with Table 375-4-6: Minimum Required Off-Street Parking), as adjusted by other provisions of this USDO.

Table 375-4-6: Minimum Required Off-Street Parking

GFA = Gross Floor Area; NLA = Net Leasable Area; Sq. Ft. = Square Feet

LAND USE CATEGORY	Minimum Off-Street Parking Space Required (Proposed)	Minimum Bicycle Parking Required
RESIDENTIAL USES		
Household Living		
Dwelling, Single-Family Detached	1 per unit	Not Required
Dwelling, Two-Family Detached		
Dwelling, Townhouse	0 spaces	
Dwelling, Multi-Family	1 per unit	2 spaces or 10% of required vehicle spaces, whichever is greater. Min. 60% enclosed
Dwelling, Live-Work	1 per unit	Not Required
Group Living		
Assisted Living Facility or Nursing Home	Structure originally designed for household living use: Household living parking requirement. Other structure: 1 per 600 sq. ft. GFA	3 spaces
Community Residential Facility		
Group Living, Other		
Dormitory	0.5 per unit	20% of required vehicle spaces; Min. 60% enclosed
Rooming House	1 space plus 0.25 per guest bedroom	3 spaces or 10% of required vehicle spaces, whichever is greater; Min. 30% enclosed
CIVIC and INSTITUTIONAL USES		
Cemetery	None	Not Required
Club	1 per 300 sq. ft. GFA	3 spaces or 10% of required vehicle spaces, whichever is greater;
Community Center	1 per 300 sq. ft. GFA	

Table 375-4-6: Minimum Required Off-Street Parking

GFA = Gross Floor Area; NLA = Net Leasable Area; Sq. Ft. = Square Feet

LAND USE CATEGORY	Minimum Off-Street Parking Space Required (Proposed)	Minimum Bicycle Parking Required
Cultural Facility	1 per 500 sq. ft. GFA	Min. 30% enclosed
Day Care Center	1 per 300 sq. ft. GFA	Not Required
Higher Education Institution	1 per 400 sq. ft. GFA	20% of required vehicle spaces; Min.30% enclosed
Hospital	1 per 3 inpatient beds at design capacity	5% of required vehicle spaces; Min. 30% enclosed
Police or Fire Station	1 per 400 sq. ft. GFA	Not Required
Religious Institution	1 per 300 sq. ft. GFA	10% of required vehicle spaces, whichever is greater; Min. 30% enclosed
School	1 per 750 sq. ft. GFA	20% of required vehicle spaces
Stadium or Arena	1 per 4 persons of maximum occupancy	10% of required vehicle spaces, whichever is greater
Natural Area or Preserve	None	Not Required
Park or Playground		
Public Utility or Services, Major		
Public Utility or Services, Minor		
Towers		
COMMERCIAL USES		
Agriculture & Animal-Related		
Agriculture, Urban	None	None
Plant Nursery	1 per 1,000 sq. ft. NLA	3 spaces or 10% of required vehicle spaces, whichever is greater
Veterinarian or Kennel	1 per 400 sq. ft. NLA	3 spaces
Food & Beverage Services		
Bar or Tavern	1 per 150 sq. ft. NLA (excluding outdoor dining areas)	3 spaces or 10% of required vehicle spaces, whichever is greater
Restaurant		
Guest Accommodations		
Bed and Breakfast	0.75 per guest room	3 spaces or 10% of required vehicle spaces; Min. 60% enclosure requirement for Hotel
Hotel		
Office and Services		
Funeral Home or Crematorium	1 per 100 sq. ft. of main assembly room	Not Required
Office	1 per 400 sq. ft. NLA	10% of required vehicle spaces; Min. 60% enclosed
Personal or Business Service		
Trade School	1 per 400 sq. ft. NLA	
Recreation & Entertainment		

Table 375-4-6: Minimum Required Off-Street Parking

GFA = Gross Floor Area; NLA = Net Leasable Area; Sq. Ft. = Square Feet

LAND USE CATEGORY	Minimum Off-Street Parking Space Required (Proposed)	Minimum Bicycle Parking Required
Adult Entertainment	1 per 300 sq. ft. NLA	3 spaces or 10% of required vehicle spaces, whichever is greater
Indoor Recreation or Entertainment		
Outdoor Recreation or Entertainment	1 per 300 sq. ft. GFA plus 1 per 10,000 sq. ft. of outdoor activity area	3 spaces or 10% of required vehicle spaces, whichever is greater
Retail		
General Retail	1 per 400 sq. ft. NLA	3 spaces or 10% of required vehicle spaces, whichever is greater
Specialty Retail		
Adult Retail	1 per 300 sq. ft. NLA	
Controlled Substance Dispensary		
Convenience Retail		
Pawn Shop		
Supermarket		
Vehicles & Equipment		
Automobile Wash	1 per 500 sq. ft. NLA	Not Required
Dispatch Service or Freight Truck Terminal		
Heavy Vehicle and Equipment Sales, Rental, and Servicing		
Light Vehicle Sales, Rental, and Servicing		
Parking Lot	None	
Parking Structure	None	
Transit Facility	Not Required	
Vehicle Fueling Station	1 per 200 sq. ft. NLA	3 spaces
INDUSTRIAL USES		
Commercial Services		
Heavy Commercial Services	1 per 1,000 sq. ft. GFA	Not Required
Storage and Wholesale Distribution		
Self-Storage Facility	1 per 5,500 sq. ft. GFA	3 spaces
Manufacturing, Production, and Extraction		
Artisan Manufacturing	1 per 500 sq. ft. GFA	3 spaces or 10% of required vehicle spaces, whichever is greater
Heavy Manufacturing	1 per 1,000 sq. ft. GFA	Not Required
Light Manufacturing		
Marijuana Manufacturing Facility		

Table 375-4-6: Minimum Required Off-Street Parking

GFA = Gross Floor Area; NLA = Net Leasable Area; Sq. Ft. = Square Feet

LAND USE CATEGORY	Minimum Off-Street Parking Space Required (Proposed)	Minimum Bicycle Parking Required
Waste & Salvage		
Waste/Recycling Processing Facility	1 per 1,000 sq. ft. indoor GFA	Not Required
Recycling Drop-Off Center	1 space	
Landfill	None	
Vehicle Towing, Wrecking, or Junkyard		
ACCESSORY USES		
Home Occupation	None	Not Required
All Other Accessory Uses Listed in Table 375-2-1	None	Not Required
TEMPORARY USES		
Farmers' Market	None	5 spaces or 10% of required vehicle spaces, whichever is greater
All Other Temporary Uses Listed in Table 375-2-1	None	Not Required

(b) MAXIMUM PARKING PERMITTED

Surface parking spaces shall not exceed 115 percent of the minimums required in Table 375-4-6 (Minimum Required Off-Street Parking).

(3) PARKING ALTERNATIVES AND ADJUSTMENTS

The minimum and maximum amounts of parking required by Table 375-4-6 may be adjusted as described in this Section 375-4(E)(3).

(a) PROXIMITY TO TRANSIT

The minimum number of off-street parking spaces required for new development or redevelopment shall be reduced by 20 percent if the proposed development or redevelopment is located within ¼ mile of any transit stop with a peak service frequency of 15 minutes or better. Maximum parking limits shall remain as stated in Section 375-4(E)(2)(b). No development approved with this parking reduction shall be considered nonconforming if the bus or transit line is later relocated, or if peak frequency headways are raised above 15 minutes, and the number of parking spaces provided for that use does not meet the minimum requirements of Table 375-4-6. The Planning Department shall maintain a map of areas within the City that qualify for the proximity to transit exemption described in this Section.

(b) SHARED PARKING

Where two or more uses listed in Table 375-3-1 (Use Table), share a parking lot or structure, the total off-street automobile parking requirement for those uses may be reduced by the factors shown in Table 375-4-7 below. To calculate the shared parking reduction, add the requirements for each use category, then divide the sum by the factor indicated in Table 375-4-7. If more than two uses share a parking lot or structure, this adjustment is made for the two uses with the largest off-street parking requirements, and any parking requirements for additional uses shall be added to that adjusted requirement without further adjustment.

Table 375-4-7: Shared Parking Reduction
[Add the requirements and divide by these factors]

Property Use	Multi-Family Dwelling	Civic and Institutional	Food & Beverage Service, Guest Accommodations, Recreation & Entertainment	Retail, and Office & Services	Other Commercial Use
Multi-Family Dwelling	1.0	1.1	1.1	1.2	1.3
Civic and Institutional	1.1	1.0	1.2	1.3	1.5
Food & Beverage Service, Guest Accommodations, Recreation & Entertainment	1.1	1.2	1.0	1.3	1.7
Retail, and Office & Services	1.2	1.3	1.3	1.0	1.2
Other Commercial Use	1.3	1.5	1.7	1.2	1.0

Example Calculation- Shared parking proposed between a 60,000 sq. ft. School (Civic and Institutional use) and a 12,000 sq. ft. Indoor Recreation or Entertainment facility (Recreation use) would be calculated as follows:

- 60,000 sq. ft. School: Standalone Parking Requirement: 1 space per 750 sq. ft. GFA = 80 spaces
- 12,000 sq. ft. Indoor Recreation or Entertainment Facility: Standalone Parking Requirement: 1 space per 300 sq. ft. GFA = 40 spaces
- Shared Parking Calculation: 120 spaces / 1.2 (from table) = 100 spaces

(c) ON-STREET PARKING

In any Mixed Use or Special Purpose zoning district, the minimum amount of off-street parking otherwise required by this Section 375-4(E) shall be reduced by the number of legal on-street parking spaces located along the street or streets on which the subject property fronts. Such area shall be measured between extensions of the side or rear lot lines of the subject property as extended into the public right-of-way. Credit against minimum required off-street parking shall only be given for an on-street space if at least 50 percent of the length of the on-street space, measured along the curb, is located between such side or rear lot lines as extended. Such on-street parking spaces shall not be calculated